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The study was conducted to evaluate existing cancer prevention education materials created by Parkland Health & Hospital System to determine the cultural appropriateness and readability for the growing Spanish-speaking Hispanic population in Dallas County. The evaluation focused exclusively on Spanish materials with cancer prevention messaging related to improved nutrition and increased physical activity.

Data was collected through two separate series of focus groups with Hispanics and health professionals. The Fry Graph Method was applied to the materials as an additional readability measurement.

Results of the evaluation demonstrated a need for Parkland to engage Hispanics in pre-testing and revision of existing Spanish materials; establish strategic partnerships to assist with understanding literacy needs; and implement educational programs that complement materials.

EVALUATION OF SPANISH CANCER PREVENTION EDUCATION MATERIALS: HOW WELL IS THE MESSAGE BEING RECEIVED?

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EVALUATION OF SPANISH CANCER PREVENTION EDUCATION MATERIALS: HOW WELL IS THE MESSAGE BEING RECEIVED?

THESIS

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CHAPTER I

INTRODUCTION

Current trends indicate a poor health status for many Hispanics living in Dallas County (United Way of Metropolitan Dallas, 2005). Several behavioral factors suggest that Hispanics are a population at risk of developing cancer. This population tends to experience a lack of physical activity and high rates of obesity. Language and cultural differences can exacerbate the ability of health educators to communicate the importance of cancer prevention to Spanish speaking Hispanics. Furthermore, since establishing the link between behavioral decisions related to nutrition and physical activity and cancer risk remains challenging, this association may be difficult for Hispanics to comprehend.

A major barrier to reducing preventable cancer risk for Spanish speaking Hispanics is related to the cultural appropriateness and readability of health information. Hispanics often suffer from the greatest cancer burdens and have the least access to cancer information within their framework of understanding. Hispanics often respond to health information based on how well their beliefs, attitudes, or lifestyles are reflected. Therefore, it is critical that health education materials are written at levels that are considerate of the cultural background and information needs of Hispanics. The research problem focused on the importance of gaining consumer feedback for the creation and dissemination of culturally appropriate, reader-friendly Spanish cancer prevention education (CPE) materials. This research assessed how well existing materials created by

Parkland Health & Hospital System address the cultural and information delivery needs of the Hispanic population in Dallas County.

Health educators often rely on print materials to relay important cancer risk-reducing strategies. Providers of cancer information have a responsibility to develop educational materials that communicate high-quality, audience appropriate messages for populations that need them the most. In terms of cancer prevention, print materials that emphasize modifiable cancer risk factors such as nutrition and physical activity are needed for Spanish speakers. Health educators must invest significant time and effort into developing effective Spanish CPE materials. By understanding the cultural and health information needs of Hispanics, health educators can communicate a more effective prevention message in Spanish CPE materials. The research was critical to understanding how well existing materials addressed the cultural characteristics and language preferences of the Hispanic community in Dallas County.

The county hospital for Dallas, Parkland Health & Hospital System, has implemented a variety of educational activities to encourage the early detection and prevention of cancer among Hispanics. Parkland recognizes the need for dedicating staff toward the task of developing print materials. The health system employs health professionals that are experienced in the direct translation of English educational materials into Spanish. Parkland relies on the traditional process of translating (from English to Spanish) all educational materials, including those related to cancer prevention. Still, Spanish materials have never been evaluated by members of the

underserved Hispanic community who receive them through patient education efforts. The health system agreed to participate in the research to better understand the effectiveness of existing Spanish CPE materials for its Spanish speaking patient population. The research investigators coordinated efforts with Parkland Health & Hospital System for the evaluation of Spanish cancer prevention education materials.

Public health organizations such as Parkland Health & Hospital System are committed to providing a wide range of health care services to underserved Hispanics in Dallas County. The health system has attempted to address the literacy needs of Hispanics by creating English print materials at or below a fifth grade reading level. The public health field has not developed a universal process for creating and disseminating Spanish written materials. The process for developing appropriate Spanish CPE materials should incorporate a community-based approach that includes input from health professionals and Hispanics. Therefore, the research will solicit feedback from both health professionals and Hispanics. Consumer feedback can provide valuable suggestions for the revision of Spanish CPE materials that include improved nutrition and increased physical activity guidelines related to cancer prevention. Results from this study will support recommendations for Parkland to implement a Spanish print materials evaluation process for other Spanish print materials to ensure their continued effective use with this Hispanic patient population. Parkland will also receive input on how Hispanics prefer to receive health information related to cancer prevention through their feedback.

The culture of any given population includes the language or languages used by its members. Since consumers often respond to health information based on how well their beliefs, attitudes, or lifestyles are reflected, it is critical that health education materials are written at levels that are appropriate for the reading level and cultural background of Hispanics. Culturally and linguistically appropriate materials when used in conjunction with other health education strategies can enable at-risk populations to recognize nutrition and physical activity as modifiable cancer risk factors.

Statement of the Purpose

The purpose of this study was to evaluate existing Spanish cancer prevention education materials created by Parkland Health & Hospital System to identify ways to improve their effectiveness in meeting the language and information needs of the growing Hispanic population in Dallas County. The evaluation focused exclusively on materials printed in Spanish with cancer prevention messaging related to improved nutrition and increased physical activity.

Research Questions

Increasing knowledge and awareness can be instrumental in helping Hispanics understand how to take action to reduce their risk of developing cancer. Unfortunately, cancer prevention messages may become lost in translation if Hispanics cannot read or relate to the format of content and visuals presented in print materials. The evaluation of Spanish CPE materials guided the search to answer the following central research questions:

1) How do health professionals feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
2) How do Hispanics feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
3) How can Parkland Health System improve the process for creating and disseminating Spanish print materials that focus on nutrition and physical activity and cancer prevention?

The research attempted to solicit feedback not only from health staff who create educational materials, but also from Hispanics who utilize them. The evaluation of Spanish CPE print materials supported the need for Parkland Health System to implement a Spanish print materials evaluation process to ensure an effective materials development and dissemination procedure.

Delimitations

For the consumer focus groups, only underserved Hispanic adult men and women aged 18 and older who speak Spanish as their primary language and access services at Parkland Health & Hospital System participated in evaluations of Spanish CPE materials. This decision influenced the outcome of the study because Parkland materials under review will only be applicable to this age group and population. Hispanics under the age

of 18 who do not speak Spanish as their primary language represent a different perspective from that of this Hispanic population.

Limitations

The following limitations were presented about the study methodology:

- Parkland Health & Hospital System relied on the traditional process of translating (from English to Spanish) all educational materials, including those CPE .materials involved in this research.
- The CPE materials that were evaluated may not take into account every variation of the Spanish language spoken by Hispanics participating in focus groups.
- The purposive sampling method for Hispanics at Parkland Health & Hospital System did not account for the wide-ranging dialects of Spanish used in Dallas County.
- The dual role of evaluator and data collector by the investigator in this research may create an unintentional bias, since these individuals evaluated Spanish CPE materials and assisted in conducting focus groups.
- The study sample size remained small due to the high number of participants that did not complete the focus group sessions due to logistical barriers that existed for Hispanic participants.

Assumptions

The following assumptions were presented about the study methodology:

- The selected Parkland COPC community sites will provide an adequate number of eligible consumer focus group participants.
- Hispanic focus group participants will feel comfortable to participate and provide honest evaluation feedback in a group setting.
- All consumer focus group participants will be able to read and understand the Spanish version of the CPE materials created by Parkland Health & Hospital System.

Definition of the Terms

Hispanics- the underserved population of Hispanic adults who speak Spanish as their primary language and access health services through Parkland Health & Hospital System

Spanish CPE material- Spanish cancer prevention education print material that includes messaging on nutrition and physical activity to reduce the risk of cancer

Cultural appropriateness- language and lifestyle factors that are relevant to Spanish speaking Hispanics and have an impact on their health choices (Guidry, Jeffrey & Walker, 1999).

Health literacy- "the capacity to obtain, process, and understand basic health information and services and the competence to use such information and services in ways that enhance health" (American Cancer Society, 1999).

Importance of the Study

Hispanics must better understand that the benefits of daily investments in prevention greatly outweigh the enormous costs of a cancer diagnosis. In 2002, the

medical costs associated with cancer treatment were estimated to total nearly $171.6 billion in the United States. (American Cancer Society, Inc., 2005). Cancer education efforts should focus on informing the public about the importance of reducing their cancer risk through improved personal lifestyle behaviors. However, the health care system tends to focus more resources and efforts into improving the quality and efficiency of medical treatment, rather than the prevention of chronic diseases such as cancer. As health educators, we have a social responsibility to encourage personal responsibility of Hispanics' health-related behaviors. Fries et al, (1998) defines this health promotion strategy as a reduction in need and demand for medical services. Still, the challenge in creating this paradigm shift from a reliance on medical treatment for symptoms and illnesses to the practice of daily prevention seems daunting for the average consumer living in the United States. The growing Hispanic population living in Dallas County faces additional lifestyle factors such as language differences, acculturation to the American lifestyle, and various socioeconomic issues.

Health information is necessary but not sufficient for encouraging healthful behaviors that can reduce the personal risk of developing cancer. Still, incorporating culturally appropriate and reader-friendly Spanish CPE materials can improve the effectiveness of health education interventions. These materials, when used in conjunction with health programs, can serve as effective educational tools enabling Hispanics to adopt and maintain healthy lifestyle changes related to nutrition and physical activity.

Parkland Health & Hospital System consists of a network of outpatient clinics and Community Oriented Primary Care clinics (COPCs) located in low socioeconomic areas. Parkland Memorial Hospital remains the only public hospital that serves a large number of underserved Hispanics in Dallas County.

The health system has demonstrated a sincere commitment to creating patient education materials at an appropriate reading level for the growing number of Hispanics. Teaching materials are created by physicians, nurses, dietitians, and other health care professionals involved in patient education. (Parkland Health & Hospital System, 2004). Following studies conducted in 1984 and 1998, Parkland recognized the need to re-examine patient reading levels due to a dramatic increase in the number of Spanish speaking Hispanic patients (Pestonjee et al., 1998). Today, the hospital system utilizes over 600 education materials that are specifically designed at or below a fifth grade reading level to benefit Parkland's large Hispanic patient population (Parkland Health & Hospital System, 2004). Yet, Parkland can still benefit from incorporating an evaluation of its Spanish CPE materials. These materials when used in conjunction with physician advice and other educational interventions can encourage Hispanics to incorporate healthy lifestyle choices such as improved nutrition and increased physical activity in order to reduce their risk of developing cancer.

CHAPTER II

LITERATURE REVIEW

The Dallas metroplex has experienced significant growth in the Hispanic population. In Dallas County, the number of Hispanic residents increased by 147 percent between 1990 and 2003 (United Way of Metropolitan Dallas, 2005). A surge in migration rates to the Dallas and surrounding areas has contributed to the wide-ranging diversity. "Three out of every four foreign born residents in Dallas County were from a Latin American country" (United Way of Metropolitan Dallas, 2005). Hispanics represent the fastest growing minority and ethnic population in the North Texas region as well as the largest minority group in the nation (United Way of Metropolitan Dallas, 2005; Redes en Accion). However, the overwhelming size of the Hispanic population closely resembles the innumerable health problems that affect this group.

Statistics show that Hispanics in Dallas County suffer from some of the most significant health issues, such as high rates of cancer, low rates of health insurance and are least likely to have access to preventive services and information (United Way of Metropolitan Dallas, 2005). According to the 2005 United Way Community Needs Assessment, cancer remains the second leading cause of death in Dallas County. In the United States, about 67,500 Hispanics will be diagnosed with cancer, and another 22,100 are expected to die from the disease (American Cancer Society, Inc., 2003). Locally, nearly 5,800 of those new cancer cases will occur in Dallas County (American Cancer

Society, Inc., 2003). The demographic shift has dramatically transformed the face of the Dallas metropolitan area and created new challenges for cancer prevention education efforts.

Cancer

According to the American Cancer Society (ACS), "cancer encompasses a group of diseases characterized by uncontrolled growth and spread of abnormal cells within the body that can ultimately lead to death" (American Cancer Society, 2003). Scientific evidence suggests that approximately one-third of all cancer deaths in the United States each year are preventable in that these cases are due to poor nutrition, physical inactivity, obesity or other lifestyle factors (American Cancer Society, 2005). Furthermore, a study in the March 2004 issue of the Journal of the American Medical Association (JAMA) confirms that most variation in individual cancer risk is due to behavioral factors rather than inherited or genetic factors (American Cancer Society, 2004). Lifestyle behaviors entail daily activities that include decisions about smoking, nutritional habits, and engaging in physical activity (American Cancer Society, 2005). Adopting healthy habits early in life can significantly impact individual cancer risk.

Obesity and Cancer

Obesity has become a major lifestyle factor attributable to poor health that can ultimately lead to cancer. "Nationwide, physical inactivity, obesity, and poor nutrition together kill more than 45 Americans each hour of every day" (American Cancer Society, 2004). The link between obesity and cancer in overweight and obese men and women in

the United States has been the focus of much cancer prevention research. Obesity is associated with an increased risk of certain types of cancer, including cancers of the breast, prostate, and colon (American Cancer Society, 2003). Additional research has become urgent as obesity moves closer to taking the lead over smoking as the leading cause of preventable death in the United States (American Medical Association, 2002). In one of the largest studies ever done on the cancer-obesity relationship, the American Cancer Society (ACS) followed more than 900,000 adults for 16 years to study the effects of excess body weight (American Cancer Society, 2004). The ACS estimated that being overweight or obese contributed to nearly 90,000 cancer deaths within this study group (American Cancer Society, 2004). The March 2004 issue of the Journal of the American Medical Association (JAMA) confirms that preventive measures are needed now more than ever to inform Hispanics about the link between nutrition, physical activity and cancer (American Caner Society, 2004). Significant educational efforts are needed to reach 60 percent of Texas adults who are considered overweight (American Cancer Society, 2004). As this health issue continues to increase in severity, so too it seems does public indifference. When the American public was surveyed in 2002, 78% of respondents believed that their body weight was not a serious health concern (American Medical Association, 2002). These studies provide support for an increased need for cancer prevention education for Hispanics.

The American Cancer Society continues to advocate for daily positive lifestyle changes related to nutrition and physical activity. The organization recommends a

balance between food intake and physical activity, as well as consuming more fruits, vegetables, grains, and beans in order to reduce one's cancer risk. (American Cancer Society, 2004). The ACS also emphasizes regular physical activity to promote overall health and to protect against some types of cancers, including colon cancer and breast cancer (American Cancer Society, 2004). However, the 2003 Behavioral Risk Factor Surveillance System revealed that fewer than one in four adults consumes the recommended five servings of fruits and vegetables everyday and even fewer engage in daily or leisure physical activity (American Cancer Society, 2004). Poor lifestyle choices related to nutrition and physical activity continue to impact overall cancer risks for individuals who underestimate the importance of eating better and moving more.

Hispanics and Cancer

Cancer remains the second leading cause of death for Hispanic adults and is expected to become the leading cause of death in the United States within the next decade (American Cancer Society, 2003). Among Hispanics, several behavioral indicators suggest a population at risk of developing cancer. The lack of physical activity and high rates of overweight are prevalent among this population. According to the 2001 Centers for Disease Control and Prevention's Behavioral Risk Factor Surveillance System (BRFSS), 35.8% of Hispanics reported no leisure physical activity and 59.6% of adults reported being overweight (SEER Summaries," Morbidity and Mortality Weekly 2000, 49, No. SS-3). In addition, the National Center for Health Statistics reports that obesity is increasingly common for Hispanics, especially Hispanic women. In this study, Hispanics

reported low levels of physical activity and high levels of obesity (U.S Department of Health & Human Services, 2005). The link between poor nutrition and physical inactivity and cancer must be emphasized to the large number of Hispanic adults who suffer high rates of overweight or obesity.

The younger Hispanic generation represents the largest growing segment within this group. These children and adolescents are also at risk of developing cancer, especially later in life due to an inadequate intake of fruits and vegetables, lower than recommended physical activity levels, and higher than recommended body weight to height ratios (American Cancer Society, 2004). Today, more than a third of Texas students are overweight. (American Cancer Society, 2004). The poor health implications for children become more pronounced as they get older. "The Texas Department of Health (TDH) Statewide Obesity Task Force estimates that a 12 year old child who is overweight has a 75 percent chance of being an overweight adult. (American Cancer Society, 2004). The prevalence of overweight was highest among Hispanic boys and Hispanic fourth grade girls (American Cancer Society, 2004). For Hispanics, preventing cancer through lifestyle changes will be necessary to impact the overall incidence of cancer rates for current and future generations.

Health communication

The challenge to improve cancer prevention education efforts begins with the communication that takes place between health professionals and Hispanics. Health communication can be defined as "the dissemination of understandable and usable

information that concerns health itself" (Calderon & Beltran, 2004). Health communication is often a very personal interaction for health educators and Hispanics (Texas Cancer Council, 1995). Health educators must be able to recognize comprehension difficulties and cultural differences when attempting to communicate a potentially, life-saving cancer prevention message to Hispanics. Health education should involve communication channels that enable Hispanics to receive and incorporate life-saving information.

It may be impossible to change the communication abilities of Hispanics, but health educators should assume some responsibility in bridging the health communication gaps. In one study, patients revealed that poor health communication instills fear and mistrust of health care providers and services (Calderon & Beltran, 2004). Furthermore, time constraints and personal shame may prohibit Hispanics from receiving the necessary clarification they may need when deciphering through cancer information.

Health officials have realized the important role that health communication plays with regards to cancer prevention. Health communication is a new focus for Healthy People 2010, the nationwide health promotion and disease prevention agenda initiated by the U.S. Department of Health & Human Services (USDHHS) (USDHHS, 2000). The initiative encompasses "the study and use of communication strategies to inform and influence individual and community decisions that enhance health" (USDHHS, 2000). The various mediums by which Hispanics receive communication about cancer prevention can be effective. Health communication can ensure that a learner may

increase their personal knowledge or awareness of a particular health issue or reinforce existing knowledge, attitudes, or behavior at a personal level (USDHHS, 2000). Health educators must determine how best to reach Hispanics through appropriate communication methods.

Barriers to Health Communication.

Hispanics face innumerable challenges to receiving quality cancer prevention information. This population is often presented with information that is not in their language or that has not been created in a format that they can apply to their lifestyles. Findings from a focus group study indicated that "Latino individuals felt information in Spanish was lacking and that the information that was given to them was not understandable" (Calderon & Beltran, 2004). Hispanics represent a major minority population that is most in need of improved cancer communication. This group experiences a "minimal access or exposure to mainstream health communication campaigns due to limited literacy skills, limited English language skills, or limited knowledge of where to obtain information" (Texas Cancer Council, 2001). Poor health communication with health professionals and a lack of useful cancer information resources can make it difficult for Hispanics to learn how to incorporate cancer prevention into their lives.

Language and cultural differences contribute to the cancer disparities that exist for Hispanic adults. The American Cancer Society has conducted research in disparities to address the complex interaction of economic, social, and cultural factors that affect

community health outcomes. "A large proportion of the disparities can be attributed to cultural factors, including language, beliefs, values, and traditions, which can influence underlying risk factors, health behaviors, and beliefs about illness" (American Cancer Society, 2004). Health educators must be wiling to invest more time and efforts into improving how we are communicating with Hispanics not just whether we are communicating with this group. When addressing the information needs of the Spanish speaking Hispanic population, it becomes important to gain insight into their current practices, attitudes, beliefs, values, and lifestyles related to cancer prevention. (USDHHS, 2000). By learning how to better communicate with Hispanics, health educators will be more likely to have effective educational interventions.

Language issues.

