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Health disparities: A look at colorectal cancer screening in the minority community

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HEALTH DISPARITIES: A LOOK AT COLORECTAL CANCER SCREENINGS IN THE MINORITY COMMUNITY

A Thesis

Presented to the

Faculty of

California State University,

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In Partial Fulfillment

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ABSTRACT

The primary aim of the study is to examine physician recommendations for colorectal cancer screenings among Caucasians and minorities (African American, Asian American and Latino). When compared to Caucasians, minorities are more likely to be diagnosed with colorectal cancer at a later stage. Incidence and mortality rates are significantly reduced, and even averted, through preventive measures such as cancer screening, yet screening rates remain low within the minority community. This study compared physician recommendations within each minority group to determine if minorities are recommended by their primary care physicians for colorectal cancer screening at the same rate as their Caucasian counterparts.

Within this study, nine hundred and fifty four participants were recruited for the study. Participants who self-identified as African American, Latino/Latina, Asian American and Caucasian were eligible to have their data included in the analyses. The study displayed two main findings: 1) Among those age 50 and older, Hispanic/Latino participants reported less physician recommendations when compared to African Americans and Caucasians; 2) Among those age 50 and older, African American and Caucasian participants reported high physician recommendations when compared to other racial groups. The statistical analysis revealed fewer Hispanic/Latino and Asian/Pacific Islander participants were recommended by their primary care physicians for colorectal cancer screenings.

These findings suggest a need for greater multi-component efforts to increase colorectal cancer screening in under-served populations.

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I would like to show my gratitude to my committee members who made my thesis possible. I would like to thank Dr. Fenelon, Dr. Lund, and Dr. Carrère for all of their time and patience within every step of the thesis process.

A special thank you to my husband who gave an unequivocal amount of love and support through my entire educational process.

DEDICATION

My thesis is dedicated to my beloved father Eugene Archie Jr. whose unconditional love, encouragement, and active engagement has made this, and all things, possible. He was my hero and protector on earth, and now my guardian angel in heaven.

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CHAPTER ONE

INTRODUCTION

Introduction to the Study

In general, the distribution of ill health is such that racial/ethnic minorities have a worse health status than Caucasians; such differences in health status are called health disparities. The National Institutes of Health (2004) defines health disparities as "differences in the incidence, prevalence, mortality, and burden of a disease and other adverse health conditions that exist among specific population groups in the United States" (La Veist, 2005, p. 54).

Statement of the Problem

In general, minority communities tend to be diagnosed with colorectal cancer at later stages, for example the American Cancer Society found that "Hispanics are more likely to be diagnosed with advanced stage colorectal cancer then non-Hispanic whites" (American Cancer Society, 2009b, p. 9). Additionally, "35% of colorectal cancers in African Americans are diagnosed at a localized stage when compared to 40% in whites" American Cancer Society, 2009a, p. 11).

This results in higher mortality rates for minority communities compared to Caucasian communities. Incidence and mortality rates are greatly reduced through preventive measures such as cancer screening, yet screening rates

remain low within the minority community. According to the American Cancer Society (2010a), there will be an estimated 102,900 new cases of colorectal cancer in 2010, which makes colorectal cancer the third most common cancer in both men and women. From those new cases, an estimated 51,370 will end in fatality (American Cancer Society, 2010a). There are substantial differences in health status among the racial/ethnic minority groups. If there are higher morbidity rates among racial/ethnic minorities than among non-minorities, one would suspect that racial/ethnic minorities would have a greater need for health services. In fact, in some cases, the population with the greatest need is also the population with the lowest rates of health care use (LaVeist, 2005). These disparities for colorectal cancer are believed to be associated with social and economic inequalities, oppose to biological diversity across ethnic groups. These include inequalities in wealth, work, income, education, housing, overall standard of living, barriers to preventive screening, diagnostic care, high-quality health care, and racial discrimination (American Cancer Society, 2009b). These disadvantages contribute to late stage diagnosis, denial of life saving early detection and state-of-the-art, timely treatment.

Although there have been many obstacles, in recent years there have been some advancements in cancer screening rates. Particularly, women of African American and Non-Hispanic White decent have similar screening rates for mammography and the rates have been effectively close for the Papanicolau test (American Cancer Society, 2005). However, communities with a large

immigrant population continue to fall behind in screening, as do individuals without access to healthcare. According to Peek & Han (2004) it is insufficient to solely examine self reported mammograms since many minorities are not actually self reporting nor receiving mammograms and the reported numbers should be adjusted down by 25-30% to be more accurate.