Language issues can lead to a greater number of Hispanics having problems communicating with health professionals in clinical settings and in the community. Communication barriers exist for the majority of Hispanics who have migrated to the Dallas County area. The major language issue for Hispanics in Dallas County involves the use and reliance of a language other than English. According to the 2005 United Way Community Needs Assessment: "One in 10 individuals ages 5 and up in the North Texas region could not speak English well in 2003". In addition, the number of individuals who speak Spanish as their primary language has more than doubled between 1990 and 2003 (United Way of Metropolitan Dallas, 2005). Spanish has quickly become the second most common language following English for the majority of the non-English

speakers living in Dallas County (The National Alliance for Hispanic Health, 2001). Local efforts should focus on overcoming language differences in order to reach the large population of Hispanics in Dallas County.

Cultural appropriateness.

Culture affects the ability of health professionals to influence positive health behavior in Hispanics. Certain traditional beliefs and learned behaviors can present challenges and impact the overall health and well-being of Hispanics. Healthcare providers cannot overlook the importance of Hispanic culture for the delivery of culturally appropriate cancer education information and programs. As health educators, we cannot overlook the impact that culture has on behavior modification. "In many cultures, tradition dictates how new information should be presented" (Doak & Doak, 1996). An understanding and respect for Hispanic culture must be adequately demonstrated in every communication method that is used with the Hispanic population, including written materials.

The word "cancer" can evoke a wide range of emotions related to pain, suffering, or even death. (Office of Minority Health and Bureau of Primary Health, 2005). Qualitative research has provided firsthand accounts of personal beliefs, myths, and misconceptions that Hispanics share about this disease. Folk remedies, natural or spiritual healers, and prayer are often described as traditional medicine common in the Hispanic culture (Office of Minority Health and Bureau of Primary Health Care, n.d.). Equally important considerations include their personal experience with the health care

system, attitudes and beliefs toward different types of health problems, and willingness to use certain types of health services (Office of Minority Health and Bureau of Primary Health Care, n.d.).

A fear of the unknown can also affect the likelihood that Hispanics will take actions to prevent cancer. One such predominant cultural belief described as *fatalismo,* represents the idea that one's health should be left for God to decide, or more simply put whatever happens, happens (Foreyt, 2003). Even worse, some Hispanics believe that their fate is pre-determined. "Many in minority communities have a sense of 'deserving to die' because they think they lived their lives in the wrong way or that the cancer is a punishment from God" (Ross, 2000). While cultures do change and can adapt, the challenge remains to convince Hispanics that health and healthy living are concepts that can be controlled and need to be practiced everyday. Health professionals must become familiar with cultural beliefs and be willing to be considerate of them when communicating with Hispanics about cancer prevention.

Assessing Culture

Health professionals have made several attempts to account for the cultural characteristics of the Hispanic population. The public health field has created various terms to acknowledge the wide-ranging cultures and lifestyles of different populations, including Hispanics. Cultural sensitivity, cultural competency, and cultural appropriateness are terms that have all been used interchangeably to explain an understanding of the way that certain populations choose to live. In 2002, another term

began to make its way in public health discussions. Roth & Andrus referred to the term "cultural literacy" as "...an understanding of the values and views of those in other social classes and ethnic groups in the mosaic of cultures that existing in the United States (Andrus & Roth, 2002). Regardless of the terminology, health care providers should continue to be cognizant of the cultural inclinations that drive Hispanics to choose or refuse to engage in health behaviors that decrease their chances of developing cancer.

Although many Hispanics share a common preference for the Spanish language, their origins derive from a variety of cultural backgrounds with unique characteristics. "While similarities among the groups do exist, particularly in language (Spanish) and religion (Catholicism), deeply embedded dissimilarities of the different groups in background and life experiences will influence health" (Redes en Accion, n.d.). Such diversity in values and expectations can complicate the development of Spanish CPE materials that account for culture and lifestyle in an understandable format. Cultural characteristics often not adequately addressed in print materials include one or more of the following: "...language proficiency and language preferences, religion, ethnicity, generational status, family structure, degree of acculturation, and lifestyle factors (e.g. special foods, activities)" (National Cancer Institute, 2001). Acknowledging the uniqueness within Hispanic culture can enable health educators to connect to Hispanics on a more personal level.

Cultural appropriateness is a significant factor to consider when creating Spanish CPE materials that focus on behavioral modification. Hispanics often respond to health

information based on how well their lives are portrayed. Prevention messages included in print materials must incorporate the cultural norms of the intended audience to be effective. (National Cancer Institute, 2001). Print materials that are revised to be culturally sensitive to the needs of the intended audience are more likely to promote positive behavior change. (Guidry & Walker, 1999). Hispanics will more likely identify with a cancer prevention message if it is respectful of their culture.

Acculturation

Acculturation plays a dual role in affecting the health of Hispanics in Dallas County. On the positive end, Hispanics may be more likely to participate in life-saving preventive services (Ramirez, Villareal, et.al, 1995). However, acculturation also accounts for some of the unhealthy habits that Hispanics develop as a result of living in a fast-paced American culture. "Acculturated Latinos eat more fried foods and less fruit, ... and they have fewer low-fat dietary practices" (Foreyt, 2003). Hispanics must be encouraged to retain their culture while still incorporating "healthy" lifestyle habits into their daily routines. Therefore, health professionals must understand Hispanic culture and tailor cancer prevention education information to determine how to accommodate their beliefs.

Health Literacy

Health literacy has been recognized as a health communication objective in the HHS Healthy People 2010 Agenda. (Davis, Williams, et. al, 2002). Health literacy allows people to better manage health care decisions for themselves and for their

families. The USDHHS defined health literacy 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" (Davis, Williams et. al, 2002). Many Hispanics who experience low health literacy (understanding health information at a 2nd grade level or lower) usually report poor health and are more likely to suffer from fragmented health services leading to a greater risk of long-term care needs (USDHHS, 2000). The health literacy of learners can impact the amount of information gained through verbal teaching. Davis et al, (2002) conducted research on the physician/patient communication literature and found that patients recalled only 50 percent of the critical information given to them. Patients with limited health literacy may find it difficult to understand a health professional's recommendations if they are laden in technical, medical terminology.

Health Literacy and Cancer Communication Implications.

Health educators must account for the health literacy of Hispanics when communicating to this group about cancer prevention. Today, many health care systems have recognized the need to improve cancer communication for Hispanics by addressing the issue of health literacy. The consequences of low health literacy, namely poorer health and disease state outcomes, a lack of understanding of preventive strategies, and higher rates of hospitalization have been demonstrated through several studies conducted in the United States (Andrus & Roth, 2002; Davis et al, 2002, Rudd, 1999). Health literacy remains one of the major factors to consider when creating written materials that

focus on cancer prevention. A National Work Group on Cancer and Literacy (NWG) was created in 1992 through a partnership with the American Medical Center's AMC Cancer Research Center. (Davis et al, 2002). The group was focused on addressing how health literacy affects cancer communication. The NWG documented the need for low-literacy and culturally-appropriate materials after reviewing several studies focused on cancer communication (Davis et al, 2002). The NWG recognized the importance of writing materials that are specific to the language and culture of the intended audience.

The large body of research in cancer communication has prompted the public health field to address the challenges to overcoming language and cultural barriers, especially for Hispanics who speak little to no English. Several publications have been developed to assist health information providers in improving the readability and suitability of written materials. Certain standards have been recommended by several government health agencies at the local and state levels. Health educators in North Carolina created a guidebook for health organizations to overcome common mistakes when developing Spanish materials (State of North Carolina, 2000). The recommendations highlighted "solutions" for translating Spanish at an appropriate reading or cultural level (State of North Carolina, 2000). Such quick fixes cannot begin to improve the underlying problem of transferring health information from one language to another in a manner that is suitable for Spanish speakers. Doak & Doak's *Teaching Patients with Low Literate Skills* has been recognized as a useful tool for addressing health literacy in educational materials. The authors developed an assessment

instrument, known as Suitability Assessment of Materials or (SAM) to quickly and systematically assess the suitability of any given material for a particular population (Doak & Doak, 1996). The authors recommend that health professionals use SAM to test written materials for content, literacy demand, graphics, layout, learning stimulation/motivation, and culture of the intended audience (Doak & Doak, 1996). These evaluation criteria are especially critical so that any deficiencies in the new materials can be corrected or revised in existing materials (Doak & Doak, 1996). SAM can be used by health educators to ensure that Hispanics understand the relevance of a particular health message in written materials.

Assessing Reading Level

It is estimated that one in five adults in the United States reads below a fifth grade reading level (USDHHS, 2000). On average, low-literate individuals also accrue annual health care costs that are four times greater than those with a normal literacy level (USDHHS, 2000). In Annual Review of Adult Learning and Literacy (1999), it was found that the readability of a large group of cancer information and prevention materials ranged in the 9th and 12th grade reading levels. The American Cancer Society, one of the largest providers of free cancer information for general consumers, demonstrated only a modest improvement in readability assessments with an average reading level of grade 11 for its materials (Rudd, 1999). It is clear that populations that are most in need of these cancer education materials will not benefit from them if they continue to be created at high reading levels.

While it may be too cumbersome to estimate the reading level for each person, it has been suggested that the 6th grade reading level will accommodate the literacy needs of at least 75 % of adult Americans (Doak & Doak, 1996). Results from independent research determined that the Hispanic patient population of Parkland Health & Hospital System required a lower reading level (Pestonjee, 1998). The reading levels of Hispanics must always be considered when creating written materials.

Readability Formulas.

Testing the reading difficulty of written materials has been made possible through the application of various readability formulas. It is estimated that there are at least 40 different readability formulas, most of which focus only on word difficulty and sentence length to determine a grade-reading level (Doak & Doak, 1996). The most recognized readability formulas are Fry, Fleisch, FOG, and SMOG (National Cancer Institute, 1992). These formulas tend to label materials as "difficult to read" if the publication contains many complex, multi-syllable words or sentences (Doak & Doak, 1996). However, only a few instruments have been adapted to test the readability of Spanish print materials.

Written materials

Health educators routinely rely on print materials to provide detailed information about a select topic for a specific audience. Written materials provide a health communication channel for disseminating information that can enable Hispanics to make informed health decisions for themselves and their families. The materials will be effective only if they are created and disseminated in a comprehensible and culturally

appropriate manner. Such considerations include print materials that account for the language and reading levels of the intended audience. Health organizations must determine the best method for creating Spanish materials for their clientele.

Health educators can choose from a large array of written materials focused on communicating cancer prevention and education messages. Several studies suggest that print materials are a cost-effective educational approach that can have an impact, especially when behavioral strategies are included in the content (Frost, Thompson, Theimann, 1999; Paul, Redman, & Sanson-Fisher, 2003; Paul, Redman, & Sanson-Fisher, 2004). Written materials are often more easily incorporated into classroom instruction and can be explained in detail by health educators. In addition, consumers tend to prefer print materials rather than audiovisual materials since they are tangible items that can be taken home, thus reinforcing the message. (Frost, Thompson, & Theimann, 1999). Written materials used alone will by no means provide the solution to improving cancer communication with Hispanics, but well written materials may supplement other educational efforts.

Cancer communication in written materials must be presented in a format that is understandable and applicable to the lifestyle of Hispanics, while still being considerate of their cultural and reading needs. Health information providers must attempt to provide information in a straightforward manner with clear instructions on actions that can be taken to prevent cancer (Davis, et al, 2002). Creating Spanish CPE materials that are easier to read can help to improve Hispanics' preference and acceptability while

increasing their comprehension of the materials (Andrus & Roth, 2002). These materials can become even more effective when they are used with other teaching techniques focused on cancer prevention strategies related to improved nutrition and increased physical activity. Regardless of the communication method, the health information needs of Hispanics must be better addressed and accounted for by health care providers. "... it is probably easier to change the communication skills of the health care provider than that of the patient" (Davis et al, 2002). Hispanics will continue to miss out on opportunities to improve their health if they do not completely understand the cancer prevention messages being relayed to them in written materials or with specific health interventions that rely on such materials.

Effectiveness of written materials.

Numerous studies have compared the effectiveness of various educational methods such as written materials, videos, and computer-based lessons. The choice of teaching methods depends greatly on the learning styles of an audience to receive the education as well as the time and resources of the educator. Many interventions involve more than one single teaching method. Some studies claim that low-literate readers prefer to receive health information in a verbal rather than written format (Davis et al, 2002). Other research suggests that racial and ethnic minorities, including Hispanics, are less likely to benefit from print materials because of their limited educational attainment and literacy [skills] (Calderon & Beltran, 2004). The inherent complexities of the written word and/or disregard for cultural considerations may make it difficult for Hispanics to

understand a cancer prevention message. Still, both the reading level and cultural appropriateness of written materials must be adequately addressed when creating Spanish cancer prevention education materials.

Developing Cancer Prevention Education Materials.

The challenge of determining the health information needs for Hispanics cannot be solved by health educators alone. There must be a working relationship between other health professionals as well as Hispanics to ensure that certain information gaps can be bridged and communication barriers can be diminished. "Working with audience members from the beginning and throughout the development of health education strategies and materials helps ensure that a program meets the needs of the intended community and is culturally sensitive and appropriate" (AMC Cancer Research Center, 1994). As health educators, it remains critical to involve Hispanics in the material creation and dissemination process. Hispanics can provide insight into the best methods for delivering cancer prevention messages. The National Cancer Institute conducted focus groups with the general public to determine how people preferred to receive cancer risk information (National Cancer Institute, 1992). Some of the key findings indicated:

- Participants wanted cancer risk messages to provide hope for prevention.
- Cancer risk is deemed less threatening when it is presented in an optimistic way.
- Key questions that they wanted answers to were: "How serious is the risk?" and "What can be done to reduce or avoid the risk?"

- A combination of short passages with texts and visuals that can increase attention and understanding.

Pre-testing materials with members of the targeted audience can provide organizations with useful input about how to effectively present cancer information. Health professionals, regardless of their interaction with the target audience, can benefit from learning firsthand how Hispanics feel about the usefulness of written materials. The process of better understanding how Hispanics prefer to receive information must involve their direct feedback for the development and dissemination of cancer prevention education materials.

Heart Healthy and Ethnically Relevant Tools (HHERT) Project

Recent studies have been conducted to investigate the methods for creating culturally appropriate print materials for specific populations. In 1994, researchers from the University of South Carolina Prevention and Research Center conducted the HHERT study after recognizing a need for redesigning educational materials for women participating in the Well-Integrated Screening and Evaluation for Women Across the Nation (WISEWOMAN) program (Parra-Medina et al., 2004; Parra-Medina et al, 2003). The study developed a methodical evaluation and revision process that specifically addresses the cultural appropriateness of print education materials and can be applied to Spanish CPE materials.

Practical Guidelines for the Development of Print Cancer Education Materials for At-Risk Hispanics

In other research, a team of health professionals representing the National Hispanic Leadership Initiative on Cancer: En Accion and the Texas Cancer Council addressed the need to create culturally appropriate cancer education materials. In 1995, the group collaborated to develop *Practical Guidelines for the Development of Print Cancer Education Materials for At-Risk Hispanics* for health educators to consider when creating culturally appropriate materials for the Hispanic population (Texas Cancer Council, 1995). The guidelines expanded on the National Institutes of Health's publications, *Making Health Communication Programs Work: A Planner's Guide* and *Clear and Simple* to focus print material development for the Hispanic population.

To Translate or Not to Translate: That is Still the Question

While the need remains clear, the public health field has not reached a consensus as to how to develop and disseminate quality Spanish materials. Many healthcare organizations have attempted to address the issue of providing "linguistically appropriate" services and materials with simple solutions such as "language translation" (Calderon & Beltran, 2004). The traditional method of translating English materials directly into Spanish may be used when an organization lacks the necessary time or staff to create original Spanish materials. However, this method can further complicate health communication comprehension for Hispanics. Many health educators also agree that direct translation is not a simple solution to complex language barriers. "Providers must

be open receivers and listeners of 'culture' and its dynamics in the delivery of health care" (The National Alliance for Hispanic Health, 2001). The direct translation of English materials into Spanish can overlook multiple factors that can affect their overall quality and usefulness.

Communication barriers can occur when high reading level English print materials are directly translated into Spanish. Most patient education materials are created at a 9th - 10th grade reading level and above and are not beneficial to underserved populations (Pestonjee, 1998). Direct translation of any English material will most likely be unsuccessful at relaying the important health message. Certain English words and phrases cannot be literally translated and tend to change the intended meaning or create ambiguous content. It is suggested that organizations develop materials in the language of the target audience rather than use direct translation or even back-translation processes (Centers for Disease Control and Prevention, 1999). This is because many English materials are created at high reading levels and fail to demonstrate cultural awareness of a multifaceted Hispanic population. Health educators must account for Hispanic's ability to read and understand cancer prevention education materials to effectively communicate with this population.

Hablamos Juntos.

In 2001, *Hablamos Juntos* (We Speak Together) was initiated by the Robert Wood Johnson Foundation and administered by the UCSF Fresno Center for Medical Education & Research, a major educational and clinical branch of the UCSF School of

Medicine (Hablamos Juntos Language Policy and Practice in Health Care, n.d.). The project was funded to improve communication between health care providers and their patients with Limited-English Proficiency (LEP), in particular with the growing Latino population living in the United States (Hablamos Juntos Language Policy and Practice in Health Care, n.d.). In January 15, 2004, a gap analysis was conducted to focus on the limitations of translations and criteria health organizations can use related to the production of useful Spanish materials (Hablamos Juntos Language Policy and Practice in Health Care, n.d.). While translation of standard patient forms may still be the method for material development for many health organizations, it is not necessarily the best method. "Simply assuring that something is in Spanish will not ensure that the message will be delivered" (The National Alliance of Hispanic Health, 2001). *Hablamos Juntos* established the following set of questions to assist health professionals in determining whether translation is suitable:

- Will the communicative purpose of this document still be achieved once the document has been translated?
- Will this new audience see it, use it, and understand it in the same way as the original English-speaking audience?

More often than not, health organizations tend to underestimate the inherent difficulties of translation. Translating certain written content does not automatically translate into other languages and cultures. "The cultural 'baggage' of the English version may be unsuitable for another culture, and many patients don't read well in any language" (Doak

& Doak, 1996). It is the author's opinion that the direct translation of English materials into Spanish should never be the best solution to providing health information to Hispanics in an understandable and readable format. "The characteristics of the audience—their cultural experiences, knowledge, and patterns of behavior, as well as functional characteristics like average literacy level—should determine how best to convey the message of the original English written materials" (Hablamos Juntos Language Policy and Practice in Health Care, n.d.). Without a universally acceptable and affordable method for the creation of Spanish written materials, health organizations and providers will have no choice, but to continue to utilize direct translation for health materials.

Evaluation

It is critical for health providers to implement an evaluation process to determine how well services are being provided to clients. Evaluation helps to highlight what a program or service is doing, the specific clientele that is affected by their delivery, and whether a program is carried out according to a plan (Balbach, 1999). Health organizations should implement evaluations to document how a program or intervention works to address a specific health issue (Balbach, 1999). Many organizations may not want to uncover what is and what is not working with their programs. Still, the impact of a program can guide the goals that are expected to be achieved (Balbach, 1999).

Evaluation can bring insight into the goals and objectives of an organization. Evaluation focuses on a specific population of interest and develops objectives by which

to measure outcomes that lead to a long-term goal (Balbach, 1999). Implementation objectives are evaluated based on whether they were implemented and how and when they are implemented (Balbach, 1999). A measurable implementation objective for Parkland's cancer education efforts is to provide low-literate cancer prevention education materials to Hispanics. The population of interest for this research was Spanish speaking Hispanic adult men and women, age 18 and older living in Dallas County.

The evaluation process is important to implement for many different reasons. First and foremost, a health organization needs to make ongoing decisions about existing programs and interventions that are delivered (The Health Communication Unit at the Centre for Health Promotion, 2002). The health status and educational needs of the community are constantly evolving. The decisions that health organizations often face include the following issues:

1. How to optimize the use of time and resources
2. Determining if a program is meeting the needs of participants
3. Demonstrating the effectiveness of a program to funders and other stakeholder groups

Regardless of the reason, evaluation remains a necessary step in improving any health education program or activity. Traditional evaluation relies on quantitative measures collected over a sample of the population (Balbach, 1999). This type of evaluation is focused more on quantity rather than quality of service provided. Qualitative methods succeed in depicting many attributes of a program that cannot be quantified to illustrate

the positive aspects of a program as well as the areas for improvement. Qualitative methods can be applied to support program evaluation and can include methods such as interviews, observations, and focus groups to record the activities, characteristics, and outcomes of programs (Patton, 2002). These methods help track activity before, during, and after participation and outline the processes and outcomes of the program for program decision-makers (Patton, 2002). Program staff and participants tend to view qualitative evaluation methods as more personable than the hard statistics and numbers associated with quantitative methods. Respondents are respected for their ideas and opinions, which then become the important data source.

Formative Evaluation.

Formative (or process) evaluation describes the process of implementing a program in order to evaluate the quality of a program (Patton, 2002). The focus lies in the process of how events occur rather than or in addition to outcomes. "What we do is no more important than how we do it" (Patton, 2002). Such evaluation often involves actively engaging program staff and participants in the development process itself and strives for detailed descriptions of social interactions (Patton, 2002). Formative evaluation focuses on understanding program elements that enable people to benefit from a program. Resulting data demonstrates the extent to which a program or organization succeeds in meeting its challenges, while revealing strengths and weaknesses in relationships and system functioning (Patton, 2002). This evaluation also provides stakeholders with important information regarding program or organization operations,

which allows them to make more informed program modifications. The research involved evaluation of materials that have the potential to relay cancer prevention information to a large number of Hispanics.

CHAPTER III

METHODOLOGY

A qualitative, focus group methodology was used to evaluate the readability and cultural appropriateness of two Spanish CPE print materials created by Parkland Health & Hospital System. Formative research guided the investigative efforts to identify and highlight the essential elements for a culturally appropriate, reader-friendly Spanish language CPE material for Hispanics. Health professionals and Hispanics provided feedback on how effectively the Spanish CPE materials linked nutrition and physical activity factors to cancer risk. In addition, the Fry readability formula was applied as another measure of the reading level of the Spanish CPE materials. Evaluation results will provide Parkland with valuable insight into possible revisions for existing Spanish print materials that focus on nutrition and physical activity and cancer prevention.

Population and Sample

A cross sectional design was implemented to measure a sample of the Hispanic population and a sample of health professionals in Dallas County at one point. A purposive sampling method was used to study a specific health issue (cancer prevention related to nutrition and physical activity) for a target audience (Hispanics). This type of sampling method ensured that feedback was received from Hispanics and health professionals only. The sample of Hispanics and health professionals voluntarily participated in focus groups to review Spanish CPE materials created by Parkland that

contain cancer risk reduction messaging related to improved nutrition and increased physical activity.

Two purposive samples were collected from the Dallas community to participate in focus groups. The first group of subjects included a total of 12 male and female public health professionals, 25 years of age and older. The subjects represented health educators, lay health educators, and dietitians who were bilingual in English and Spanish. Six of the group members spoke Spanish as their first language and eleven of the participants had at least 5 years experience conducting health education interventions within the Hispanic community in Dallas County. One of the health professionals participating in the health professional focus groups also facilitated the consumer focus groups. A total of four focus groups were conducted with an average of 3 health professionals participating in each group.

The second purposive sample consisted of a total number of 14 community members representing Hispanic adults who were 18 years of age and older, lived in Dallas County, and spoke Spanish as their first language. The subjects represented primary users of Spanish CPE materials and voluntarily participated in focus groups to provide feedback on their usefulness. A total of four focus groups were conducted with an average of 3 subjects participating in each session.

Protection of Human Participants

This was a non-invasive study and although there were no foreseeable risks other than potential loss of subject confidentiality, the researcher investigators took appropriate

measures to ensure that subject confidentiality would be protected. All measures were taken to protect the confidentiality of subjects. The following measures were taken to ensure that subjects completely understood their personal rights as participant of the focus group process:

1. Prior to administering focus groups, facilitators asked subjects to read through an informed consent form outlining the focus group process. The explanation included the purpose, procedures, risks, benefits, and extent of anonymity and confidentiality of focus groups. Facilitators also provided subjects with an opportunity to present any concerns to the facilitators and ask questions. The focus group began only after the facilitator answered all questions and allowed subjects the chance to decline participation if they so wished.
2. Participants were informed that their responses would be audio-recorded to accurately report all verbal feedback provided during focus group sessions. Subjects were asked to refrain from providing their first and last names during the focus group session to ensure that their identity would not be linked to their responses. All tape recordings were destroyed immediately after they were listened to and transcribed by hand so that subject voices could not be used as identifiers. Subjects who were not comfortable with having their responses recorded were allowed to withdraw from participation in focus groups.

3. Subjects were provided with a copy of the informed consent form to take with them following the completion of a focus group session. The form provided investigator and co-investigator contact names and numbers in case subjects had questions after their participation in a focus group. The co-investigator recorded observations and stored all recorded information in a locked file cabinet, completed or otherwise, at the Dallas County office of Texas Cooperative Extension at the end of each day.

Participation in this study remained completely voluntary. Subjects were free to choose to withdraw from completing a focus group session at any time without penalty. No monetary incentives of any kind were offered to health professional or to consumer focus group participants. Subjects participating in the consumer focus groups were provided with additional nutrition information that included guidelines for eating more fruits and vegetables and healthy recipes in Spanish. Due to the procedures implemented by the investigators, there was minimal risk of harm to subjects.

All qualitative research was conducted at the Parkland COPC locations and the Texas Cooperative Extension Dallas County office. Analysis of qualitative research was completed in the computer lab of the University of North Texas Health Science Center at Fort Worth. Collected information was maintained in a filing system that remained locked at all times at the Dallas County office of Texas Cooperative Extension.

IRB

The co-investigator applied for and received an expedited review from the Institutional Review Board at the University of North Texas Health Science Center at Fort Worth to conduct this research. The investigators created an informed consent letter that clearly explained the focus group process to ensure that health professionals and Hispanics were aware of their rights to participate and withdraw from focus group sessions. The informed consent letter was translated into Spanish for better understanding for Hispanics participating in focus groups. The investigators requested and received a waiver from the requirement to obtain signed informed consent from health professionals and Hispanics with the Institutional Review Board at the University of North Texas Health Science Center at Fort Worth based upon the following:

(1) The research presented no more than minimal risk of harm to subjects; and involved no procedures for which written consent is normally required outside the research context.

The co-investigator also applied for expedited review from the Institutional Review Board at the University of Texas Southwestern Medical Center of Dallas for the recruitment of subjects from the patient waiting areas at the Parkland COPC sites. However, the Institutional Review Board at the University of Texas Southwestern Medical Center at Dallas did not believe that subject identity would be compromised if they signed an informed consent form. Therefore, the co-investigator was requested to

collect a signed informed consent from patients that participated in the consumer focus groups at the Parkland COPC sites.

Health Insurance Portability and Accountability Act (HIPAA) training.

The principal investigator, co-investigator, and lead focus group facilitator completed an online Health Insurance Portability and Accountability Act (HIPAA) training through the University of Texas Southwestern Medical System at Dallas on April 7 and April 10, 2006 in order to conduct research with the Hispanic patient population at the Parkland COPC sites.

Data Collection Procedures

Collection of Cancer Education Materials

The research began with a comprehensive compilation of materials that would be included in the evaluation process. A patient education specialist in the department of nursing education provided the co-investigator with a copy of the patient education materials catalog. The list consists of all print materials that are accessible to Parkland Health & Hospital System staff online through the Parkland intranet and can be offered to patients. Only those materials that were printed in Spanish and included nutrition and physical activity guidelines for cancer prevention were considered for evaluation. Two materials were identified that fit this criterion: Dieta y Pautas Saludables Que Le Ayudan a Que No Le De Cáncer and Pautas para Adultos sobre Salud Preventiva and were included in this research.

Focus Groups

The primary data collection method involved the use of focus groups with professionals and Hispanics to review two Spanish CPE materials created by Parkland Health & Hospital System. The evaluation of the existing Spanish CPE materials was necessary to determine how appropriate they were to accommodate the reading needs and cultural preferences for the audience they were meant to reach: Spanish speaking Hispanic adults living in Dallas County. The goal of focus groups as a data collection method was to gather information from several participants based on their responses to

open-ended questions. The process enabled the investigators to learn how cancer prevention could be better communicated to Hispanics in Spanish print materials.

An important step in material development involves pre-testing materials among members of the intended audience. Pre-testing messages and materials is an important component of the evaluation process. Focus group sessions are a method for pre-testing written materials with a specific group of people. This procedure incorporates a small group interview focused on a specific topic of interest. The sessions provide a non-confrontational forum for participants to share their opinions and experiences related to disseminating and utilizing print materials. Focus groups collect rich data in a short time frame. Stories and non-numeric data recovered through focus groups often provide the most insightful information about organizations, programs, communities, families, and program participants themselves.

For this research, a sample of Hispanics were asked structured questions and encouraged to share their ideas and perspectives regarding lifestyle factors such as nutrition and physical activity as cancer preventive behaviors. The goal was to gather first-hand accounts that could be used to identify better communication strategies related to cancer prevention Multiple feedback perspectives reflected health educator expertise and consumer preference on information presented in Spanish CPE materials that include nutrition and physical activity messaging for cancer prevention.

There were several advantages for incorporating focus group sessions into this research. First, logistically speaking, this research method was suitable for assembling

several respondents conveniently in a specific location. The focus group process allowed for a sample of Hispanics to pre-test Parkland's Spanish CPE materials without implementing an extensive recruitment procedure. The format of focus group sessions also enabled the participants to freely interact with one another and provided the moderator an opportunity to expand on a structured question outline when necessary to gain more in-depth feedback. Finally, this research method also required fewer financial resources and time commitment to implement compared to other pre-testing methods such as personal interviews or surveys.

Health Professional Focus Groups.

The co-investigator contacted, by phone and electronic mail, various health professionals in the Dallas County area such as bilingual health educators, lay health educators, nurses, dietitians, and physicians to solicit their participation in focus groups. A total of 15 bilingual health professionals provided affirmation that they were willing to participate in focus group sessions. Twelve health professionals arrived on the scheduled days that the focus groups were held.

After receiving IRB approval through the University of North Texas Health Science Center Institutional Review Board, the co-investigator conducted 4 focus groups with a total number of 12 health professionals. The health professionals convened to provide their expert opinion about the useful attributes of existing Spanish CPE materials created by Parkland Health System that addressed cancer prevention strategies related to nutrition and physical activity. The focus groups were conducted at the co-investigator's

place of employment, Texas Cooperative Extension Dallas County office on April, 11, April 12, and April 17, 2006. An average of 3 health professionals participated in each focus group.

The co-investigator arranged a conference room where the focus group sessions were conducted in a hollow square set-up so that tables formed a square and subjects were able to see and hear each other with ease. An audio tape recorder was placed in the center of the hollow square set-up so that all participants were fully aware that their responses were continually being recorded.

The co-investigator introduced herself as the focus group facilitator and briefly explained the purpose of the focus group session. Prior to administering focus groups, each participant was provided with a written informed consent letter. The facilitator had already gained verbal commitment from all participating health professionals prior to focus group sessions, but still asked them to read through the informed consent. The letter outlined the focus group purpose, procedures, risks, benefits, and extent of confidentiality for participants. Subjects were informed that their responses would be recorded with a tape recorder. The facilitator briefly reviewed the informed consent letter and gave subjects at least 5 minutes to ask and answer any remaining questions. Before beginning the session, the co-investigator reminded the subjects to freely respond to questions and not refrain from providing negative or positive feedback.

The facilitator reminded subjects that they would not be called on by their first names during the focus group session and they should refrain from using the names of

other participants in their groups. Furthermore, the co-investigator chose to transcribe subject responses only without listing their first names so that subjects were not linked to their responses. All tape recordings were destroyed immediately after they were transcribed by hand so that subject voices could not be used as identifiers. The facilitator began the session only after answering any subject questions and allowing them a last opportunity to decline participation.

The facilitator then proceeded to pass out the first cancer prevention education material and asked participants to take approximately 5 minutes to review it. Due to the various use of Spanish dialects, the co-investigator provided the health professionals with one copy of the Spanish version of the material, as well as one copy of the English version. This ensured that participants were provided with a reference for words they were not familiar with since the Spanish version was a direct translation of the English version. The participants were allowed to make individual notes on their copies of the material to help them respond to questions. The facilitator then presented participants with questions from a prepared moderator's guide. They were provided with approximately 20-30 minutes to provide their feedback on the first material. The facilitator allowed for an additional 5 minutes for participants to provide final comments on the first material. The facilitator then proceeded through the same procedures for the second cancer prevention education material.

Subjects were provided with a copy of the informed consent letter to take with them following the completion of the focus group session. The letter contained

investigator and co-investigator contact names and numbers in case subjects had questions after their participation in a focus group. The total time for each focus group session was approximately 75 minutes.

Hispanic Focus Groups.

The next stage of the research consisted of a separate series of consumer focus group sessions with Hispanics to determine their view of the usefulness of the same Spanish CPE materials. The focus group sites that were chosen for the research were Garland Health Center and East Dallas Health Center, Parkland COPC's located in Dallas County that service a large number of Hispanic patients. Participants were recruited from the waiting areas of these clinics. All participants were men and women, 18 years of age and older, lived in Dallas County, and spoke Spanish as their first language.

The co-investigator met with clinical management staff at Garland Health Center and East Dallas Health Center to gain approval prior to conducting focus groups with Hispanics. After receiving IRB approval through the University of North Texas Health Science Center Institutional Review Board and the University of Texas Southwestern Medical Center of Dallas Institutional Review Board, the co-investigator conducted 4 focus groups (two focus groups at each clinic) with a total number of 14 Hispanics. The focus groups took place in the patient waiting areas at Garland Health Center and East Dallas Health Center.

The co-investigator provided front desk staff at each clinic with informational flyers about the research. The co-investigator and lead focus group facilitator recruited

Hispanics from the waiting areas in these two clinics by offering the informational flyers to waiting patients. The co-investigator arranged a separate section of the patient waiting area so that patients could sit comfortably together to see and hear each other with ease. The facilitator carried the audio tape recorder as he interviewed the patients so that all participants were reminded that their responses are being recorded.

To begin the focus groups, the health professional introduced himself as the focus group facilitator and briefly explained the focus group procedures. The participants were informed that the purpose of the focus groups was to help evaluate a Spanish cancer prevention education material that focused on improved nutrition and increased physical activity. Prior to administering focus groups, each subject was provided with a written informed consent form. The facilitator asked subjects to read through the informed consent form that outlined the focus group purpose, procedures, risks, benefits, and extent of confidentiality for participants. Subjects were informed that their responses would be recorded by hand and with a tape recorder. The facilitator briefly reviewed the informed consent form and gave subjects at least 5 minutes to ask any last questions and sign the informed consent. Those subjects who did not wish to participate were allowed to leave.

The facilitator reminded subjects that they would only be called on by their first names during the focus group session. Using the first names of the subjects enabled focus group facilitators to establish rapport with subjects. However, the co-investigator transcribed subject responses only without listing their first names so that subjects were not linked to their responses. All tape recordings were destroyed immediately after they

were transcribed by hand so that subject voices could not be used as identifiers. The facilitator began the session only after answering any subject questions and allowing subjects to decline participation.

The facilitator then proceeded to pass out the first cancer prevention education materials and asked participants to take 5 minutes to preview it. The facilitator then presented subjects with questions from a prepared moderator's guide. Participants were given approximately 20-30 minutes to respond to the first material. The facilitator provided subjects with 5 minutes to provide final comments on the first material. The facilitator proceeded through the same procedures for the second cancer prevention education material.

Subjects were provided with a copy of the informed consent form to take with them following the completion of a focus group session. The form contained contact names and numbers for the investigator and co-investigator in case subjects had questions after their participation in a focus group. Each focus group was conducted in Spanish and lasted approximately 45 minutes to 1 hour in length.

Following the focus group, subjects were provided with healthy snacks such as bottled water, whole fruit, and granola bars, as well as nutrition information and materials. The materials provided tips on how to incorporate fruits and vegetables into daily meals, including suggestions for more opportunities to present fruits and vegetables to children.

Instrumentation

The co-investigator developed two semi-structured moderator's guides to enable the focus group facilitators to conduct group discussion and collect relevant information in a timely manner with health professionals and Hispanics.

Semi- Structured Moderator's Guide.

Two separate moderator's guides were developed for health professionals and consumer focus group sessions. The moderator's guide for health professional focus groups is listed in Appendix A. The moderator's guide for Hispanic focus groups is listed in Appendix B. The Spanish translation of the moderator's guide for Hidpanic focus groups is listed in Appendix B1. Development of the guides provided an interview process that reflected the original research questions:

1) How do health professionals feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
2) How do Hispanics feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
3) How can Parkland Health System improve the process for creating and disseminating Spanish print materials that focus on nutrition and physical activity and cancer prevention?

The co-investigator prepared 9 key questions along with 5 follow-up questions (and 3 final questions when time permitted) to ensure that subjects had ample opportunities to provide their feedback on the cultural appropriateness and readability of Spanish CPE materials. The guides consisted of open-ended, probing interview questions to determine how well the cancer prevention message was being received, recalled, and responded to by Hispanics. Participants were able to elaborate on their own and on other subject's responses to better explain their ideas and opinions. The open-ended question and answer format allowed researchers to gather information, while establishing trust with participants.

The co-investigator selected specific questions from assessment forms that have been used in past research studies for the evaluation of cultural appropriateness in print materials. For example, the guide included modified versions of preview questions presented in the Heart Healthy and Ethnically Relevant Tools Project developed by Parra-Medina, et. al (2004). The University of South Carolina Prevention and Research Center (USCPR) granted the co-investigator permission to reference their assessment form as a resource for creating a new assessment tool to systematically evaluate Spanish CPE materials. The assessment form was originally created for a study conducted by Parra and Medina to solicit feedback from health professionals on the usability of existing educational print materials that focused on cardiovascular risk reduction for low-income African American women who participated in the WISEWOMAN project of the CDC. Additional questions were created based on guidelines provided by Goldman & Schmalz

(2001) and the Texas Cancer Council (1995), which were used to evaluate the quality of Spanish CPE materials. These forms are available online over the internet for public access. The final draft of the two moderator's guide included the following sections: Introduction, Explanation of Focus Group Process, Evaluation, and Closing to provide an organized focus group format.

Due to the use of more than one focus group facilitator (the co-investigator and a health professional), the co-investigator attempted to prevent variations in facilitating methods by including carefully worded, standardized questions in the guide. The health professional was also provided with an opportunity to assist in writing the moderator's guide. This ensured that he was fully aware of the nature and order of interview questions, while contributing to the specific questions he felt should be included in the guide. The final draft of the moderator's guide for consumer focus groups was translated from English to Spanish with the assistance of the facilitator and two other health professionals who speak Spanish as their first language.

Audio recording

The focus group sessions were audio recorded by the co-investigator and focus group facilitator in a responsible manner. A portable, microcassette recorder was held by the facilitator or placed in a visible location on a table in between all participants. Recording of the session was outlined in an informed consent form that was provided to participants prior to the session.

Reliability

Public health research has a responsibility to release both reliable and valid information in order to implement effective programs that benefit communities. Reliability describes the degree to which a finding is consistently replicated independent of extraneous effects on the research methods, while validity refers to the accuracy with which results are reported (Patton, 2002). Reliability is an important measurement that should yield the same results each time it is applied to a population or program. The use of a structured focus group moderator's guide for the sessions provided a standardized method of measurement for health professional and consumer feedback about the cultural appropriateness and readability of Spanish CPE materials. Since a select number of health professionals and Hispanics freely volunteered their participation in focus group sessions, there was no chance that the feedback they provided was due to chance alone. The Fry Graph Method has been validated as a reliable readability assessment tool for Spanish materials (Gemoets, et, al, 1992). This reading formula was easily adapted to estimate the reading level of the Spanish CPE materials.