Health insurance coverage, access to healthcare and immigrant status are areas where breakthroughs have occurred, but significant change is still needed.

Definition of Terms

Colorectal cancer (CRC) mostly originates within the colon or the rectum. According to the American Cancer Society (2010b), "These cancers can also be referred to separately as colon cancer or rectal cancer, depending on where they start." (American Cancer Society, 2010b, para.11). According to the National Digestive Diseases information clearinghouse, a flexible sigmoidoscopy (SIG) is a procedure used to see inside the sigmoid colon and rectum. Moreover, flexible sigmoidoscopy can detect inflamed tissue, abnormal growths, ulcers and early signs of cancer (2010).

Colonoscopy (COL) is an examination performed by a physician to look inside the colon for any polyps, abnormal growths and any signs of cancer. The fecal occult blood test also known as FOBT is used to descry small traces of blood in the stool. This test is based on six different samples of bowel movements collected at home by the patient and then sent to be examined by a

laboratory technician. Moreover, a double-contrast barium is a procedure which uses x-ray images to examine the large intestine by the insertion of air and barium sulfate into the colon to both expand and fill the colon to view abnormalities. Lastly, sigmoid colon, also referred to as the sigmoid flexure, is a part of the large intestine. The sigmoid colon is the lower section of the colon.

Purpose of the Study

There are numerous reasons why minority (African Americans, Asian Americans and Latinos) CRC screening practices should be examined. The reason for this study is to advance and further the examination on health disparities in connection with CRC within the minority community. The primary aim of the study is to examine physician's recommendations for CRC screenings among Caucasians and minorities (African American, Asian American, and Latino). Past research on CRC has suggested that a history of CRC in a first degree relative elevates a person's lifetime risk (Fuchs et al., 1994).

Furthermore, without a physician recommendation for early screening, the patient's chances of early detection are substantially lowered. This is why it is imperative to examine the complex factors that contribute to minorities (African American, Asian American, and Latino) who have lower CRC screening rates compared to Caucasians.

Hypotheses

This preliminary study will assess physician recommendations and colorectal cancer screenings among individuals 50 years of age and older. The following hypotheses will be examined. 1. Among those who are age 49 and under, Caucasians are more likely than minorities (African American, Hispanic/Latino, and Asian American) to report that they talked with a primary care physician about colon cancer screenings when family history of colorectal cancer or polyps was present; 2. Women who are age 50 and older are less likely than men of the same age to have their primary care physician talk to them about CRC screenings; 3. Among those who are age 50 and older, Caucasians are more likely than minorities (African American, Hispanic/Latino, and Asian American) to report that they talked with a primary care physician about colon cancer screenings; 4. Among those who are age 50 and older, Caucasians are more likely than minorities (African American, Hispanic/Latino, and Asian American) to report that they talked with a primary health care physician about CRC screenings when family history of colorectal cancer or polyps was present.

CHAPTER TWO

LITERATURE REVIEW

Cancer

Approximately, 1.5 million men and women are expected to be diagnosed with cancer in 2010, and more than 569,490 are expected to die of this disease (American Cancer Society, 2010a). The human body is made up of millions of living cells. Within the body's normal function, cells grow and divide, as well as die in a conventional fashion. "During the early years of a person's life, normal cells divide faster to allow the person to grow. After the person becomes an adult, most cells divide only to replace worn-out or dying cells or to repair injuries" (American Cancer Society, 2010b, para. 1).

When cells stop their regular live-die cycle, they turn into cancer and start to grow outside of their normal cell pattern. According to the American Cancer Society, cancer is a large group of diseases characterized by uncontrolled growth and the spread of abnormal cells (2010b). Unlike normal cells, cancer does not grow in an orderly fashion. Once the abnormal cells are present, they continue to grow until they outnumber normal cells and no longer have a live-die cycle. Furthermore, abnormal growth is a common characteristic for all types of cancer. Colorectal cancer is a cancer that can form in the rectum or colon and, in many cases, develops slowly and forms growths in the tissue of these areas.

. Most colorectal cancer begins with a polyp, a growth of tissue that starts in the lining and grows into the center of the colon or rectum. It is important to note, this tissue may or may not be cancer. A type of polyp known as an adenoma can become cancer. Removing a polyp early may keep it from becoming cancer in later stages (American Cancer Society, 2010b, para. 6).