Validity

Validity refers to the extent to which a test actually measures what it is intended to measure (Ayala et al, 2001). The use of focus group sessions ensured that all participants were allowed the equal opportunity to provide their personal beliefs about the effectiveness of Spanish CPE materials. These responses were recorded with a tape recorder and transcribed manually by the co-investigator. Ideally, research should

involve more than one research investigator to ensure that data collection is valid. The research addressed this issue by incorporating two facilitators for the consumer focus group sessions. Participants also chose of their own volition to take part in the evaluation process.

Data Analysis

Fry Graph Readability Formula

Parkland Health & Hospital System consistently focuses on developing English materials at a 5th grade reading level or below. Yet, the health system has never evaluated the readability of Spanish materials that have been directly translated from English to Spanish. Testing the reading difficulty of written materials has been made possible through the application of various readability formulas. These formulas tend to label materials as "difficult to read" if the publication contains many complex, multi-syllable words or sentences. However, only a few instruments have been adapted to test the readability of Spanish print materials. The proposed research utilized the Fry graph method to measure the reading level and reading age needed to understand the two Spanish CPE materials that were evaluated by health professionals and Hispanics. The formula was included in the proposed research as an additional measurement of the reading level for these two materials.

Application of the Fry Graph Method to Spanish Materials.

The process for applying the Fry Graph Method to a Spanish material involves a series of mathematical functions (Doak & Doak, 1996; Gilliam, Pena, & Mountain, 1980). Doak & Doak, 1996, explains the process for the Fry Graph Method as an estimate of reading difficulty through a count of the number of polysyllabic words in three 100-word passages. First, the co-investigator selected 3 key passages in each Spanish CPE materials. The number of sentences in each 100-word passage and the

number of syllables in each 100-word passage were counted and the following steps were taken:

1) The average number of sentences was calculated by dividing the total number of sentences for each sample by "3". The same process was used to find the average number of syllables. Finally, the co-investigator referred to a pictorial Fry graph to estimate the material's readability. The Fry chart is constructed as an x-y graph. The average number of sentences per 100 words is listed on the y-axis (vertical axis) and the average number of syllables per 100 words is labeled on the X-axis (horizontal axis). A curve, located within the inside borders of the two axes on the graph, indicates the approximate grade level for the material being tested.

2) The reading level was found by finding the number representing the average number of sentences on the y –axis and the number representing the average number of syllables on the x-axis. The co-investigator identified the common point where the 2 numbers intersect on the graph, which was indicative of the best estimate of the reading level on the curve.

3) In order to account for the extended length of syllables and sentences in Spanish versions of English written materials, "67" was subtracted from the total syllable count for each 100 word passages.

The formula provided a best estimate of the reading level for the Spanish version of the two cancer prevention education that was evaluated.

NVivo

Qualitative analysis of focus group transcripts required the use of NVivo 7 software to allow for reliable data management. The software has been used in many research studies for the exploration and identification of specific themes related to the understanding of an issue that cannot be appropriately reduced to numbers. The NVivo software was accessed at the computer laboratory located in the library at the University of Texas Health Science Center at Fort Worth.

Coding of data

The research involved a series of coding stages for the analysis of transcript data. Coding consisted of a process for assigning a word or phrase to similar comments in order to determine how often the ideas appeared in a data set (The Health Communication Unit at the Centre for Health Promotion, 2002). Coding of data contributed to the research analysis in the following ways:

- Allowed for the analysis of all transcripts in one location so that all the material related to a specific focus group question became comparable data sources
- Facilitated the seeking of patterns and theories
- Generated ideas about general consensus among focus group participants both within and between different focus group sessions
- Interpreted passages to identify new meanings in the data

- Established categories for data
- Allowed for the quantification of qualitative results.

Processing the data involved preparing the transcripts of focus group sessions into a format that could be imported into NVivo storage format and interpreted with additional queries and manual coding techniques. Before analyzing the collected data, all of the written field notes and tape recorded responses from focus group sessions were transcribed verbatim and translated from Spanish to English with the assistance of the health professional that facilitated the focus groups with Hispanics.

Transcripts of health professional and consumer feedback were then imported into NVivo in order to extract main themes and ideas. To minimize the risk of data entry error and increase the accuracy of the data, the co-investigator checked 10% of the data entered. The transcribed data was autocoded in NVivo so that similar responses to focus group questions were grouped together into categories. The data could then be more easily sorted and retrieved through key word searches, especially when duplicate responses occurred (The Health Communication Unit at the Centre for Health Promotion, University of Toronto, 2002).

Next, the data was coded to identify important themes that developed within each category. The Neuman (2003) five part coding system was implemented to create codes to define the themes. The first step was completed with the NVivo autocoding of data in to major categories. Once this was completed, the data was sorted and organized in an attempt to condense the mass data into subcategories. The data was sorted so that they

were organized around the focus group interview questions. (See Appendix H). Queries were conducted with the NVivo software to find potential similarities and relationships between and within data responses. This coding resulted in the creation of several subcategories.

Another review of the data was conducted during 'open coding', which focused on creating codes from the major categories. A set of criteria was created to more accurately classify and identify themes that developed based on the central research questions:

1. How do health professionals feel about the usefulness of Spanish CPE materials?
2. How do Hispanics feel about the usefulness of Spanish CPE materials?
3. How can Parkland improve Spanish CPE materials that focus on nutrition and physical activity?

In 'axial coding', key themes were identified and organized within the codes. The subcategories were also condensed into more manageable groups.

Finally, with 'selective coding' the coded data was scanned to select individual focus group responses that best matched the major theme criterion related to readability, cultural appropriateness, and usefulness. The interpretation of focus group results are reported in Chapter 4.

Summary

Health organizations often do not choose to implement extensive evaluative methods to determine whether their programs or materials are truly effective for the

intended audience. The failure to complete such research may be attributed to time constraints or the lack of qualified staff to handle such a request. However, it remains important to gauge how well health education messages are being received by the community to best improve disparities that exist with certain health issues such as cancer. For this research, the co-investigator was fortunate to be able to coordinate efforts with Parkland Health & Hospital System, a major health network that provides education to many Hispanics in Dallas County. Parkland allowed the co-investigator to recruit members of the Hispanic audience to participate in focus groups and review existing Spanish CPE materials.

Written materials often supplement the teachings of cancer education programs and interventions. Still, simply offering written health information without evaluating their effectiveness can defeat its educational purpose. The evaluation component was central to this research to examine how well Hispanics understand and relate to existing Spanish CPE materials created by Parkland Health & Hospital System. This type of research provided a better understanding of the consumer, Hispanics, and helped to introduce ideas for developing and refining the messages in Spanish CPE materials. The evaluation was necessary to gain feedback with which to modify the process by which existing Spanish CPE materials are created and disseminated.

CHAPTER IV

RESULTS

Raw data

Fry Readability Formula

The readability of two Spanish CPE materials created by Parkland Health & Hospital System was measured using the Fry Graph Method. The formula was designed to determine the reading grade level for English print materials based on the number of syllables and sentences in select passages. The reading level approximates the minimum grade that a reader must have obtained in order to comprehend the content of a material. The formula can be adapted with a special calculation to determine the reading level of Spanish materials. The modification involved subtracting '67' from the average number of syllables, in order to account for the longer length of Spanish materials. See Appendix A: Dieta y Pautas Saludables Que Le Ayudan a Que No Le De Cáncer (Cancer Prevention Guidelines) and Appendix B: Pautas para Adultos sobre Salud Preventiva (Preventive Health Care Guidelines for Adults), for the specific passages that were selected for the count of total syllables and sentences used in the calculation of the Fry Graph Method formula.

Based on application of the Fry Graph Method formula for three passages of the first material entitled Dieta y Pautas Saludables Que Le Ayudan a Que No Le De Cáncer (Cancer Prevention Guidelines), the material was estimated to be at a 6^{th} grade reading

level and a reading age of 11 years old. The Fry Graph calculations are listed in Table 4.2 and plotted on Charts 4.1 (grade level) and Chart 4.2 (reading level). The second material entitled, Pautas para Adultos sobre Salud Preventiva (Preventive Health Care Guidelines for Adults), was determined to be at a 5th grade reading level and a reading age of 10 years old. The Fry Graph calculations are listed in Table 4.3 and plotted on Chart 4.3 (grade level) and Chart 4.4 (reading age).

Two series of focus groups were conducted with health professionals and Hispanics to gather additional information on the readability as well as the cultural appropriateness of two existing Spanish cancer prevention education materials created by Parkland Health & Hospital System. The first focus group series included a total of 12 health professionals who were all recruited from the Dallas County area. Only health professionals who were bilingual in English and Spanish and worked in the Dallas County area were recruited to participate in focus group sessions. Eleven of the health professionals were women and three were men.

The second focus group series included a total of 14 Hispanics. Eight Hispanics were recruited from Garland Health Center (57%) and six were recruited from East Dallas Health Center (43%). See Table 4.1. All Hispanics signed informed consent forms prior to participating in focus group sessions to comply with the IRB requirement from the University of Texas Southwestern Medical Center of Dallas. Only male and female adults, 18 years and older who spoke Spanish as their first language were allowed to participate in consumer focus groups. Nine of the Hispanic participants were women and

the remaining five were men. A total of 14 Hispanics (6 from Garland Health Center and 8 from East Dallas Health Center) signed consent forms, but did not complete focus group sessions because they were called in for their appointments or to pick up prescriptions from the pharmacy.

Manual Coding Results

Material 1: Perspectives of Health professionals

Sorting and Classification

The responses of health professionals were autocoded with NVivo software, and organized around 3 main categories: Cultural Appropriateness, Readability, and Usefulness. Six subcategories were developed within the Cultural appropriateness category: Culture, Dissemination, Visuals, Content, Translation, and Strengths. The readability category was broken down into six subcategories: Culture, Format, Language, Visuals, Strengths, and Weaknesses. The Usefulness category included 3 subcategories: Dissemination, Strengths, and Weaknesses. These categories and subcategories formed the foundation for the key themes that developed with additional coding and were based on the original focus group questions:

1. How do health professionals feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
2. How do Hispanics feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
3. How can Parkland Health System improve the process for creating and disseminating Spanish print materials that focus on nutrition and physical activity and cancer prevention?

Open Coding

A review of the data was conducted to identify the main themes for each category. Based on closer review of focus group responses, four codes were created to condense the mass quantity of data listed within the categories and subcategories. The codes were Content, Language, Readability, and Cultural Appropriateness. The following focus group observations were noted related to each of these specific codes:

Focus groups were conducted in a timely manner and there were few instances when the facilitator needed to prompt the subjects to provide additional feedback. The dynamics of the focus groups enhanced the quality of information that was provided as participants seemed to be comfortable with the content of the material and their knowledge of the Hispanic population in Dallas County. It was expected that the focus groups with health professionals would provide more negative feedback than the consumer focus group sessions. The health professionals seemed to enter into the focus group sessions with an expectation that the Spanish CPE materials needed revision before they reviewed them. This overly critical view may be based on their work in the community and their personal beliefs and experiences in communicating with Hispanics. There was an overwhelming consensus that the content was very important and several structural and grammatical inconsistencies were viewed as culturally inappropriate. In addition, most of the health professionals believed that material 1 was written at too high of a reading level for Hispanics.

The following criterion was developed to accurately classify and identify the key themes from the coded data:

Cultural Appropriateness

- Grammatical use of Spanish
- Use of Spanish idioms

Readability

- Message Clarity
- Text Length
- Accuracy of content
- Visuals

Usefulness

- Cancer prevention message
- Format for dissemination

Axial Coding.

A second round of coding focused on the initial codes (Content, Language, Readability, and Cultural Appropriateness) in order to organize themes and combine concepts under the established categories for material 1. Data that shared similar ideas were regrouped under a condensed set of subcategories. The original six Cultural Appropriateness subcategories were condensed to include: Culture and Translation. The six readability subcategories were condensed into two subcategories: Format and Visuals. The three Usefulness subcategories included one subcategory: Utilization and

Dissemination. These categories and subcategories formed the foundation for the key themes that ultimately developed.

Based on the two stages of coding, the following key themes were created:

Cultural Appropriateness

- Literal translation created Spanish grammatical errors and inappropriate word choices
- Lacked an appealing title and persuasive introduction
- Cancer prevention message needed to better represent Hispanic culture

Readability

- One-page format would be less intimidating and more likely to be read than two pages
- Text should be free of repetition
- A 'list and label" format is more effective than listing numbers with text
- Organize content into a manageable format
- Color reference made the text more appealing
- Graphics did not match the text

Usefulness

- Versatile enough to be used alone or with other teaching strategies
- English and Spanish text should be included

Selective Coding.

A final review of the data resulted in the identification of specific focus group responses that illustrated and reinforced the major themes for material 1.

Cultural Appropriateness

Material 1 was directly translated from English into Spanish, which the health professionals accounted for the language issues that were discussed in the focus group sessions. A literal translation of the English version was considered to contribute to the poor grammatical structure in the Spanish version. The following quotations reflect these sentiments:

> It seemed like a literal translation and so you know it just doesn't sound the same.
>
> So the structure of the Spanish is confusing in my opinion....
>
> It could confuse the use of tenses.
>
> Something I learned from someone who is a translator um and a linguist is not to stick to the text as much when you are doing a translation, if you have to, if you have to do a translation anyway. Um, this person's premise was to develop something in Spanish originally so you don't lose anything in the translation. But if you are doing a translation to really pull away from the English text and think about translating the idea and not just the words.

The translation also resulted in a poor choice of Spanish words that were not believed to be familiar for the Hispanic population in Dallas County. Most of the health

professionals believed that certain word choices would not reflect the cultural background of Hispanics in Dallas County. :

> And then some of the word choices, I don't agree with. I think some of them might be beyond the reading level that Parkland might be hoping for. And that was my first impression.
>
> So, but we are trying to keep this appropriate and proper Spanish so I did find some words that I would rather not use.
>
> Um, some of the words are, are totally different from what, you know what most of our patients use.

The information (content) was not always viewed as being presented in a culturally appropriate manner with respect to the lifestyle of Hispanics. Nearly all of the health professionals cited several examples of certain foods used in material 1 that would be considered unfamiliar to the Hispanic culture and unrealistic for them to include into their daily lives. Some of the direct quotations include:

> The only recommendation was the, the type of foods listed. I might make that more Hispanic appropriate.
>
> If I wanted to package it more culturally appropriate for Hispanics I would have to address what I believe people eat the most.
>
> ...and berenjenas I've had a lot of people in my classes who don't are not familiar with eggplant.

Like pautas, pautas is to me is a word that you need to have a certain level of education to understand what a pauta is. It usually a consejo, that's something that probably people understand overall. Un consejo o una guia pero pauta to me it may be a word that not everyone would understand.

Disminuir, I'm not sure if anybody if the reading level you are trying to target I'm not sure if they would really get what that word means. I'd say maybe Para bajar su riesgo or something like that I think it may be a little bit easier.

For example, the blue-purple such as blueberries, eggplant, plums, stuff like that. I'm not so sure those are as commonly used in Hispanic families.

A few of the health professionals also believed that the cancer prevention message was not culturally appropriate. Most believed that the cancer prevention message needed to be introduced early on with a 'catchy' title and introduction that did not scare, but that created a personal connection with the reader. A strong message would remind and empower the readers to take action against cancer. They felt the title and introduction did not present a persuasive appeal to Hispanics. Their comments are as follows:

I would simplify the title a little bit and make it more fun and eye-catching like make it make it catch people's attention because the first word is diet um and health which some people may or may not care about that. So how can you make it more appealing to a broader audience and make it stand out.

Something that states the problem quickly and kind of gives them the reason why they need to follow this guidance.

All of the health professionals agreed that the material would be more effective if it was created in color. The reference to color within text was also considered to be a positive aspect of the material.

And color, you need color. So people can relate, it reminds them.

What's the use of having the pictures if the pictures aren't in color where I could figure it out just by looking at it?

I like how it goes over the colors because it gives them a visual.

Readability

The majority of the health professionals approved of the content included in Material 1, but identified certain aspects that required revisions. Material 1 was termed as "too demanding" and written at a higher reading level than Hispanic readers would be able to manage. It was recommended that the material focus on only one main cancer prevention message despite the method of dissemination (handout without interactive instruction versus a one-on-one counseling tool). In many instances, the health professionals admitted that they needed to read through the material more than once.

Overall, the health professionals consistently agreed that material 1 contained too much information, which detracted from its usefulness. Their main rationale for revising the format was to simplify the structure of the sentences, which would shorten the overall length of the material. In general, they believed that reducing the amount of information would lead to more understanding of written materials for Hispanics. Their main

recommendation related to readability was that material 1 be limited to a one-page document format.

> ...one page is the most appropriate way to catch their attention.
>
> Also, the literacy rate here in Dallas in the Hispanics I'm not saying that they won't be able to do it, but if they see more than one page, they probably won't read it or pick it up.

Several health professionals revealed that the material 1 had too much repetition within different sections of the texts. They felt the redundancies unnecessarily increased the length of the material and made it difficult for readers to understand the material's cancer prevention message:

> A lot of redundancies that confuse the real meaning.
>
> There were a lot of things that were repeat, a lot.
>
> ... just to kind of break it up again the whole repetition.

Most of the twelve health professionals preferred a "list and label" format versus listing topics in longer sentences with a numbered format. Those who favored a list and label format believed this style would ensure that the text would remain clear and concise without deterring from the cancer prevention message.

> I think it can be arranged into where you have the topic and then list things where you could see exactly where the message is and not have to look in too deeply into the sentence.

I think the format of it, it might be easier to actually read it or look at if, if it were a column of do's and don'ts.

Yeah. I think the format of labeling and boxing things to compare would be a little easier to read than, than having sentences.

Most of the health professionals believed that the readers would benefit from all of the information that was presented in Material 1. However, they sensed that the readers would be too overwhelmed with the amount and arrangement of the content.

You know in reality I think it's, it is important information, but it's a lot of information.

To me it's a little, to mean it's a little busy or maybe it's just a little too kind of scattered all over the place.

But I think that my eye has to travel a lot along the page. The numbered sections are indented differently throughout the whole document and that makes my eye work. I think that if they were all aligned to the left or aligned to the right or if there was some kind of better uniformity I think it would be easier.

The group was divided almost evenly as to whether to revise the material to include fewer pictures. Most of them believed that the arrangement of the graphics needed to be better displayed in the material to support the text.

I know we discussed that before, but the font size and you know the scale where we want the pictures how we want the pictures. They don't match.

And the graphics don't, like we found out don't always match the words.

> We like pleasing things, you know we the Hispanic/Latino. We like colorful stuff. Well, yeah, I mean not only color maybe using some little graphics that represent the culture.

Usefulness

Many of the health professionals reflected on their teaching experiences when suggesting that it was inappropriate to assume that all Hispanic readers preferred to receive written information in Spanish only. Although, they acknowledged that Spanish was often the preferred language for Spanish-speakers, many wanted the material to include both English and Spanish. They believed it was important to create the material in a bilingual format so that readers could have a reference to the English language. Nine of the twelve health professionals recommended revising the material to include both English and Spanish text together on one page.

> I think another possibility, too would be to rearrange the layout in a way where the English and the Spanish correspond to one another. So that uh, for example let's say that you had this arranged in two columns so you had the uh the Spanish on the left and the English on the right or vice versa. And if you had one corresponding to one and two corresponding to two. That might help.
>
> I was talking to a population about the program that I promote at work and it turned out that most of then spoke English pretty well. They preferred the presentation and discussion in Spanish, but then I was asked for a lot of English

materials because they didn't really read Spanish. You know they spoke it well. So I thought that was really interesting.

They also had many suggestions for the format of the material to make it appropriate for utilization and dissemination in the community. Material 1 was seen as being very versatile and potentially useful in different teaching situations:

Accompany it with some sort of education session or talk to somebody.

I see it in a folder that's a handout during a health education session.

...but I also think that it should be accompanied by someone talking to them one-on-one.