Colorectal Cancer Screening

The American Cancer Society recommends individuals at average risk should undergo early detection through colorectal cancer screening at age 50 (2010a). Procedures such as a fecal occult blood test (FOBT) or fecal immunochemical test (FIT), which entail an at home collection container, flexible sigmoidoscopy (SIG) or a double-contrast barium (DCBE) would be required every five years and a colonoscopy (COL) can be performed every ten years. Winawer et al., (2003) argued that the FOBT, SIG, and COL are recommended tests according to the national guidelines for people at average risk (as cited in Ferrer, Ramirez, Beckman, Danao, & Ashing-Giwa, 2010).

The FOBT is used to identify any amount of small traces of blood in the stool. This is collected through six different samples of bowel movements, collected at home. "Use of this screening method reduces risk of death by up to 33% and reduces cancer incidence by 20%, by detecting polyps later removed by colonoscopy" (Purnell, 2007, p. 4). If abnormalities are found, a double-

contrast barium is performed using a radiological examination through the insertion of air and barium sulfate into the colon to both expand and fill the colon to view abnormalities. The flexible sigmoidoscopy is more routine when compared to other colorectal cancer screening examines. This procedure involves a physician examining the sigmoid colon, which is the lower section of the colon. The instrument used is a flexible tube that is combined with a camera and a light to view the images of the sigmoid colon. If the physician finds a polyp while exploring the colon, the patient needs to undergo a colonoscopy to examine the entire colon for polyps. This procedure removes precancerous cells from the body and reduces mortality by more than 76% (Winawer et al., 1993). The survival rate increases due to the polyp having been extracted at the time it was found.

Factors Associated with Colorectal Cancer Screening Among Minority Groups

Many cancer-related deaths can be reduced, and ultimately prevented, if individuals have high quality screenings.

> Uptake of CRC screening is limited by many factors, including barriers faced by health systems, clinicians, and patients. Patients' barriers include: failure of a physician to recommend screening, scheduling difficulties, cost, lack of access to healthcare or insurance coverage, gaps in knowledge, disinterest, fear, embarrassment, perceived pain, and a lack of current symptoms or health problems (Jones et al., 2010, p. 500).

In recent years, cancer screening rates have been improving relatively however, CRC screening has been underutilized. Inequalities and socioeconomic factors may contribute to minorities not seeking or receiving recommendations by physicians for preventive measures and early detection.

African Americans and Colorectal Cancer Screening

Africans Americans have the highest death rate and shortest survival rate of any racial group in the US, for most cancers (American Cancer Society, 2009b). According to the American Cancer Society, in 2009 16,520 African Americans were estimated to be diagnosed with colorectal cancer (2009b). Knowledge and screening of colorectal cancer within the African American community have been limited, as well as a deterrent. Within the African American community, deterrents or barriers to screening include pessimism and fear of cancer (Subramanian, Klosterman, Amonkar, & Hunt, 2004). Moreover, the fear that cancer is fatal in all instances is common within this community. When gender is considered solely, there is a vast difference between African American men and Caucasian men. According to the American Cancer Society (2009a) there is a disparity of 12.3% for colorectal cancer rates of African Americans when compared to Caucasians. African American men also have a 9.7% higher mortality rate. For African American women the numbers are similar when compared to men. Colorectal cancer rates for African American women

are 11.4% higher than Caucasian women, while mortality rates are 7.1% higher (American Cancer Society, 2009a).

Cancer prevention, particularly screenings, are imperative factors when addressing cancer mortality disparities. "African Americans have significantly lower odds of survival after diagnosis of CRC compared with Hispanics dwelling in the same environment with comparable demographic distribution, access to care, clinical features, stage of diagnosis, treatment, and type of chemotherapy" (Kanna, Narang, Atwal, Paul, & Azeez, 2009, p. 5555).

Asian Americans and Colorectal Cancer Screening

Within the United States, there are 13.5 million Asian Americans. (U.S. Census Bureau, 2008). When compared to other racial groups such as Latinos, African Americans, and Caucasians, Asian Americans have the lowest death and cancer incidence rates. However, studies have shown that Asian Americans tend to be diagnosed at later stages of cancer (Lin et al., 2002) and suffer from higher mortality rates (LeMarchand, Kolonel, & Nomura, 1984). Despite the low incidence numbers compared to other racial and ethnic groups, cancer is the leading cause of death among Asian Americans (Louie, 2001).

Within the Asian community, the most common causes of cancer fatalities include colorectal cancer among Chinese Americans, prostate cancer in Filipino men, and cervical cancer in Vietnamese women.

Regardless, the difference in colorectal cancer trends among this ethnic population is not well understood, due to the scarcity of literature (Ferrer, Ramirez, Beckman, Danao, Ashing-Giwa, 2010). It is poorly understood how healthcare factors, as well as sociodemographic characteristics, affect screening rates in the Asian community. Culture, in particular, an important determinant of cancer screening (Theisen, 2004), remains understudied in regards to colorectal cancer screenings among Asian groups (Ashing-Giwa & Kagawa-Singer, 2006).

Latinos and Colorectal Cancer Screening

"Colorectal Cancer (CRC) trends indicate there is a disproportionate threat to Latinos related to lower rates of screening, later stage detection, and suboptimal exercise and dietary profiles" (Larkey & Gonzales, 2007, p. 272). Within the United States, Latinos are the second largest ethnic group and "colorectal cancer is the second most commonly diagnosed cancer in both Hispanic men and women" (American Cancer Society, 2010a, p. 8).

According to Aragones, Schwartz, Shah, & Gany, "Latinos in the U.S. are more likely to be diagnosed with advanced stage CRC, have lower survival probability, and lower CRC screening rates (29%) than the general population" (Aragones, Schwartz, Shah, & Gany, 2010, p. 564). When health care system barriers are eliminated, the Latino community still endures low levels of CRC screenings compared to Caucasians.

"This represents a missed opportunity in a population where the majority does not have a regular source of care and have low rates of preventive care" (Aragones, Schwartz, Shah, & Gany, 2010, p. 566).

Physician recommendations are an important factor to prevent CRC. However, within the Latino community, physician recommendation rates for screenings are low. "There are several barriers that impede physicians from recommending CRC screening. Physicians cite lack of time to educate their patients as a barrier for screening" (Aragones, Schwartz, Shah, & Gany, 2010, p. 566). When patients are not recommended to be screened by their physician, their likelihood of late stage detection increases, which leads to poor survival outcomes.

Women's Colorectal Cancer Screening Rates

According to the Center of Disease Control and Prevention, colorectal cancer is the third most common cancer in women within the United States; in 2006, 68,857 women were diagnosed with colorectal cancer and 26,395 women died from the disease (2010). Although, there are various avenues to receive guidelines for colorectal cancer screening, "recent studies show that less than half of the population participates in colorectal cancer screening and women are less likely than men to have had endoscopic screening with flexible sigmoidoscopy or colonoscopy" (Stockwell, et al., 2003, p. 1875).

> When colorectal cancer is diagnosed at the localized stage, the chance of survival within a 5-year time-frame is increased by 90%, despite this, only 39% of the total cases are diagnosed at this early stage. Only 10% of those diagnosed with metastases survive, which is a dramatic drop from the time of detection (American Cancer Society, 2008, p. 3).

Women who are screened for colorectal cancer are usually screened in conjunction with receiving mammograms. Shapiro, Steeff, & Nadel, (2001) found women who were screened for breast cancer also had a strong likelihood to undergo colorectal cancer screenings. If a woman is already aware of preventive screening methods, in this case cancer, she is more likely to have a physician recommend other preventive cancer screening methods. Carlos, Fendrick, Patterson & Bernstein (2005) found that "women who participated in screening mammography within the past year were almost three times likely to be current with CRC screening guidelines compared to women who did not participate in screening mammography "(as cited in Carlos et al., 2005, p. 250). Moreover, "gender differences, if present, are important to identify, because different intervention strategies or messages may be needed to influence males' and females' perceived risk of developing cancer and increase cancer screening behaviors" (McQueen, Vernon, Meissner & Rakowski, 2008, p. 58).

Men's Colorectal Cancer Screening Rates

According to the American Cancer Society, CRC is the third most common cancer diagnosed in men in the United States. Incidence rates are slightly higher in men than in women, and are highest in African American men (2009b).

> One study identified key differences between men who adhered to CRC screening and men who did not. These researchers concluded, on average, men who were not compliant with CRC screening were younger, Hispanic, had a lower educational level or lower income level, or were current smokers (Carlos, Underwood, Fendrick, & Bernstein, 2005, p. 221).

It is believed, that one reason for the low screening rates is that individuals who are not natural citizens of the United States may be presented with challenges such as language barriers and access to proper health care (Purnell, 2007). These health disparities create an impediment in which these individuals are not screened and their likelihood of survival greatly decreases.

One known major risk factor for developing CRC is age. Individuals who are 50 years and older have an increased risk for the disease. Studies by DeCosse, Ngoi, Jacobson & Cennarazzo, (1993) "have shown that in high-risk populations, older men are more likely to develop left-sided colon cancer and rectal cancer, and older women are more likely to develop right-sided colon cancer" (as cited in Woods, Narayanan & Engel, 2005, p. 503).