It's good to reinforce an education class of some sort or something that um you know a health education nurse or a physician reviews with their patient and then they'll sit there to reinforce it.

Material 2: Perspectives of Health professionals

Sorting and Classification.

The focus group responses of health professionals for material 2 were autocoded with NVivo software, which resulted in the creation of 3 main categories: Cultural Appropriateness, Readability, and Usefulness. Five subcategories were developed within the Cultural appropriateness category: Format, Language, Visuals, Appeal, and Tone. The readability category included three subcategories: Language, Format, and Layout. The Usefulness category included four subcategories: Dissemination, Content, Strengths, and Weaknesses. These categories and subcategories formed the foundation for the key themes that developed with additional coding and were based on the focus group questions:

1. How do health professionals feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
2. How do Hispanics feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
3. How can Parkland Health System improve the process for creating and disseminating Spanish print materials that focus on nutrition and physical activity and cancer prevention?

Open Coding

A review of the data was conducted to identify main themes for each category. The four codes originally created for material 1 (Content, Language, Readability, and Cultural Appropriateness) were used to condense the data in material 2. The following focus group observations were noted related to each of these codes:

The first reactions of the health professionals were generally positive. They immediately preferred the format of the second material over the first one. Specific format and language issues were discussed in length during the focus groups. The majority of the health professionals believed material 2 was written at too high of a reading level for Hispanics. Most of the reading difficulty stemmed from the medical terminology used to describe screening tests.

The criterion was developed to accurately classify and identify the key themes from the coded data:

Content

- *Message Clarity*
- *Text Length*
- *Accuracy of content*

Language

- *Grammatical use of Spanish*
- *Use of Spanish idioms*

Readability

- *Appropriate Reading Level*
- *Easy to read format*

Cultural Appropriateness

- *Information*
- *Cancer prevention message*
- *Visuals*
- *Format for dissemination*

Axial Coding

A second round of coding focused on the initial codes (Content, Language, Readability, and Cultural Appropriateness) in order to determine if there were additional themes that needed to be included for material 2. Several of the responses categorized under the cultural appropriateness and readability categories were similar. Subcategories listed under the Cultural Appropriateness category were condensed to include: Language, Tone, and Appeal. The Readability subcategories were condensed into 2 subcategories: Format and Layout. The Usefulness subcategory included: Dissemination. These categories and subcategories formed the foundation for the key themes that developed with additional coding.

The key themes that were identified in the focus groups after two stages of coding were:

Cultural Appropriateness

- Literal translation created Spanish grammatical errors and inappropriate idioms

- Insensitive tone would be construed negatively by Hispanics

Readability

- Cancer prevention message was diminished by format and extraneous information
- Chart helped to organize content into lists
- The two pages did not flow well together
- Reading level was manageable for Hispanics
- Visuals distracted from message

Usefulness

- Better suited for health educators than Hispanics
- Include referral recommendations

Selective Coding

A final review of the data resulted in the identification of specific focus group responses that illustrated and reinforced the major themes for material 2:

Cultural Appropriateness

The literal translation of the English version of material 2 did not transfer well into Spanish. Most of the health professionals believed the translation would inevitably create confusion for readers.

> It's just basically a Spanish translation of an English product and so it's not something that works.

...but I had the English translation over here so I could understand what the message you were trying to get across, but it was a little confusing the transition wasn't as smooth as it could be.

And it's not just worded right the way I see it.

...but I think once you understand it, it's relatively easy to read. Hopefully you're not losing anyone in the translation.

Several culturally inappropriate words and idioms were pointed out by the health professionals. The translation of the English version affected the meaning of these words and phrases in the Spanish material. All of the health professionals disapproved of the translation of English idioms for the Spanish version.

But one thing that I also saw on the first page is that the use of cultural phrases, this one about an ounce of prevention is worth a pound of cure, this is very Anglo, and I would use something more culturally appropriate to the population.

There are some words that, well it's kind of improper.

I think as mentioned before, the first thing that comes down the page, una onza de prevencion vale mas que una libra de cura, maybe use something more Spanish common.

No, I mean I'm saying these are all important, but in terms again going back to the group that we are trying to reach with it you know with all of these 10 why, what would be the most important ones.

And that you know I'm assuming here that is how it is because it is literally translated from English into Spanish so it using the more Anglo culture approach which is very direct, to the point which Latinos are not. I don't like this for people if I read this I'd probably lose my motivation.

Many of the health professionals expressed their concern over grammatical errors that would probably be overlooked by Hispanics. However, a few health professionals believed the impact of the material would be diminished because of these errors.

I don't see really a great effort; honestly I mean the structure of the Spanish is horrible. The, I mean if somebody get it immediately I mean and unfortunately for most of our population they are probably not critical and they are not going to be that picky necessarily.

No, look this doesn't make sense, but they just go to the point, which is OK, but I still I don't think it will really produce that many changes as what we would like to that's I see this more again as a protective action from the institution point of view, just to do what they're supposed to be doing with better quality.

The tone of material 2 was considered to be too abrasive and insensitive for many of the health professionals. They felt Hispanic readers would not be encouraged to change their own or their family's behaviors because of the intimidating way in which the cancer prevention message was presented in material 2.

It talks, it talks in a very accusative way, too like for example I like to say las drogas ilegales I'm not using drugs. Some people might get offended you know

some people might get offended and say what are they implying here that I'm using drugs. It doesn't sound like a guideline it's almost like you are already on drugs, they're already treating you like I'm a drug addict so there are many of those recommendations that become could be taken more accusative more that have that tone.

It's using direct commands, which Latinos are not necessarily culturally too receptive of that or that style.

Yeah, like you're talking to children and you're like don't do that you know.

And if we would word it in such a way that the adults could receive it to me they could have a better way to explain It to their children, to the younger children.

Start with something affective because we move for affection, we are affective people.

Readability

The majority of the health professionals believed that material 2 contained too many messages that diluted the general cancer prevention message. Most of them believed that there was an overwhelming amount of information and visuals which would inevitably confuse the reader.

I want to venture to say that's its too busy and especially when you use tables already create confusion for people, especially the community that we are dealing with, I mean because it kind of jumps around from different areas of concern.

Weakness, too many words on the listings.

...and if you format it correctly you could put in you know eliminating some of the other paragraphs that don't address cancer.

...but it's still a little too busy with all the different pictures in there.

A general finding within all focus groups was the lack of focus on the cancer prevention message in this material. The consensus was that material 2 provided general health guidelines that were not specific to cancer prevention:

You know that's one thing that I didn't get across the fact that its preventing cancer and you know it's more of a general just to prevent heart attack, cancer all different, but it's not focusing on cancer.

Well, the thing is, is that it's not focusing on cancer prevention.

...it's too generic.

...mean just even the title it doesn't even suggest cancer awareness so. It's a good piece of literature if you're just trying to give good healthcare.

I mean it's just this just seems like overall staying healthy.

...if you are trying to address cancer, I would get rid of some of these bullets that really dilutes the message that you are tying to get across. You know seat belt safety that needs to be gone. I mean yeah it's a good thing to do, but if you are tying to address cancer, you're diluting the whole purpose of this. And some of those other things. Let me see. You know illegal drugs something like that I mean yeah a good message, but again how does it prevent cancer.

The format and overall design of Material 2 was considered an 'easier read' for most of the health professionals. Most of the groups approved of the shorter text style within the chart with a listing of information.

It's easier to read than the other one and the pictures are all in one place.

I think it's easier to read also the format is better. It's quicker to read.

I like the fact that its short sentences and straight to the point. And at the same time, it that message comes across so I think its more effective.

This is shorter, the suggestions here or the guidelines are simpler in the English, you can see that reflected in the Spanish so it's easier.

I love your idea of grouping things, grouping this information.

Strengths, I like the format of this one.

The total length of the material (two pages) was considered to be a major weakness. Some inconsistencies were revealed in the relationship between the content in the two pages of material 2. Many of the health professionals felt the second page was more difficult to comprehend than the first page. In addition, the two pages were described as being stand-alone pieces that could be used as separate educational pieces.

My, my concern is too many handouts.

I had a hard time with the second sheet.

I think the first page is better than the second.

You know if you want to give them all of this information maybe do half on one page and half on the other page or do front and back or um I don't know, but I

just think two pages is a lot especially if you are going to give them more stuff with it.

Well, to me these two pages go separate, I mean when I saw this it was like. but if you give this together I think they probably think it's talking about two different things.

And what you are trying to do is combine it together and that message may not be across as they would want it to...

Most of the health professionals believed that the visuals were too distracting and were not necessary in material 2.

I think in all honesty I would get rid of all graphics as far as the images. I would get rid of all of them and then if you want to add a little flair on then maybe you do that for the title, but I think with everything else you know you don't want to detract from the message.

Yeah, I would definitely get rid of all the visuals and I mean with that graph it that's really a big enough visual piece that you can use and be effective like a checklist and at the same time more of educating the person on how to stay healthy. So you can remove a lot certain points and graphics and visuals and just make it an effective chart.

As it is right now, I think that it wouldn't attract their attention immediately I think if they had time on their hands and they were you know interested in reading, I mean think of all the barriers that they face you know.

Usefulness

Material 2 was determined to be a tool that would be more useful by health educators than Hispanics.

> Honestly this is material that could be very helpful more to instructors and facilitators than to actually patients, the audience. I see more benefits for me as a health educator in the health educator role, how can I use this and put it in a PowerPoint presentation or do something.
>
> I could take this would be helpful material for that, but for the people and to expect any behavioral change from just reading this, forget it. I don't think so. I don't think so.
>
> I could see it being used at a health fair or again to accompany a health education session. The table would take up some explanation so I think it would be nice to have it as a component of a class or whatever or something that's happening at a health fair. Again literature in a doctor's office.
>
> It seems like something that I would get from the firefighter office I mean like the Dallas Fire Department or something like that you know its more of a public safety or safety issues and stuff like that so not sure how strong it is for cancer literature.
>
> If we're talking about cancer, probably cancer materials or you know this information would be pretty good if they have questions about or concerns about how do I prevent cancer. This may be good material to use.

Many health professionals engaged in lengthy discussions about the lack of referral resources for people in the community. They suggested that additional information be included in material 2 to encourage people to seek out assistance and apply the information to their own lives.

I think maybe it needs a space for a referral.

I think that an adult reader will get something out of the first page, the second page is a lot of work.

...say OK here's the name and phone number you need to contact if you have these risks or if you want to get these check-ups, here's who you can call.

A summary of the themes that developed for material 1 and material 2 with the health professional focus groups is listed in Table 4.4.

Material 1: Perspectives of Hispanics

Autocoding of Hispanic focus group questions with NVivo software resulted in the creation of 3 main categories: Cultural Appropriateness, Readability, and Usefulness. Three subcategories were developed within the Cultural appropriateness category: Language, Format, and Strengths. The readability category could not be divided into subcategories as all of the responses were similar enough to stay under this one main category. The Usefulness category included four subcategories: Dissemination, Content, Strengths, and Weaknesses. These categories and subcategories formed the foundation for the key themes that developed with additional coding and were based on the original focus group questions:

1. How do health professionals feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
2. How do Hispanics feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
3. How can Parkland Health System improve the process for creating and disseminating Spanish print materials that focus on nutrition and physical activity and cancer prevention?

Open Coding.

A review of the data was conducted to identify the main themes for each category. Based on a second review of focus group responses, four codes were created to condense the mass quantity of data listed within the categories and subcategories. The codes were Content, Language, Readability, and Cultural Appropriateness. The following observations were noted related to each of these codes:

The focus group methodology was considered an efficient method for obtaining detailed information from Hispanics in a short time span. The focus group sites provided the convenience of interviewing subjects in the same location at one time.

Overall, the focus groups revealed that many Hispanics were very appreciative of the intent and availability of Spanish materials. Many of them were willing to participate in focus groups and were interested in the topic of cancer prevention. Still, many of the Hispanic participants were hesitant to initiate discussions and were more apt to follow-up with more detail after responses were given by another subject in their session.

The Hispanic participants appeared comfortable with participating in focus groups, while providing honest evaluation feedback in a group setting. It was assumed that all consumer focus group participants were able to read and understand the Spanish version of the CPE materials created by Parkland Health & Hospital System. However, focus group sessions did not reveal any relevant data related to the readability of material This may be due to the fact that the Hispanic participants may not be willing to admit an inability to read and responded in a manner that they believed the facilitator wanted to hear. All Hispanics agreed that material 1 was easy to read and follow, but provided

much more information related to the cultural appropriateness and usefulness of this material.

The general consensus with Hispanics was that the content in material 1 was very important and needed within the Hispanic community. Most Hispanics expressed a general appreciation for the availability of Spanish materials and did not share much negative feedback during the focus group sessions. Many of them also believed material 1 was created at an appropriate reading level for Hispanics.

The following criterion was developed to accurately classify and identify the key themes from the coded data:

Cultural Appropriateness

- *Grammatical use of Spanish*
- *Use of Spanish idioms*

Readability

- *Message Clarity*
- *Text Length*
- *Accuracy of content*
- *Visuals*

Usefulness

- *Cancer prevention message*
- *Format for dissemination*

Axial Coding.

A second round of coding focused on the initial codes (Content, Language, Readability, and Cultural Appropriateness) in order to determine if there were additional themes that needed to be included for material 2. Subcategories listed under the Cultural appropriateness category were condensed to include: Language and Content. The Usefulness category was reduced to include one subcategory: Dissemination.

Based on the first two rounds of coding, the following key themes developed:

Cultural Appropriateness

- Use of Spanish was appreciated despite disagreements with some word choices
- Message appeal was generally positive

Readability

- Cancer prevention message was clearly demonstrated
- Length and amount of text was manageable

Usefulness

- Material served as a good reminder
- Written format may not appeal to everyone

Selective Coding.

A final review of the data resulted in the identification of specific focus group responses that illustrated and reinforced the major themes for material 1:

Cultural Appropriateness.

Similar to the observations of the health professionals, Hispanics believed the material was not grammatically written very well. However, they were not willing to

reveal specific examples of words that they did not agree with or did not completely comprehend.

> It is not good Spanish. Not the Spanish that we all use.
>
> There are some words that are wrong, especially they are not, in the first one that you gave us, there are some bad sentences.
>
> Yes, in this one someone wrote it, I think someone who does not pronounce words as well as they write them.

Hispanic participants tended to be forgiving of the inconsistencies that they see in Spanish print materials and were not too bothered by the perceived misuse of the Spanish language.

> I say more or less in the first papers, there are some sentences that were not written correctly. But we forgive you.
>
> No, well what I always think is, not whether, you know if they wrote it wrong or right in Spanish, but I do think that it was translated not for us. So sometimes it's harder for us to learn English because everything they give us in Spanish is different.

Others approved of the Spanish that was used in material 1 and were able to relate to the material without any difficulties.

> Good Spanish in the language that we speak well. It is very well written and well understood. It's very appropriate for the community.

Readability

Hispanics generally favored the manner in which the information was presented to them in material 1. Most of them found the information was easy to read throughout the entire material.

> For me it was easy. There are things that I like, the way that it is written. It's very good.
>
> Very well-written, in a manner that is very easy to understand. I liked it very much.
>
> Perfect. I think for the entire material and everything is easy.
>
> Yes, everything is easy.

The cancer prevention message was received well and the majority of Hispanics appreciated how the information explained the link between diet and cancer prevention. The information seemed to make them reflect on their own lifestyles.

> The best thing that I found was that we teat too much meat, too much flour. That is what I found here, that we should lower the flour and eat more grains, bread, whole grains to improve our health and eat all fruits and vegetables that are green, orange, and yellow.
>
> Yes, it taught us about fruits and vegetables, vegetables, that is what helps our health, right? And the mat and animal met that's also more, well because we should eat less of that. Re meat, well we should not east as much because that would help us prevent cancer. Whatever comes from an animal, no, it's not good.

The truth is, the truth is I thought that cancer could affect whatever person whether they ate right or not. That is what I thought, but here it says that eating right has something to do with it. I thought for example, that diabetes happens because of poor diet in most of the people because there are people who live a certain way, right? So I did not know that one could get cancer because of a poor diet. I knew about smoking and other things, but well this is very good because to tell you the truth, I did not know.

Well, yes it is true what it says here. It is good that sometimes you have to eat well to prevent cancer, well it is true.

Usefulness

Most of the Hispanics believed the information was important and necessary to have in their communities.

It's good for everyone, yes.

I think that everything is very good. Too bad that we don't listen because we eat too much without thinking about it.

Well, I still think we don't have this information, well it should be very well understood.

It's good for us, for our family. We need to know this. We hear it and we need it.

They also viewed material 2 as a good teaching aide with information that was helpful for taking control of one's health.

It taught us how to start, how to start taking better care of ourselves.

It was very explanatory, well it is nice and it was interesting.

Many Hispanics agreed that regardless of the ease of readability of written materials, there would be some Spanish-speakers from their population who would not be able to read the material easily.

Yes, I think for some people because some people that do not have a high education level, they struggle.

So there are people who are going to read less, but I think most of them, like 80 percent are going to understand it.

Well, I think it is very useful, but I think we don't read and for me it motivates me, but after a while I forget about it.

Material 2: Perspectives of Hispanics

Autocoding of Hispanic focus group questions with NVivo software resulted in the creation of three main categories: Cultural Appropriateness, Readability, and Usefulness. Three subcategories were developed within the Cultural Appropriateness category: Language, Culture, and Strengths. The consumer responses were all similar and could not be condensed into any subcategories within the Readability category. The Usefulness category included the two subcategories: Content and Strengths. These categories and subcategories formed the foundation for the key themes that developed with additional coding and were based on the original focus group questions:

1. How do health professionals feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
2. How do Hispanics feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
3. How can Parkland Health System improve the process for creating and disseminating Spanish print materials that focus on nutrition and physical activity and cancer prevention?

Open Coding

A review of the data was conducted to identify the main themes for each category. Based on this review, four codes were created to condense the mass quantity of data

listed within the categories and subcategories. The codes were Content, Language, Readability, and Cultural Appropriateness. The following observations were noted related to each of these codes:

The content in material 2 seemed to invoke more discussions related to the difficulties that Hispanics have with accessing health services and information in Spanish. Several Hispanics shared their personal experiences with their attempts to be more 'healthy', but appeared more frustrated with the lack of information in Spanish. Most of them agreed that material 2 was easy to read and identified similar language issues related to the specific word choices and terms used.

The focus groups sessions for material 2 yielded less feedback than those conducted with material 1. Several factors contributed to the reduction in information collected from Hispanics. First, all participants were recruited from the waiting areas in the Parkland COPC sites and most agreed to participate while they were waiting for appointments for themselves or their children. The average wait time that each subject reported for their clinical appointments was 90 minutes to 2 hours. Every subject was also caring for infants or small children at the clinic. Many Hispanics did not complete the focus group sessions because they were called in for their appointments or to pick up their prescriptions. Fourteen subjects agreed to participate and signed consent forms, but did not complete the focus group sessions.

The following criterion was developed to accurately classify and identify the key themes from the existing data:

Cultural Appropriateness

- *Grammatical use of Spanish*
- *Use of Spanish idioms*

Readability

- *Message Clarity*
- *Text Length*
- *Accuracy of content*
- *Visuals*

Usefulness

- *Cancer prevention message*
- *Format for dissemination*

Axial Coding.

A second round of coding focused on the initial codes (Content, Language, Readability, and Cultural Appropriateness) in order to determine if there were additional themes that needed to be included for material 2. Subcategories listed under the Cultural appropriateness category were condensed to: Language. The Cultural Appropriateness category was condensed to include 2 subcategories: Format and Visuals. The Usefulness category included 1 subcategory: Dissemination. The consumer responses were all similar and could not be condensed into any subcategories within the readability category. These categories and subcategories formed the foundation for the key themes that developed with additional coding.