Furthermore, Campbell, & Ferrante (2001), studied data from the Florida statewide cancer registry to identify risk factors for advanced stage at diagnosis of colon cancer. They found that there was an increased probability of diagnosis with advanced disease for distal lesions in middle-aged persons, smokers, individuals with a lower income status, and those with a higher level of education (Woods, Basho, & Engel, 2006, p. 503).

CHAPTER THREE

METHODOLOGY

Participants and Procedures

The dataset used for analysis in this study is titled Health Disparities: A Look at Colorectal Cancer Screenings in the Minority Community. Prior to the recruitment of participants, City of Hope, along with the study procedures and measures, were approved by the Institutional Review Board at California State University, San Bernardino. A letter of approval from City of Hope was provided to the researcher to make use of the City of Hope's existing data.

Participants age twenty and over who self-identified as African American, Hispanic/Latino, Asian American, and Caucasian were eligible to have their data included in the analyses for this investigation. The Center of Community Alliance for Research and Education, along with Healthy Heritage, recruited participants from community health fairs to complete the colorectal cancer survey. Healthy Heritage has a partnership in conjunction with City of Hope for community health events. City of Hope established the Center of Community Alliance for Research and Education (CCARE) in recognition of the fact that African-Americans, Latinos and other ethnic and racial minorities are traditionally under-served by the health care industry, and often face unique challenges in dealing with cancer and other life-threatening diseases. Healthy Heritage is a health and community wellness organization that serves the Southern California Inland Region.

Their goal is to eliminate health disparities in the African American community by providing cultural-relevant resources and tools. Moreover, Healthy Heritage implements a support system for families who want to lead a healthier lifestyle. This is done through training, to empower the members of the community to become health and wellness advocates for themselves, their families and their community.

Nine hundred and fifty four (N=954) male and female participants were selected for this study from the total population of 1,016. Two hundred and eighty three (n=283) of the participants were age 50 and older and six hundred and seventy one (n=671) were know to be age 49 and under. Guidelines from several major professional groups recommend that everyone, age 50 or over, should be screened regularly for colorectal polyps and cancer (Beeker, Kraft, Southwell, & Jorgensen, 2000).

The aim of the study was to examine whether physicians recommend colorectal cancer screenings for minorities (African Americans, Asian Americans, and Latinos) at a lower rate compared to Caucasians. Descriptive statistics were computed to describe the characteristics of the sample.

Description of Health Fairs

The health fairs were organized and co-sponsored by community groups, including the American Cancer Society, Black History Exposition, state and local government affiliated agencies, and health advocacy organizations.

Furthermore, the health fairs were designed to serve low-income, under-served families and individuals within a targeted community. All of the events were held on either a Saturday or Sunday and lasted approximately four to six hours.

Analytic Sample

Six hundred and seventy one (N=671) of the participants were age 49 and under. Of the total sample 77% were female and 23 % were male participants. Half of the total sample (52%) had completed college or post graduate training. Over half of the total sample (57%) had an income level of less than 30,000 a year. An abundant amount of the total sample (91%) did have health insurance coverage; this differs from the national average in 2009 which was 83.3% according to the Census Bureau (DeNavas-Walt, Proctor, & Smith, 2010). Of the total sample, two-thirds of the participants (67%) did have a primary care physician.

Data was collected at numerous health fairs, which took place between the years of 2007 and 2009. Fourteen different health fairs were held to collect the colorectal cancer surveys. Health fair participants were offered colorectal cancer surveys at the entrance of an event or at the registration desk. Participants were asked to complete a two-page survey, in English or Spanish, assessing physician recommendations and colorectal cancer screenings. The voluntary survey was anonymous and confidential.

Therefore, no identifying information was obtained. As a token of appreciation for their time, participants received a small gift, such as a pen or a calculator.

Measures

The survey was developed in collaboration with Heritage Movement's founder and the director of Center of Community Alliance for Research and Education at the City of Hope. Several items in the survey were based on health disparities and colorectal cancer literature. The survey contained a total of 22 questions on demographic characteristics which include: sex, age, ethnic group, level of education, income level, as well as questions about medical insurance, and health screenings. Furthermore, participants declared if they had medical insurance, a primary care physician, and received physician recommendations to undergo colorectal cancer screenings.

Cross tabulations were computed to examine the relationship between independent variables such as race, gender, age and the dependent variables such as screening recommendations. Each hypothesis was answered by using bi-variate (chi-square) statistics.

Statistical Analysis Plan

All data was cleaned for errors and then analyses were performed using Statistical Package for the Social Sciences 15.0 (SPSS) for the chi-square analyses. P-values of 0.05 or less were considered statistically significant within this study. Individuals with missing race information were excluded from each specific analysis and were not examined. Moreover, medical-related variables included primary care physician, physician recommendation for CRC screening (SIG, FOBT, and COL), history of CRC, and family history of CRC. For the participants who were age 49 and under with a family history of CRC screenings, recommendations by a physician where also examined.

Validity and Reliability

The participants who completed the survey did so while attending health fair events, which might create some bias toward those who were already interested enough in their health to attend such fairs and events. Participants who regularly attend health community events do so to broaden their knowledge on various types of cancers and health issues. Dillon & Sternas, (1997) define health fairs as community programs that are used to meet community members' needs for health promotion, education, and prevention (as cited in Health, Lucic, Hollifield, & Kues, 1991).The individuals questioned had a higher health consciousness than statistics show for the rest of the United States. However, even with preventive care and access present, health disparities still prevail.

According to Ashing-Giwa et. al., (2010) disparities exist in health screening practices with minorities facing more barriers and challenges to acquire access to not only therapeutic care, but also preventive and diagnostic care including screening exams.

Reliability is an issue when a researcher uses a secondary dataset. A non-secondary data source allows the researcher to adjust the data collection based on the information needed for the study. The participants who took the time to fill out the two-page survey on colorectal cancer screenings are a population of individuals who are advanced in knowledge of their own health, and take the proper steps to complete preventable screenings, as well as, being likely to speak with their physician about preventable measures.

A limitation of the CRC study is that the population used does not accurately portray the broader demographics of either Southern California; or the United States, of individuals who are not receiving the recommended colorectal cancer screenings by their physician.

CHAPTER FOUR

FINDINGS AND RESULTS

Introduction

The primary aim of the study was to examine physician's recommendations for CRC screenings among Caucasians and minorities (African Americans, Asian Americans, and Latinos) age 50 and older as reported by the respondents. Furthermore, additional analyses were run to examine race and age within the subset group of Caucasians and minorities (African Americans, Asian Americans, and Latinos) age 49 and under with a family history of colon cancer and or polyps. Table 1 below provides a summary of frequencies describing the participants' socio-demographic characteristics. The sample size consists of N=954 persons ranging from 20 to 75 years and older (see Table 1). The numbers within the data set are all rounded to the closest whole number so the totals equal 100%. Furthermore, four missing cases did occur for gender and age variables.

Presentation of the Findings

Table 1. Socio-Demographic Characteristics of the Sample (Age, Gender, and Race)

49 and under			
Variable	Value	Frequency	Percent %
Race	African-American	195	29
	Hispanic/Latino	383	57
	Asian/Pacific Islander	16	2
	Caucasian	77	12
Total		671	100
Gender	Male	138	20
	Female	530	80
Total		668	100
50+			
Race	African-American	123	44
	Hispanic/Latino	92	32
	Asian/Pacific Islander	11	4
	Caucasian	57	20
Total		283	100
Gender	Male	79	30
	Female	203	70
Total		282	100

Table 1 describes the background information for individuals who are age 49 and under (N=671) as well as individuals who are age 50 and older (N=283). Table 1 shows the largest percentage of the sample age 49 and under are Hispanics/Latinos (57%), followed by African Americans (29%), Caucasians (12%) and Asian/Pacific Islanders (2%). Far more of the respondents are female (80%) than male (20%) in the age 49 and under group. Furthermore, the sample of individuals who are age 50 and older (N=283) consists of African Americans (44%) followed by Hispanics/Latinos (32%) and Caucasians (20%) and the smallest group of the sample are Asian/Pacific Islanders (4%). Far more of the respondents are female (70%) than male (30%) within the age group of age 50 and older. Therefore, the younger group has the highest percentage of Hispanics/Latinos and slightly more females, while the largest ethnic group in the age 50 and older sample is African Americans.

Research Hypothesis 1: Among those who are age 49 and under, Caucasians are more likely than minorities (African American, Hispanic/Latino, and Asian American) to report that they talked with a primary care physician about colon cancer screenings when family history of colorectal cancer or polyps was present.