The following key themes that were identified in the focus groups after the two rounds of coding:

Cultural Appropriateness

- Useful information that serves as a good reminder
- Positive message appeal

Readability

- Listing format was easy to read
- Text length was manageable
- Material content covered good general health guidelines

Usefulness

- Spanish written materials can be useful and educational
- Important to include referral recommendations

Selective Coding:

A final round of review of the data resulted in the identification of specific focus group responses that illustrated and reinforced the major themes for material 2:

Cultural Appropriateness

Most of them emphasized the need for more Spanish written materials since many Hispanics are hesitant to seek medical assistance.

> Unfortunately, there is not much Spanish information in the community. And that is what our people need.

This is very interesting to me because well it's like for most of us we often do not have good information. And sometimes, many people are scared to come to the clinic because sometimes they think that they don't qualify to see a doctor.

Readability

Hispanics did not relate material 2 to merely cancer prevention; rather they tended to see it as a material that covered general health guidelines.

It has more about what you should eat and exercise and sun prevention.

There is no problem. I say that there are no problems, everything is very clear and well the suggestions, right for the good of one's health.

Well, it seems like it has all the information here because it says that if you feel bad or something, go to the doctor and keep your appointments.

Well, it is a material that teaches us how to do more for ourselves, what it is that we should do everyday.

Yes, it tells how to care for your general health, right? And also the health of your family.

Well, yes these are things that we need to follow and to read, like she said, we need to do, not just to avoid them, but to follow suggestions is important.

In particular, most Hispanics appreciated the format of listing ten guidelines that could be followed for good health. All of them were generally very pleased with the ease in reading for material 1 and the comprehensiveness. The listing format of material 2 was viewed as much more concise and organized than material 1.

And because it has ten steps, right? The things that I would imagine one should do to protect the skin, the sun, and many things.

Yes, the truth is that the ten suggestions are very clear.

It seems very clear, very short, shorter than the other material.

Much shorter than the first material.

Because it has more information, more organized, more concrete.

It is perfect. It perfectly covers everything that you talk about.

Yes, it is very good, very clear with all the information in Spanish

Usefulness

Material 2 was seen as a good educational tool with information in Spanish. The material seemed to create more interest with Hispanics as most of them mentioned the importance of knowing about and using this information. Several of them believed they would benefit from receiving information in written format as it would cause them to think more about cancer prevention.

Like I said, someone may suffer for not knowing, but hopefully with these materials, like I said if we have these and study them and look at what's in them little by little because it's a lot.

Well there are things that we already know, but other things that, well that we need to be reminded of, right?

Yes, it helps us, too, it provides more awareness.

"It helps to maintain more awareness.

Well, what appealed to me the most was that about doing exercise and not smoking, to do your check-ups, like he said, but we don't do see the need to do that, to check oneself, one's parts for harm.

That is not everything, but and I say that there are many things that one should know, right? That is important, right, for your health and we are being ignorant.

Several Hispanics were concerned that other readers would not know what to do with the information in material 2, especially when further assistance was needed. They expressed a need for additional educational opportunities as well as other available resources to be listed on the material. A lengthy discussion ensued about the importance of knowing where Hispanics could seek out further assistance after one consumer mentioned that material 2 was lacking a referral resource.

I think it was missing something. I think it was missing a telephone number where people who smoke can communicate with someone and get help. The reality is that there are many people who smoke and they are hurting other people who area around those people, too.

...and they don't know how to stop smoking. Well, I agree I really think they should have put a telephone number where, where they can call, not just those who smoke, but also those people who are around them. That is what is missing. Like what she said, what is missing is a telephone number. What do we do with this?

...and at least have live classes that can help you. I do think that would be very good.

The truth is that hopefully there will be classes like these so that one knows what to do to prevent diseases and many other things.

A summary of the themes that developed for material 1 and material 2 with the consumer focus groups is listed in Table 4.5.

Summary

The Fry Graph formula was used to determine the readability of the two materials. For material 1: Diet y Pautas Saludables Que Le Ayudan a Que No Le Da Cáncer (Cancer Prevention Guidelines), the average reading grade level was determined to be at a 6th grade reading level and a reading age of 11 years old. The second material entitled, Pautas Para Adultos sobre Salad Preventiva (Preventive Health Care Guidelines for Adults), was calculated to have a 4th grade reading level and a reading age of 10 years old.

Two series of focus groups were conducted with 12 health professionals and 14 Hispanics to gather feedback about the readability and cultural appropriateness of two existing Spanish CPE materials created by Parkland Health & Hospital System. The qualitative data collected from the health professional and consumer focus groups was automatically coded to find main and subcategories with NVivo software and based on the original research questions:

1. How do health professionals feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
2. How do Hispanics feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
3. How can Parkland Health System improve the process for creating and disseminating Spanish print materials that focus on nutrition and physical activity and cancer prevention?

The data within each category was classified with four codes: Content, Language, Readability, and Cultural Appropriateness and used to identify main themes. Next, the data was condensed based on these codes into more specific subcategories. Specific examples from the focus group sessions reinforced the themes that developed related to the cultural appropriateness and readability of the two materials that were evaluated by the health professionals and Hispanics.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Health professionals must improve the methods in which they communicate reliable cancer prevention information to Hispanics in Dallas County. A large proportion of this population prefers to receive information in Spanish and/or speaks Spanish as their primary language. Although many Hispanics share a common preference for the Spanish language, their origins derive from a variety of cultural backgrounds with unique characteristics. Such diversity in values and expectations can challenge the creation of Spanish cancer prevention education materials that adequately address culture and lifestyle in an understandable written format. Still, Hispanics often respond to health information based on how well their beliefs, attitudes, or lifestyles are reflected. Increasing knowledge and awareness can be instrumental in helping Hispanics understand how to take action to reduce their risk of developing cancer.

Summary

The purpose of this research was to better understand the usefulness of two existing Spanish cancer prevention education materials for Hispanics by identifying ways to improve their effectiveness in meeting the language and cultural needs of the growing Spanish-speaking population in Dallas County.

Two purposive samples consisting of 12 health professionals and 14 Hispanic adults were asked to participate in focus groups to gather firsthand information on the cultural appropriateness and readability of the materials.

Two separate series of focus groups were conducted independently with health professionals and Hispanics to determine how well cancer prevention was communicated in two existing Spanish print materials. An additional measurement of the reading level was calculated using the Fry Graph Method, which had not been applied to the Spanish version of these two materials. The analysis of focus group transcripts from health professionals and Hispanics enabled the research to gain a dual understanding of how Spanish cancer prevention education materials are viewed from the perspective of both educator and learner.

Conclusions

The evaluation of two Spanish CPE materials through focus group methods guided the search to evaluate two important aspects in written materials, cultural appropriateness and readability, in order to answer the following central research questions:

1. How do health professionals feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?

2. How do Hispanics feel about the usefulness of Spanish print materials created by Parkland Health System that focus on nutrition and physical activity and cancer prevention?
3. How can Parkland Health System improve the process for creating and disseminating Spanish print materials that focus on nutrition and physical activity and cancer prevention?

Major categories were identified through reviews of focus group transcripts and observational notes. Both groups reviewed the same Spanish CPE materials, but provided varying degrees of responses and reactions regarding the material's readability and cultural appropriateness. The following themes included important beliefs about the assumed readability and cultural appropriateness of Spanish CPE materials, which ultimately relates to the usability of these materials for Hispanics:

1) The health professionals believed both the materials were useful, but presented too many culturally inappropriate idioms and word choices that could discourage Hispanics from incorporating the cancer prevention guidelines into their lifestyles. They believed that a literal translation of the Spanish CPE materials most affected the cultural appropriateness of the materials. The readability of the materials was more closely related to the extensive length and lack of organization of the content. Their recommendations focused on revising the materials so that they focused solely on one cancer prevention message by listing guidelines that could be incorporated into the lifestyle of Hispanics.

2) Hispanics on the other hand, believed the materials were very useful and were not very critical of the cultural appropriateness or readability of the materials. They were more concerned that the materials were not being made available along with other referral resources and community programs. They appeared very interested in the cancer prevention topic and often reflected on their own lifestyles when identifying barriers to changing dietary and physical activity factors to reduce the risk of developing cancer.

3) Based on the feedback provided by health professionals and Hispanics, the research supports the following recommendations for improving the creation and dissemination of cancer prevention education materials:

Health professionals believed that materials should not be literally translated if possible. Some suggestions for the creation of Spanish materials included using a back-translation method of translating materials first into Spanish and then translating them back into English to ensure that the cancer prevention message was not lost. They also believed that the materials should always include English and Spanish text to account for the different fluencies of Hispanics. Finally, they felt that the materials should also always include referral recommendations where Hispanics can find additional information related to cancer prevention.

Hispanics were generally appreciative of the intent of the materials and seemed to be more concerned with having more opportunities to receive such written materials as well as other cancer prevention programs and services. They were genuinely interested

in learning how to reduce their cancer risks, but felt the community did not support their efforts to do so.

Discussion and Implications

The challenge to improve cancer education begins with the communication that takes place between health educators and Hispanics. As health educators, how we communicate important health information affects how well the information is acquired and used to adopt healthy lifestyle changes. How a more clear cancer prevention message be communicated to Hispanics? The success of any educational effort is dependent on several factors that are related to the educator and audience. As with any audience, educators must be aware of certain characteristics for a population they are teaching. For Hispanics, it remains important to understand their cultural background and reading abilities to determine how they prefer to learn and apply information to their own lives.

This research was conducted in order to determine how best to communicate a written cancer prevention message that focused on lifestyle factors such as nutrition and physical activity to Hispanics in Dallas County. A major barrier to reducing preventable cancer risks for Hispanics is related to the cultural appropriateness and readability of health information. Most written materials are created at a 9^{th} –10^{th} grade reading level or above and without any consideration to the cultural background of Hispanics. Investing the necessary time and efforts into developing a process for creating and

disseminating culturally appropriate, reader-friendly Spanish CPE materials will enable health educators to provide a more effective cancer prevention message for Hispanics.

This research resulted in several recommendations for Parkland Health & Hospital System to consider related to the creation and dissemination of Spanish written materials to its Spanish-speaking patient population. Improving the quality of written materials alone will not improve educational success for health professionals and Hispanics. The study results indicate there must be a shared role of responsibility between health professionals and the Hispanic patient population. Health care providers must be willing to look deeper into their own patient interactions so that they can improve their communication skills and methods of teaching. By understanding the cultural and literacy needs of Hispanics, health educators can communicate a more effective prevention message through both written and oral communication. Likewise, Hispanics must become inclined to challenge unclear health information presented to them by being more involved in the communication process. The health community must empower Hispanics to seek out assistance and engage in activities that improve the quality of services that include the creation and dissemination of written materials.

Public health institutions such as Parkland Health & Hospital System have been dedicated to providing quality health care services to the growing Hispanic population in Dallas County. Considerable time and staff resources are specifically dedicated to the translation and creation of Spanish print materials. Yet, the health system should consider revising the process to better account for the educational needs of the Hispanic

population. Hispanics that participated in the research were very appreciative of the information, but expressed a need for more tangible education such as nutrition classes in their community. Health care professionals need to be cognizant of the importance of reinforcing written educational messages and materials with hands-on strategies. For example, tapes and other teaching approaches may be useful for those who read less well or who learn better using non-print materials (Doak & Doak, 1996). A multi-faceted educational approach will ensure that patients are presented with more meaningful learning opportunities.

Recommendations

This research demonstrated the importance of implementing a community-based approach that involved input from both health professionals and Hispanics for the creation and dissemination of Spanish CPE materials. Health professionals need to continue to gain an understanding of the needs of Hispanics who will ultimately be using these materials. Future research related to improving cancer prevention education materials should focus on increasing communication between health professionals and Hispanics. Research methods such as participatory formative evaluation can provide health professionals with opportunities to involve the community in the material creation process (Rudd, 2005). The process would engage Hispanics in the simultaneous pre-testing and revision of existing materials. Revising existing Spanish materials would enable health organizations and agencies to provide education information that is current, comprehensive, and culturally appropriate for Hispanics. It is recommended that

participatory formative research be conducted to involve Hispanics in the material development and dissemination process. Such research will ensure that this audience receives more effective Spanish CPE materials in a format and venue that is considerate of their cultural background and reading abilities.

In addition, such research would be enhanced though collaborative efforts between medical systems such as Parkland Health & Hospital System and health professionals who specialize in health interpreting and health applied linguistics. Such teamwork is critical to adequately address the needs of those with limited health literacy skills such as Hispanics.

Another important area of research should address major gaps in current collection analysis and dissemination of data related to Hispanic health. We need to look at current data-collection instruments and procedures to assess their effectiveness and to develop innovative strategies better suited for Hispanics. It is often the method of data collection that impedes the process and end results. Perhaps this is why it remains difficult to collect relevant information for the Hispanic population. The creation of a national data collection system that included statistically valid sample data for the Hispanic population is needed to support future research efforts.

APPENDICES

APPENDIX A

Dieta y Pautas Saludables Que Le Ayudan a Que No Le De Cáncer

IH-IV-177S
W.D. 3/05
Pág. 1 de 2

(Diet and Health Guidelines That Help Keep You From Getting Cancer)

La manera como come, toma, y vive su vida pueden ser la diferencia en si le dan o no ciertos tipos de cáncer. Siga estas pautas para disminuir la posibilidad de algunos tipos de cáncer!

1. Es mejor comer muchos tipos de alimentos. Coma más alimentos que vienen de plantas, como frutas, verduras, frijoles, nueces y granos enteros. Coma menos alimentos que vienen de animales, como carne, queso, y huevos.

2. Coma 5 ó más porciones de diferentes frutas y verduras todos los días. Coma frutas y verduras con todas sus comidas y de merienda.

Coma frutas y verduras de todos los colores:

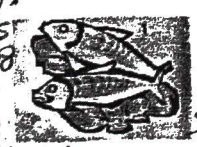
- Verde, como brócoli, lechuga, hojas de mostaza y nabo.
- Amarillo-naranja como zanahorias, melones, bananos y batatas.
- Rojo como fresas, tomates y frijoles rojos.
- Azul-morado como arándanos, berenjenas, y ciruelas

- Blanco como ajos y cebollas.

Coma menos papitas a la francesa o chips u otras verduras fritas. Si toma jugo tome 100% jugo, no bebidas de frutas, ni ponche.

3. Coma granos enteros en vez de granos procesados o azúcar. Coma arroz integral, pan de trigo entero, pasta de trigo entero, y cereales de grano entero. Coma menos arroz blanco, pan blanco, pasta normal, postres, cereales endulzados, bebidas y azúcares.

4. Coma menos carne de res, cerdo y cordero. Coma pescado, pollo, pavo o frijoles en vez. Cuando coma cualquier clase de carne, coma sólo un pedazo pequeño, del tamaño de una carta de naipe. Cocine la carne al horno, asada, o hervida en vez de frita o asada al carbón.



(continúa)

Sentence 8: 91-96 words | 176 177 178 179 180 181 | 182-185 | 186 187 188-189 190 191 192 193 194 195 | Sentence part: 97-100

5. Mantenga un peso saludable para usted. Pierda peso si está muy pesado u obeso. Coma alimentos bajos en grasa, calorías, y azúcar. No coma grandes cantidades de comida. Coma menos alimentos altos en calorías como papitas a la francesa, hamburguesa, pollo frito, piza, donas, y otros dulces.

El pesar demasiado puede hacerle más propensa al cáncer de senos (después de la menopausia, cuando ya no hay menstruación), igual que cáncer de colon, endometrio (las paredes del útero, también llamada matríz), esófago (garganta), vesícula, páncreas y riñón.

Message 3:
Sentence 1: 1-15 words
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Sentence 2: 16-32 words

6. Haga ejercicio al menos 5 días a la semana, 30 minutos o más cada vez. Trate de caminar, trabajar en el jardín, bailar, o montar en bicicleta para ayudarle a quemar calorías. Use las escaleras en vez del ascensor si puede, camine a donde vaya en vez de manejar o irse en el bus.

32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55-58 59 60 61 62-63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101

Sentence 4: 33-54 words

Sentence 5: 55-61 words

Sentence 6: 62-72 words

102 103 104 105-107 108 109 110-111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129-131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147-149 150 151-152 153 154 155 156 157 158-160 161 162 163 164 165 166 167 168 169 170 171 172-173 174 175-176

7. Si toma alcohol, tome una cantidad pequeña. Los hombres no deben tomar más de 2 bebidas por día. Las mujeres no deben tomar más de 1 bebida por día. Si toma mucho alcohol está más propenso a que le de cáncer en la boca, garganta, laringe, esófago, hígado y pecho.

Sentence 7: 73-83 words

177 178 (179) Sentence part: 84-100 words

8. No fume ni use ninguna clase de tabaco, como cigarrillos, cigarros, pipas, inhalar o mascar tabaco. El fumar o el uso de tabaco puede hacer que más fácil le de cáncer de pulmón, boca y esófago (garganta).

Antes de que haga algún cambio grande en su dieta, actividades o estilo de vida, consulte con su proveedor de salud.

Escoja cosas buenas en su vida y manténgase saludable!

APPENDIX B

Pautas para Adultos sobre Salud Preventiva

Preventive Health Care Guidelines for Adults

IH-IV-111S
R.D. 8/03
Pág. 1 de 2

Parkland Patient Education

Una onza de prevención
vale más que
una libra de cura

Diez Consejos para Vivir Saludablemente

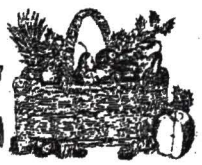
1. No fume. Mantenga los cerillos y encendedores lejos de los niños.

Use detectores de humo en su hogar, y tenga un plan de escape para incendio.

2. ¡Asegúrese! Abróchese el cinturón! Use el asiento de auto para infantes y niños. Enseñe a los niños cómo comportarse en las calles y en el tráfico!

Use cascos para bicicleta. Practique prevención de heridas.

3. Haga mínimo 30 minutos de ejercicio de 5 a 7 veces por semana. Consulte antes con su proveedor de cuidados de salud. Caminar es una manera buena y sencilla de hacer ejercicio.



4. Coma una dieta saludable y balanceada alta en fibra, baja en grasa y sal.
Si toma alcohol, no tome más de dos tragos al día.

5. Proteja su piel del sol. Use antisolar, sombreros y camisas.
No se broncee o queme

6. Practique sexo seguro para prevenir enfermedades venéreas o embarazos no deseados.

7. Aléjese de las drogas ilegales o callejeras.

8. Mantenga su presión sanguínea en límites normales.

9. Reduzca el estrés. Piense positivamente! Si se siente con frecuencia triste o nervioso, vea a su provedor de cuidados de salud o consejero.

10. Siga éstas pautas de prevención de la salud. Vaya a todas sus citas.

Si tiene preguntas, hágalas a su proveedor de cuidados de salud

(continúa)

Pautas para Adultos sobre Salud Preventiva

Estas son pautas básicas.

Por favor consulte con su Proveedor de Cuidados de Salud (*HCP) para más información.

Sexo	Lo que ud. puede hacer	Lo que ha hecho
Hombres & Mujeres	• Dígale a su *HCP si tiene lunares o manchas que cambian de forma o color. • Si en su familia hay antecedentes de diabetes solicite a su *HCP un examen de diabetes.	• Revisión del colesterol al menos cada 5 años. • Revisión de presión al menos cada año. • Revisión y limpieza dental anual. • Examen de glaucoma/visión anual después de 40. • Examen de sangre en heces anual después de 50. • Sigmoidoscopia de 3 a 5 años después de 50. **Vacunas** • Tétanos cada 10 años. • Influenza: anual después de 60 o alto riesgo. • Pulmonía después de 60 o alto riesgo. • Hepatitis A (2 inyecciones) y Hepatitis B (3 inyecciones) – pregunte a su *HCP. • Tuberculosis (TB) prueba cutánea – pregunte a su *HCP.
Sólo para Mujeres	• Autoexamen de los senos cada mes	• Examen pélvico y de senos cada año. • Papanicolau de 1 a 3 años – pregunte a su *HCP. • Enseñanza de autoexamen de senos. • Mamografía cada 1 ó 2 años después de 40.
Sólo para Hombres	• Autoexamen de los testículos cada mes	• Examen testicular cada año. • Enseñanza de autoexamen testicular. • Examen de próstata cada año después de 40 si hay antecedentes de cáncer. • Examen de próstata después de 50.