Table 2. Physician Dialogue with Different Ethnicities Age 49 and Under Who Have a Family History of Colon Cancer or Polyps

	Has your primary care physician talked to you about colon cancer screening?			
49 and under	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	11	14	44	56
Hispanic/Latino	6	12	33	67
Asian/Pacific Islander	1	2	33	67
Caucasian	4	5	44	56

Table 2 displays the results concerning the relationship between having a conversation with a primary care physician about CRC screening and race. Both Caucasians and African Americans age 49 and under with a family history of colon cancer or polyps have the same percentage (44%) reporting they had talked with their primary care physician about CRC screening. Also 33% of both Hispanic/Latino and the Asian/Pacific Islander participants who have a family history of colon cancer or colon polyps and are age 49 and under, reported to have talked with a primary care physician about colon cancer screening, however the sample size of the Asian/Pacific Islanders contains only three persons in this category.

The Chi-Square analysis on this data shows a significance level greater than alpha ($x^2 = .630$, $p = .890$) which indicates there is not a statistical significance. Furthermore, while there are fewer Caucasian and Asian/Pacific Islander participants reporting they did talk with a primary health care physician about colon cancer screening, the difference between them and the other racial/ethnic groups is not large enough to be statistically significant. Therefore, Hypothesis #1 is not confirmed by the data.

Research Hypothesis 2: Women who are age 50 and older are less likely than men of the same age to have their primary care physician talk to them about CRC screenings.

Table 3. Physician Dialogue with Male and Female Patients Age 50 and Older About Colon Cancer Screening

	Has your primary care physician talked to you about colon cancer screening?			
50+	Count		Percentage %	
Gender	Yes	No	Yes	No
Male	61	12	84	16
Female	142	41	80	20

Table 3 displays the results of a Chi-Square analysis. Male and female participants who are age 50 and older, have similar, high percentages reporting

their primary care physician had talked to them about CRC screening. Males have a percentage of 84% and females have a percentage of 80%. The Chi-square has a significance level greater than alpha (x^2= 1.131, p=.287) indicating again there is not a statistical difference between men and women regarding this variable. Therefore, there is no support for Hypothesis #2.

Research Hypothesis 3: Among those who are age 50 and older, Caucasians are more likely than minorities (African American, Hispanic/Latino, and Asian American) to report that they talked with a primary care physician about colon cancer screenings.

Table 4. Physician Dialogue with Patients Age 50 and Older of Different Ethnicities About Colon Cancer Screening

	Has your primary care physician talked to you about colon cancer screening?			
50+	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	105	11	90	10
Hispanic/Latino	46	32	60	40
Asian/Pacific Islander	5	4	56	44
Caucasian	47	6	89	11

Table 4 displays the results concerning the relationship between race and having a primary care physician talk to them about CRC screening. Caucasians (89%) and African Americans (90%) age 50 and older have nearly the same percentages reporting that they had talked with their primary care physician about CRC screenings. When compared to the Hispanics/Latinos participants of the same age, only 60% had talked with a primary care physician about CRC screenings. Also, 56% of Asian/Pacific Islander participants who are age 50 and older reported, to have talked with a primary care physician about colon cancer; however, the sample size was only nine persons in this category. The Chi-square analysis for this data shows a significance level less than alpha (x^2= 36.316, p=.000). While African Americans and Caucasians reported a higher rate of having talked with a primary care physician about CRC screenings, the differences between them and the Hispanic/Latino participants is statistically significant. Therefore, Hypothesis #3 is confirmed by the data in that Hispanics/Latinos were less likely than Caucasians and African Americans to have talked with their primary care physician about colon cancer

Research Hypothesis 4: Among those who are age 50 and older, Caucasians are more likely than minorities (African American, Hispanic/Latino, and Asian American) to report that they talked with a primary health care physician about CRC screenings when family history of colorectal cancer or polyps was present.

Table 5. Physician Dialogue with Different Ethnicities Age 50 and Older Who Have a Family History of Colon Cancer or Polyps

	Has your primary care physician talked to you about colon cancer screening?			
50+	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	22	0	100	0
Hispanic/Latino	4	2	70	30
Asian/Pacific Islander	1	1	50	50
Caucasian	11	1	92	8

Table 5 displays the results concerning the relationship between race and having a primary care physician talk to the participants about CRC screening. Both Caucasians (92%) and African Americans (100%) age 50 and older with a family history of colon cancer or polyps have similar, high percentages reporting they had talked with their primary care physician about CRC screenings. Hispanics/Latinos age 50 and older are less likely (70%) to have talked with a primary care physician about CRC screening. While 50% of Asian/Pacific Islander participants who did have a family history of colon cancer or colon polyps and are age 50 and older, reported to have talked with a primary care physician about CRC screening, however, there were insufficient numbers of Hispanics/Latinos and Asians to make adequate statistical comparisons. The

Chi-square analysis for this data displays a significance level greater than alpha ($x^2 = 10.086$, $p = .018$), which shows there is no statistical significance. While fewer Hispanics/Latinos reported having talked with a primary care physician about colon cancer, the differences between them and other racial/ethnic groups is not large enough to be statistically significant. Therefore, Hypothesis 4 is not confirmed by the data.