APPENDIX C

INFORMED CONSENT

TITLE: Evaluation of Spanish Cancer Prevention Education Materials

PRINCIPAL INVESTIGATOR: Adela Gonzalez, PhD.

INSTITUTION: University of North Texas Health Science Center at Fort Worth

I. STUDY PURPOSE

The purpose of this research study is to find out what you like and dislike about Spanish materials on cancer prevention.

II. STUDY PROCEDURES

You will be asked to take part in a research focus group to share your opinions about Spanish materials on cancer prevention. The focus group will take approximately one hour and will be audio taped. The researchers will write down your responses recorded on the tapes and immediately destroy the tapes.

III. RISKS AND DISCOMFORTS OF THE STUDY

Your input in this research focus group should pose no risks to you. The study investigators will take all precautions necessary to protect your confidentiality as a research study participant. None of your personal identifying information, such as name or address will be recorded with your interview responses.

IV. CONTACTS

If you have questions about this research, please contact: Adela Gonzalez, PhD, Principle Investigator at 817-735-5087 or Donna Rodriguez, Student Co-Investigator at 214-417-8848 or the Office for the Protection of Human Subjects at the University of North Texas Health Science Center at Fort Worth at 817-735-0409.

V. BENEFITS

There are no direct benefits to you for participating in this research study. The information gained from this research may lead to the development of better Spanish cancer prevention education materials.

VI. ALTERNATIVES

This study involves a research focus group only. There are no treatments or interventions involved in this research study. Therefore, the only alternative to the study is to not participate in the research focus group.

VII. CONFIDENTIALITY

Your responses will be kept as confidential as possible. However, the Office for the Protection of Human Subjects and the Institutional Review Board at the University of North Texas Health Science Center at Fort Worth may examine your interview responses.

VIII. COMPENSATION FOR INJURY

The investigator and the University of North Texas Health Science Center at Fort Worth have not set aside any funds to cover costs of treatment if you are harmed as a result of your participation in this research.

IX. LEAVING THE STUDY

You can choose not to be in the research study or leave it at any time for any reason. Your participation or any response that you give will in no way affect the care that you receive at this clinic.

X. CONSENT

Please take the time to read through this form carefully. If there is any information that you do not understand, please ask questions before you agree to participate.

The research study has been approved, as required by the Institutional Review Board at the University of North Texas Health Science Center and the Institutional Review Board of the University of Texas Southwestern Medical Center of Dallas.

Signature: _____ **Date:** _____

THANK YOU FOR YOUR PARTICIPATION!

APPENDIX D

CONSENTIMIENTO INFORMADO

TITULO: Evaluación De Materiales En Español Sobre La Prevención Del Cáncer

INVESTIGADOR PRINCIPAL: Adela Gonzalez, PhD

INSTITUCIÓN: University of North Texas Health Science Center at Fort Worth

I. OBJETIVO DEL ESTUDIO

Estamos haciendo una investigación para entender lo que a usted le gusta o no le gusta de los materiales sobre la prevención del cáncer

II. PROCEDIMIENTOS DEL ESTUDIO

Le estamos solicitando que participe en una investigación con grupos que están enfocados para dar sus opiniones sobre materiales acerca de la prevención del cáncer. Su participación en el grupo de enfoque será por solo una hora de su tiempo y la sesión será gravada en audio cinta. Los investigadores anotarán sus respuestas gravadas y luego dichas grabaciones serán destruidas inmediatamente.

III. RIESGOS E INCOMODIDADES DEL ESTUDIO

Su contribución en este grupo de enfoque no debe presentar ningún riesgo para usted. Los investigadores tomarán todos los cuidados necesarios para proteger su confidencialidad como participante en esta investigación. Ninguna información personal como su nombre o dirección será grabada con sus respuestas.

IV. CONTACTOS

Si tiene preguntas acerca de esta investigación, comuníquese con Dr. Adela Gonzalez, PhD, Investigador Principal al 817-735-5087 o con Donna Rodríguez, Co-Investigador al 214-417-8848 o a la Oficina para la Protección de Investigaciones con Personas al 817-735-0409.

V. BENEFICIOS

No hay beneficios directos para usted por participar en este estudio de investigación. El beneficio por su participación es que ayudará a que se preparen mejores mensajes educativos y materiales sobre la prevención del cáncer en español.

VI. DERECHOS

Este estudio será una investigación con un grupo de enfoque solamente. No se incluyen ningunos tratamientos o intervenciones en esta investigación. Usted solo tiene derecho dentro de este estudio a negarse a participar en el grupo de enfoque, si así lo desea.

VII. CONFIDENCIALIDAD

Tanto su nombre como sus respuestas a las preguntas que se le harán se mantendrán en privado. Sin embargo, la Oficina para la Protección de Investigaciones que utilizan participantes Humanos y el Comité Institucional para las Investigaciones pueden examinar sus respuestas.

VIII. COMPENSACIÓN POR DAÑO

Los investigadores y la University of North Texas Health Science Center at Fort Worth no pueden darle compensación para cubrir ningún gasto por daños que muy improbablemente pueda sufrir participando en esta investigación.

IX. ABANDONANDO EL ESTUDIO

Si usted acepta participar debe saber que puede retirarse de esta investigación en cualquier momento que lo desee y por cualquier motivo. Su participación no puede afectar su tratamiento en esta clínica.

X. CONSENTIMIENTO

Por favor tome el tiempo para leer esta forma completamente. Si hay información que usted no entiende, por favor haga preguntas antes que este de acuerdo en participar.

Este estudio ha sido aprobado, como se requiere por el Comité Institucional para las Investigaciones que utilizan a participantes Humanos en la University de North Texas Health Science Center y el Comité Institucional para las Investigaciones que Emplean a participantes Humanos en la University of Texas Southwestern Medical Center of Dallas.

Firma: _____ **Fecha:** _____

LE AGRADECEMOS MUCHO SU PARTICIPACIÓN

APPENDIX E

NOTARIZED STATEMENT OF ACCURACY OF TRANSLATION

Please be advised that I, Mayra Cantu have translated the following documents:

(1) Moderator's guide for focus groups
(2) Informed Consent form

The materials will be used for the research proposal, Evaluation of Spanish Cancer Prevention Education Materials: How Well Is The Message Being Received? I attest that the translation of these documents from English to Spanish and back translation from Spanish to English are true and accurate to the best of my knowledge and ability.

Signed: _____

Date: 1-19-06

Sworn to (or affirmed) before me this_____ day

of _____, 20_____

My commission expires_____

_____

(Notary Public)

NOTARIZED STATEMENT OF ACCURACY OF TRANSLATION

Please be advised that I, Rosa Aleman. have translated the following documents:

(1) Moderator's guide for focus groups
(2) Informed Consent form

The materials will be used for the research proposal, Evaluation of Spanish Cancer Prevention Education Materials: How Well Is The Message Being Received? I attest that the translation of these documents from English to Spanish and back translation from Spanish to English are true and accurate to the best of my knowledge and ability.

Signed: Rosa Aleman

Date: 2/6/2006

Sworn to (or affirmed) before me this 6 day of February, 2006

My commission expires _____

_____

(Notary Public)

SHANA CASSANDRA RISINGER
Notary Public, State of Texas
My Commission Expires
December 02, 2009

APPENDIX F

ATTENTION!

ATTENTION!

If you are 18 years or older and you speak Spanish, this message is for you

We are conducting focus groups to help us to understand what you like and dislike about Spanish materials on cancer prevention.

We are asking that you take part in a talk about this health issue. The focus group will take no more than one hour of your time.

Date: May 4, 2006
Time: 1:00 pm – 2:00 pm and 3:00 pm – 4:00 pm
Location: Garland Health Center
802 Hopkins Garland, TX 75040

If you participate you will receive:

- ✓ Nutrition education and healthy recipes
- ✓ Tasty food samples

Are you interested?

For more information and to find out if you qualify:
Ask for Donna Rodriguez in the waiting area.

APPENDIX G

¡ATENCIÓN!

¡ATENCIÓN!

Si usted tiene 18 años o más y habla Español, este mensaje es para usted

Estamos reuniendo a grupos de enfoque para ayudar á entender lo que usted le gusta y no le gusta de las materiales sobre la prevención del cáncer.

Por medio de ésto le estamos pidiendo que participe en una plática sobre este tema de salud. Los grupos solo ocupará una hora de su tiempo.

Dia: 4 de Mayo
Hora: 1:00 pm – 2:00 pm y 3:00 Pm – 4:00 pm
Lugar: Garland Health Center
802 Hopkins Garland, TX 75040

Si usted participa recibirá:

- ✓ Un clase de nutrición y recetas saludables
- ✓ Muestras de comida sabrosa

¿Está usted interesado?

Para más información y para saber si usted califica:
Pregunte por Donna Rodriguez en el cuarto de espera.

APPENDIX H

Evaluation of Spanish Cancer Prevention Education Materials
Moderator's Guide for Focus Group with Health Professionals
(Groups of 5 –10)

A. Introduction (2 minutes)
Moderator introduces herself and explains project's purpose and focus group process

Hello, my name is _____ and I am a student at the University of North Texas Health Science Center in Fort Worth, Texas. I will be leading the focus group session today. Thank you for taking time out of your busy schedules to help with this research.

I'm working on finding out how well certain health information is being received by the Hispanic community. We plan to use your input to improve Spanish cancer prevention education materials. Before we begin, let me tell you about this focus group and answer any initial questions you may have.

B. Explanation of Focus Group process (8 minutes)

A focus group is a small group discussion for collecting information from people in a group setting. Today, we will be asking your opinion about two materials that focus on cancer prevention. I'm here to listen to your thoughts and ideas about what you like. I'm here to listen to your thoughts and ideas about what you find useful about these materials, I will be asking certain questions and allow everyone an opportunity to respond. I am interested in your opinions about these materials so please speak freely.

Distribute form that explains focus group process (7 minutes)
Answer participant questions and allow any who do wish to participate to leave.

C. Evaluation (30-45 minutes)

[Pass out Material #1]

Please take a couple of minutes to review the first material. Once you've looked over the material, I'd like to talk with you about your overall reactions.

[Give participants 2-3 minutes to review Material #1]

Readability

1. Is Material #1 easy to read?
   [Follow-up question if needed to get more feedback]

Is the reading level appropriate for Spanish-speaking Hispanic adults in Dallas County?

2. Is the Spanish used in Material #1 appropriate for Spanish-speaking Hispanic adults in Dallas County?

   [Follow-up question if needed to get more feedback]
   Are the Spanish words used similar to those you would use to communicate with Spanish-speaking Hispanic adults in Dallas County?

3. Is the material easy-to-follow?

Cultural considerations:

1. In what way is Material #1 culturally appropriate or specific to Spanish-speaking Hispanic adults in Dallas County? Please take into consideration their cultural background, lifestyle, practices, and values

   [Follow-up question if needed to get more feedback]
   Are the words and illustrations in the material considerate of their lifestyle?

2. Does the Spanish used in the material reflect what Spanish-speaking Hispanic adults in Dallas County use everyday?

3. Do you feel the material addresses barriers facing Spanish-speaking Hispanic adults in Dallas County?

4. How useful would a material like this be to Spanish-speaking Hispanic adults in Dallas County?

   [Follow-up question if needed to get more feedback]
   Does it provide information that they can use?

5. Does the material teach Spanish-speaking Hispanic adults in Dallas County how to prevent cancer?

   [Follow-up question if needed to get more feedback]
   After reading the material, do you feel that Spanish-speaking Hispanic adults in Dallas County would understand how they could change their lifestyles to prevent cancer?

6. Is the material attractive? Why? Why not?

   [Follow-up question if needed to get more feedback]
   Based on how it looks, do you feel that Spanish-speaking Hispanic adults in Dallas County would take the time to read this material?

[Additional follow-up questions if time permits]

1. Was anything missing that you would have liked to see included?

2. What are the material's strengths?

3. What are the material's weaknesses?

[Pass out Material #2]
Please take a couple of minutes to review the second brochure. Once you've looked over the brochure, I'd like to talk with you about your overall reactions.
[Give participants 2-3 minutes to review Material #2]

Readability

1. Is Material #2 easy to read?
   [Follow-up question if needed to get more feedback]
   Is the reading level appropriate for Spanish-speaking Hispanic adults in Dallas County?

2. Is the Spanish used in Material #2 appropriate for Spanish-speaking Hispanic adults in Dallas County?
   [Follow-up question if needed to get more feedback]
   Are the Spanish words used similar to those you would use to communicate with Spanish-speaking Hispanic adults in Dallas County?

3. Is the material easy to follow?

Cultural considerations:

1. Is Material #2 culturally appropriate or specific to Spanish-speaking Hispanic adults in Dallas County? Please take into consideration their cultural background, lifestyle, practices, and values
   [Follow-up question if needed to get more feedback]
   Are the words and illustrations in the material considerate of their lifestyle?

2. Does the Spanish used in the material reflect what Spanish-speaking Hispanic adults use in Dallas County use everyday?
   [Follow-up question if needed to get more feedback]
   Do you feel the Spanish words used are common in the everyday language of Spanish-speaking Hispanic adults in Dallas County?

3. Do you feel the material addresses barriers facing Spanish-speaking Hispanic adults in Dallas County?

4. How useful would a material like this be to Spanish-speaking Hispanic adults in Dallas County?

   [Follow-up question if needed to get more feedback]
   Does it provide information that Spanish-speaking Hispanic adults in Dallas County can use?

5. Does the material teach Spanish-speaking Hispanic adults in Dallas County how to prevent cancer?

   [Follow-up question if needed to get more feedback]
   After reading the material, do you feel that Spanish-speaking Hispanic adults in Dallas County would understand how they could change their lifestyles to prevent cancer?

6. Is the material attractive? Why? Why not?

   [Follow-up question if needed to get more feedback]
   Based on how it looks, do you feel that Spanish-speaking Hispanic adults in Dallas County would take the time to read this material?

[Additional follow-up questions if time permits]

1. Was anything missing that you would have liked to see included?

2. What are the material's strengths?

3. What are the material's weaknesses?

D. Closing (2 minutes)

1. We've come to the end of our discussion.

2. Do you have any additional comments you would like to make on these materials?

3. I want to thank you for your time and participation. Your opinions will be very valuable in helping to revise materials about cancer prevention.

APPENDIX I

Evaluation of Spanish Cancer Prevention Education Materials
Moderator's Guide for Focus Groups with Hispanics
(Groups of 6 –10)

A. Introduction (2 minutes)
Moderator introduces himself and explains project's purpose and focus group process

Hello, my name is _____ and I will be leading the session today. Thank you for taking time to help us.
We're working on finding out how well certain health information is being received by the Hispanic community. We plan to use your input to improve Spanish cancer prevention education materials. Before we begin, let me tell you about this focus group and answer any initial questions you may have.

B. Explanation of Focus Group process (8 minutes)
A focus group is a small group discussion for collecting information from people in a group setting. Today, we will be asking your opinion about two materials that focus on cancer prevention. I'm here to listen to your thoughts and ideas about what you find useful about these materials, I will be posing to you certain questions and allow you an opportunity to respond. I am interested in your opinions about these materials so please speak freely.

Distribute informed consent form.
Answer participant questions and allow any who do wish to participate to leave.

C. Evaluation (30-45 minutes)

[Pass out Material #1]
Please take a couple of minutes to review the first brochure. Once you've looked over the brochure, I'd like to talk with you about your overall reactions.
[Give participants 2-3 minutes to review Material #1]

Readability

1. Is Material #1 easy to read?
   [Follow-up question if needed to get more feedback]
   Do you understand all the words in the material?

2. Do you prefer to read in Spanish?
   Do you agree with the Spanish used in the material?

3. Is the material easy to follow?

Cultural considerations:

1. Does Material #1 show an understanding or respect of your culture, lifestyle, or values?

[Follow-up question if needed to get more feedback]
Are the words and illustrations in the material considerate of your lifestyle?

2. Does the Spanish used in the material reflect what you use everyday?

3. Do you feel the material addresses barriers facing Spanish-speaking Hispanic adults in Dallas County?

4. How useful would a material like this be to you?

[Follow-up question if needed to get more feedback]
Does it provide information that you can use?

5. Does the material teach you how to prevent cancer?

[Follow-up question if needed to get more feedback]
After reading the material, do you understand how you can change your lifestyle to prevent cancer?

6. Is the material attractive? Why? Why not?

[Follow-up question if needed to get more feedback]
Based on how it looks, would you take the time to read this material?

[Additional questions if time permits]

1. Was anything missing that you would have liked to see included?

2. What are the material's strengths?

3. What are the material's weaknesses?

[Pass out Material #2]
Please take a couple of minutes to review the second brochure. Once you've looked over the brochure, I'd like to talk with you about your overall reactions.
[Give participants 2-3 minutes to review Material #2]

Readability

1. Is Material #2 easy to read? Why or why not?

[Follow-up question if needed to get more feedback]
Do you understand all the words in this material?

2. Do you prefer to read in Spanish?
   Is the Spanish used in this material familiar to you?

3. Is the material easy to follow? Why or why not?

Cultural considerations:

1. Does Material #2 show an understanding or respect of your culture, lifestyle, or values?
   [Follow-up question if needed to get more feedback]
   Are the words and illustrations in the material considerate of your lifestyle?

2. Does the Spanish used in the material reflect what you use everyday?

3. Do you feel the material addresses barriers facing Spanish-speaking Hispanic adults in Dallas County?

4. How useful would a material like this be to you?
   [Follow-up question if needed to get more feedback]
   Does it provide information that you can use?

5. Does the material teach you how to prevent cancer?
   [Follow-up question if needed to get more feedback]
   After reading the material, do you understand how you can change your lifestyle to prevent cancer?

6. Is the material attractive? Why? Why not?
   [Follow-up question if needed to get more feedback]
   Based on how it looks, would you take the time to read this material?

[Additional questions if time permits]

1. Was anything missing that you would have liked to see included?

2. Lastly, what would you say are material's strengths?

3. What are the material's weaknesses?

D. Closing (2 minutes)

1. We've come to the end of our discussion.

2. Do you have any additional comments you would like to make on these materials?

3. We want to thank you for your time and participation. Your opinions will be very valuable in helping to revise materials about cancer prevention.

APPENDIX J

Evaluación de Materiales en Español Sobre la Prevención del Cáncer
Esta Bien Recibido el Mensaje
Guía para Facilitadores de Grupos Que Estan Enfocados
(Grupos de 6 –10 personas)

A. Introducción (2 minutos)
Se presentara y dara explicación el proposito de este proyecto y el proceso para la sesión.

Hola, mi nombre es _____ y estare encargada de presentar esta sesión. Gracias por su tiempo por ayudarnos.

Estamos trabajando para saber si estan recibiendo saludable información que ha estado distribuida en la comunidad Hispana. Estamos planeado de usar sus respuestas para mejorar las materiales en español sobre la prevencion del cáncer. Antes de empezar, dejame explicarles de la sesión y despues contestarles sus preguntas .

B. Explicación del proceso para los grupos que estan enfocados (8 minutos)

Los grupos que estan enfocados contiene un equipo de personas que hablan sobre la información que colectan de las opiniones de la gente. Hoy, les vamos a preguntar su opinion sobre dos materiales que enfocan en la prevención del cáncer. Estoy aqui para escuchar sus ideas sobre lo que Ud. encuentre utilizado en estos materiales. Voy a preguntar ciertas preguntas y les dare la oportunidad de responder.

Reparte la forma de consentimiento informado
Conteste las preguntas de los participantes y dejen salir los que no quieren participar en la sesión.

C. Evaluación (30-45 minutos)

[Reparte Material #1]
Por favor tome unos minutos para revisar la primera material. Me gustaría su opinion sobre la material.
[Darles a los participantes 2- 3 minutos para revisar Material #1]

El habilidad de leer

1. ¿Es fácil de leer esta material?
   [Habra otra pregunta si se necesita mas información]
   ¿Entiendes todas las palabras en esta material?
2. ¿Prefiere leer Ud. en español?

¿Esta de acuerdo con el español usado en la material?

3. ¿Es fácil de seguir esta material?

Consideraciones de cultura:

1. ¿Demostra la material un entendimiento o respeta de su estilo de vida?

   [Habra otra pregunta si se necesita mas información]

   ¿Las palabras y ilustraciones respeta las culturales de su lengua?

2. ¿Cree Ud. que la lengua usado en la material refleja lo que Ud. use diario?

3. ¿Cree Ud. que la material presenta obstaculos del lectura y entendimiento de adultos Hispanos que hablan español en el condado del Dallas?

4. ¿Que tan útil sera esta material para Ud.?

   [Habra otra pregunta si se necesita mas información]

   ¿Le provee esta material información que Ud. puede usar en su vida?

5. ¿Le enseña esta material a cómo prevenir el cáncer?

   [Habra otra pregunta si se necesita mas información]

   ¿Después de leer esta material, entiende Ud. los cambios que Ud. necesita hacer en su estilo de vida para prevenir el cáncer?

6. ¿Lo atrae esta material a Ud.? ¿Por qué o por qué no?

   [Habra otra pregunta si se necesita mas información]

   ¿Basado en cómo mira, Ud. tomaría el tiempo de leer esta material?

[Mas preguntas si hay tiempo]

1. ¿Falto algo que a Ud. le gustaría que haya sido incluido?

2. ¿Qué es el lo major que encontro en esta material?

3. ¿Que le falta esta material para hacer mejor?

[Reparta la Material #2]

Por favor tome unos minutos para revisar la primera material. Me gustaría su opinion sobre la material.

[Da a los participantes 2- 3 minutos para revisar la Material #2]

El habilidad de leer

1. ¿Es fácil de leer esta material?
   [Habra otra pregunta si se necesita mas información]
   ¿Entiendes todas las palabras en esta material?

2. ¿Prefiere leer en español?
   ¿Esta de acuerdo con el español usado en la material?

3. ¿Es fácil de seguir esta material?

Consideraciones de cultura:

1. ¿Demostra la material un entendimiento o respeta de su estilo de vida?
   [Habra otra pregunta si se necesita mas información]
   ¿Las palabras y ilustraciones respeta las culturales de su lengua?

2. ¿Cree Ud. que la lengua usado en la material refleja lo que Ud. usa diario?

3. ¿Cree Ud. que la material presenta obstaculos del lectura y entendimiento de adultos Hispanos que hablan español en el condado del Dallas?

4. ¿Que tan útil sera esta material para Ud.?
   [Habra otra pregunta si se necesita mas información]
   ¿Le provee esta material información que Ud. puede usar en su vida?

5. ¿Le enseña esta material a cómo prevenir el cáncer?
   [Habra otra pregunta si se necesita mas información]
   ¿Después de leer esta material, entiende Ud. los cambios que Ud. necesita hacer en su estilo de vida para prevenir el cáncer?

6. ¿Lo atrae esta material a Ud.? ¿Por qué o por qué no?
   [Habra otra pregunta si se necesita mas información]
   ¿Basado en cómo mira, Ud. tomaría el tiempo de leer esta material?

[Mas preguntas si hay tiempo]

1. ¿Falto algo que a Ud. le gustaría que haya sido incluido?

2. ¿Qué es el lo major que encontro en esta material?

3. ¿Que le falta esta material para hacer mejor?

D. Final (2 minutos)
1. Ya llegamos al final de nuestra discusión.

2. Tiene Ud. adicional comentarios que le gustaria hacer sobre estas materiales?

3. Queremos agradacerles por su tiempo y su participación. Sus opiniones son valodables en ayudar para revisar estas materiales sobre la prevención del cáncer.

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TABLES

Table 4.1

Focus Group Locations

Focus Group location	Number of Subjects participating	(%) of Subjects participating
Garland Health Center	8	57.1
East Dallas Health Center	6	42.9
Total	14	100.0

Table 4.2

Fry Graph Calculations

Material 1: *Dieta y Pautas Saludables Que Le Ayudan a Que No Le Da Cáncer (Cancer Prevention Guidelines)*

	Page(s)	Number of Syllables	Number of Sentences
Beginning Selection: (1st and last sentence part of section)	La manera como come, toma, y vive su vida pueden ser la diferencia en si le dan o no ciertos tipos de cancer. Coma frutas y verduras de todos los	190	7
Middle Selection: (1st and last sentence part of section)	Coma granos enteros en vez de granos procesados o azúcar. Pierda peso si está	195	8
Ending Selection: (1st and last sentence part of section)	Haga ejercicio al menos 5 dias a la semana. Si toma mucho alcohol esta mas propenso a que lo de cancer en la boca garganta	179	7
Sum	**********	564	22
Average (Sum divided by 3)	**********	188	7
Spanish Factor	**********	- 67	********** *******
Spanish Ave.	**********	121	********** *******

Grade Level Determined by Fry: 5th grade

Table 4.3

Fry Graph Calculations

Material 2: *Pautas para Adultos sobre Salud Preventiva*
(Preventive Health Care Guidelines for Adults)

	Page(s)	Number of Syllables	Number of Sentences
Beginning Selection (1st and last sentence part of section)	Una onza de prevencion vale mas que una libra de cura. Caminar es	208	12
Middle Selection (1st and last sentence part of section)	Coma una dieta saludable y balanceada alta en fibra, baja en grasa y sal. Vaya a todos sus	206	12
Ending Selection (1st and last sentence part of section)	Pautas para Adultos sobre Salud Preventiva. Influenza:anual	201	13
Sum	**********	615	37
Average (Sum divided by 3)	**********	205	12
Spanish Factor	**********	- 67	**********
Spanish Ave.	**********	138	**********

Grade Level Determined by Fry: 4th grade

Table 4.4
Focus Group Feedback

Health Professional Themes

Material 1	Material 2
Cultural Appropriateness ➢ Avoid literal translation if possible ➢ Include an informative title and personally relevant introduction ➢ Include familiar Spanish words ➢ Include both Spanish and English text	*Cultural Appropriateness:* ➢ Avoid literal translation of English materials ➢ Maintain a positive tone
Readability ➢ One-page length is optimal ➢ Avoid repetition within text ➢ A 'list and label' format is easier to read ➢ Balance text and graphics ➢ Include color for visuals	*Readability* ➢ Focus on cancer prevention message only ➢ Use charts to list difficult information ➢ Manageable reading level ➢ One-page length is optimal ➢ Visuals distract from text
Usefulness ➢ Versatility is best ➢ Include English and Spanish text	*Usefulness* ➢ Format is better suited for educators ➢ Include referral recommendations

Table 4.5
Focus Group Feedback

Consumer Themes

Material 1:

Cultural Appropriateness

- Spanish materials are preferred and appreciated despite disagreements with some word choices
- Positive message appeal

Readability

- Cancer prevention message was clearly understood
- Length and amount of text was manageable

Usefulness

- Material served as a good reminder
- Written format may not appeal to everyone

Material 2:

Cultural Appropriateness

- Useful information that serves as a good reminder
- Positive message appeal

Readability

- Listing format was easy to read
- Text length was manageable
- Material content covered good general health guidelines

Usefulness

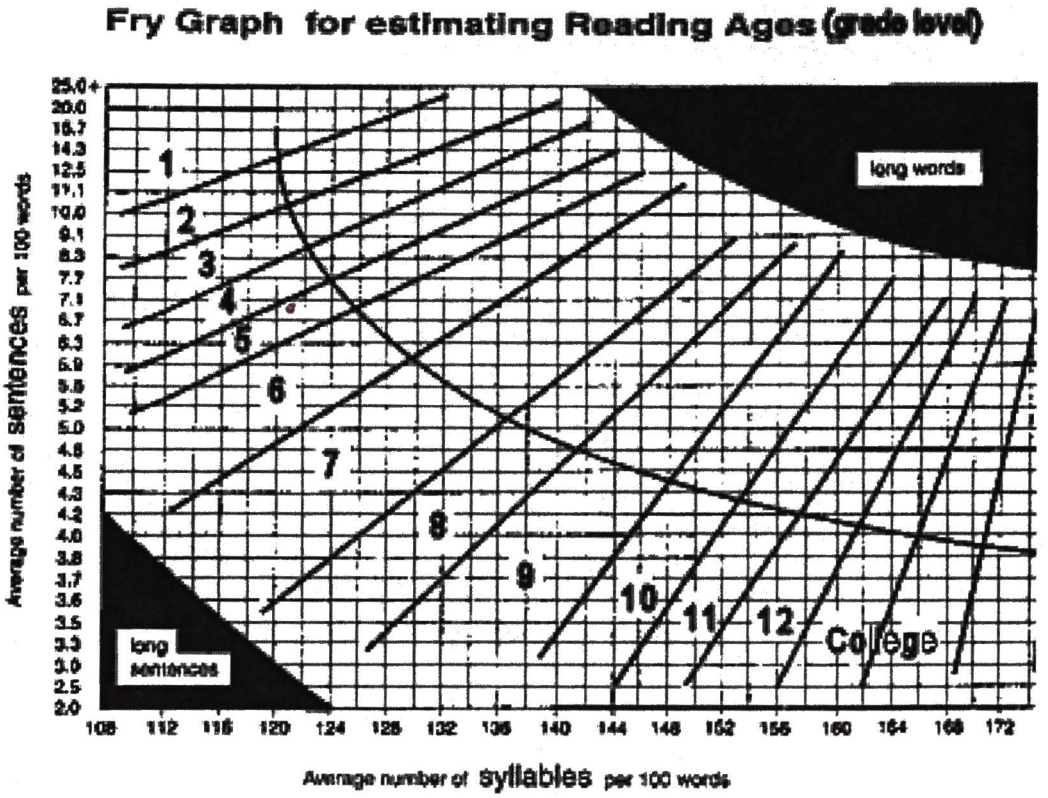
- More Spanish written materials are needed in the community
- Important to include referral recommendations

CHARTS

Chart 4.1

Fry Graph Method Chart

Material 1: *Dieta y Pautas Saludables Que Le Ayudan a Que No Le Da Cáncer (Cancer Prevention Guidelines)*

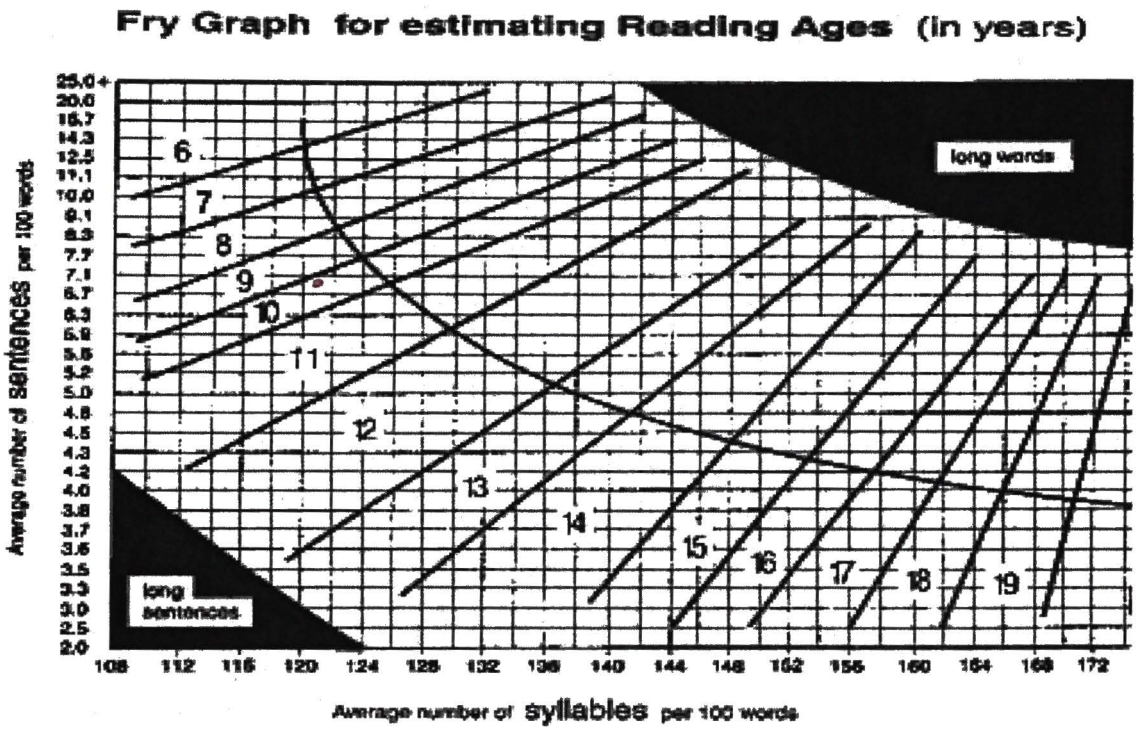


adapted from: Gilliam, B.; Pena, S.; Mountain, L. (January, 1980). The Fry Graph Applied to Spanish Readability, *The Reading Teacher*, 426-430.

Grade Level Determined by Fry: 5th grade

Chart 4.2: Fry Graph Method Chart

Material 1: *Dieta y Pautas Saludables Que Le Ayudan a Que No Le Da Cáncer (Cancer Prevention Guidelines)*

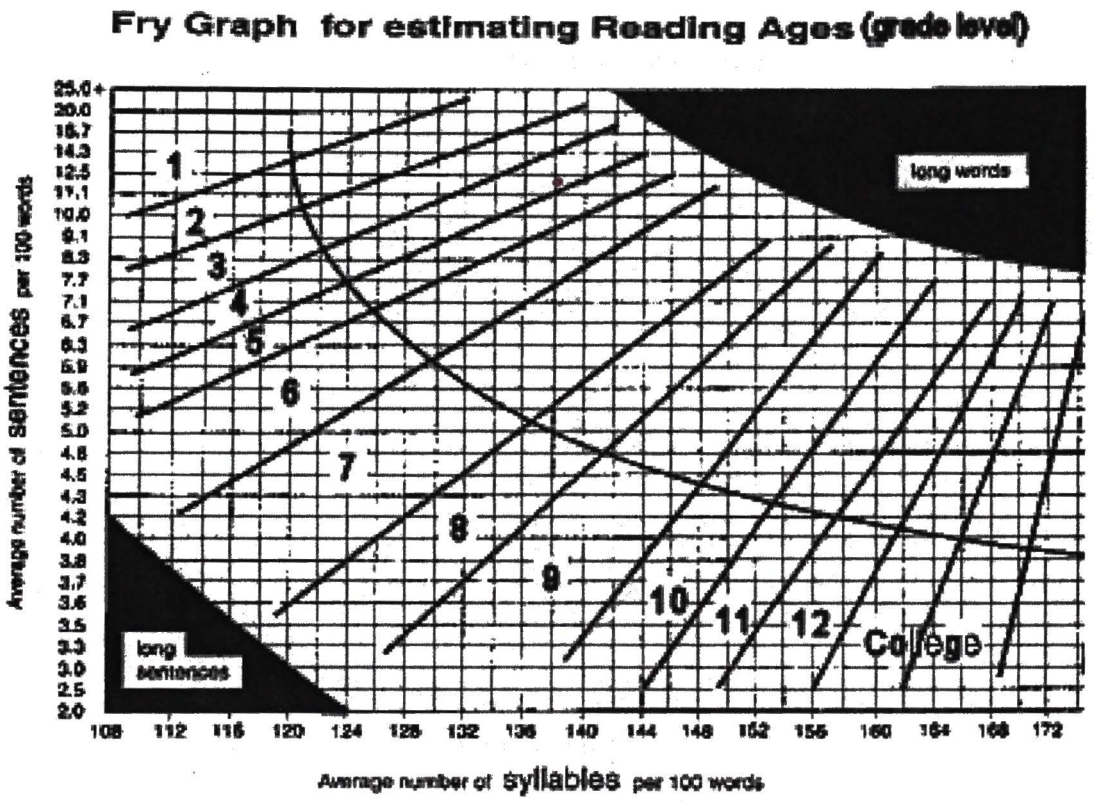


adapted from: Gilliam, B.; Pena, S.; Mountain, L. (January, 1980). The Fry Graph Applied to Spanish Readability, *The Reading Teacher*, 426-430.

Reading Age in Years Determined by Fry: 10 years old

Chart 4.3: Fry Graph Method Chart

Material 2: *Pautas para Adultos sobre Salud Preventiva*
(Preventive Health Care Guidelines for Adults)

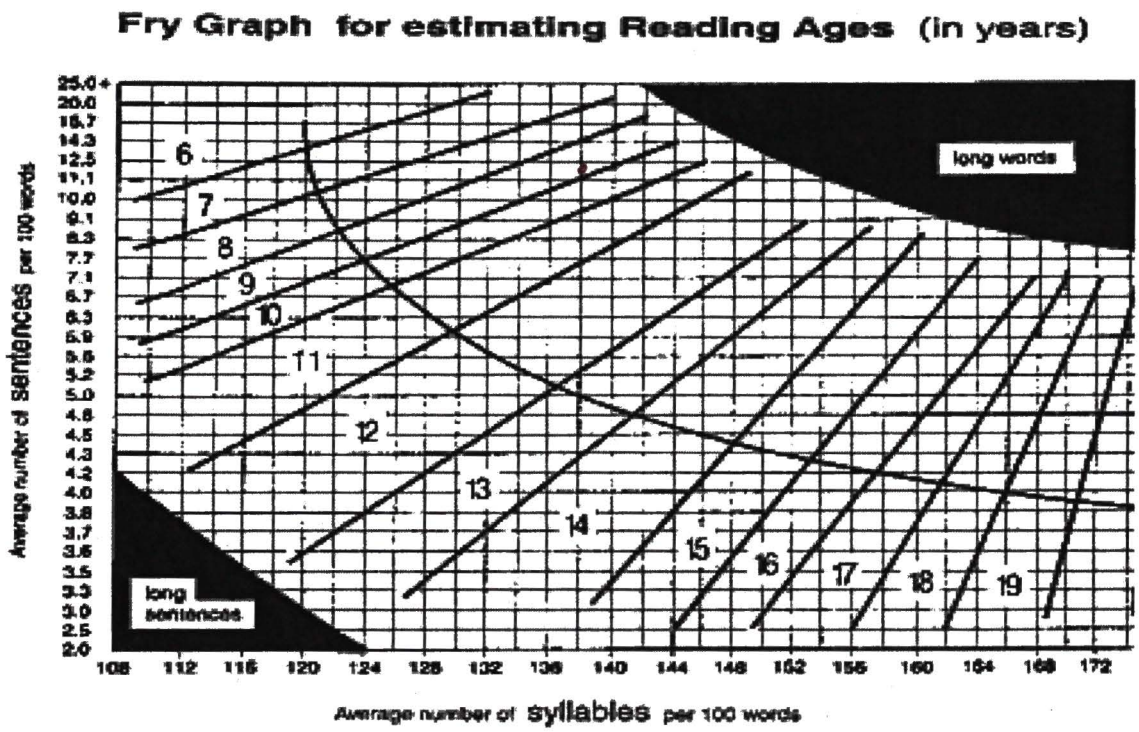


adapted from: Gilliam, B.; Pena, S.; Mountain, L. (January, 1980). The Fry Graph Applied to Spanish Readability, *The Reading Teacher*, 426-430.

Grade Level Determined by Fry: 4th grade

Chart 4.4: Fry Graph Method Chart

Material 2: *Pautas para Adultos sobre Salud Preventiva*
(Preventive Health Care Guidelines for Adults)



adapted from: Gilliam, B.; Pena, S.; Mountain, L. (January, 1980). The Fry Graph Applied to Spanish Readability, *The Reading Teacher*, 426-430.

Reading Age in Years Determined by Fry: 9 years old