Additional Analyses

Twelve additional analyses were computed using Chi-square tests. Additional analyses were computed to examine if other correlations existed between men, women, minorities (African American, Hispanic/Latino, and Asian American), and Caucasians, when additional CRC screenings such as FOBT, SIG, and COL were included as the variable.

Table 6. Physician Recommendation to Individuals Age 49 and Under Who Have a Family History of Colon Cancer or Colon Polyps to Obtain a Fecal Occult Blood Test

	Has your primary care physician recommended that you obtain a fecal occult blood test (FOBT)?			
49 and under	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	6	16	27	73
Hispanic/Latino	4	14	22	78
Asian/Pacific Islander	0	3	0	100
Caucasian	1	8	11	89

Table 6 displays the results concerning the relationship between race and having a primary care physician recommended a FOBT. African Americans age 49 and under with a family history of colon cancer or polyps have the highest percentage (27%) reporting that their primary care physician recommended a FOBT to them. Hispanics/Latinos age 49 and under are somewhat less likely (22%) to have a FOBT recommended to them by their primary care physician. None of the Asian/Pacific Islander participants who do have a family history of colon cancer or colon polyps and are age 49 and under, received a FOBT recommendation by their primary care physician; granted the sample size is only three persons in this category.

The Chi-square analyses for this data shows a significance level greater than alpha (x^2= 1.855, p=.603), which indicates there is no statistical significance. The sample size is not adequate to give a proper test for these relationships.

Table 7. Physician Recommendation to Individuals of Different Ethnicities Age 49 and Under Who Have a Family History of Colon Cancer or Colon Polyps to Receive a Flexible Sigmoidoscopy Screening

	Has your primary care physician recommended that you receive a flexible sigmoidoscopy (SIG)?			
49 and under	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	5	18	22	78
Hispanic/Latino	3	15	17	83
Asian/Pacific Islander	1	2	33	67
Caucasian	0	9	0	100

Table 7 displays the results concerning the relationship between race and having a primary care physician recommend a SIG screening. Twenty-two percent of African American participants age 49 and under with a family history of colon cancer or colon polyps state their primary care physician did recommend a SIG screening to them.

Of the Hispanic/Latino participants age 49 and under with a family history of colon cancer or colon polyps, 17% reported their primary care physician did recommend a SIG screening to them. Thirty-three percent of Asian/Pacific Islanders age 49 and under with a family history of colon cancer or colon polyps report their primary care physician did recommended a SIG screening to them, however the sample size only reflects a total of three participants in this category. The Chi-square analysis for this data shows a significance level greater than alpha ($x^2 = 2.781$, $p = .427$), which indicates there is no statistical significance. Even though fewer Hispanics/Latinos report their primary care physician did recommended a SIG screening to them, the differences between all racial/ethnic groups is not large enough to be statistically significant. Once again, the low sample size in these analyses resulted in no statistical differences.

Table 8. Physician Recommendation to Individuals of Different Ethnicities Age 49 and Under Who Have a Family History of Colon Cancer or Colon Polyps to Receive a Colonoscopy

	Has your primary care physician recommended that you receive a colonoscopy (COL)?			
49 and under	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	8	15	35	65
Hispanic/Latino	1	15	37	63
Asian/Pacific Islander	1	2	33	67
Caucasian	3	5	37	63

Table 8 displays the results concerning the relationship between race and primary care physician recommendation to receive a COL. Both Caucasian and Hispanic/Latino age 49 and under with a family history of colon cancer or polyps show the same percentage of 37% reporting their primary care physician did recommended they receive a COL. African Americans age 49 and under are less likely (35%) to receive a recommendation for a COL. Of the Asian/Pacific Islander participants who do have a family history of colon cancer or colon polyps and are age 49 and under, 33% state that their primary care physician did recommend they receive a COL. This sample size only consists of three persons in this category.

The Chi-square analysis for this data displays a significance level greater than alpha (x^2= 4.800, p=.187), which indicates there is no statistical significance. Fewer African American and Asian/Pacific Islander participants report their primary care physician did recommended they receive a COL, but the differences between them and other racial/ethnic groups is not large enough to be statistically significant.

Table 9. Physician Recommendation for a Fecal Occult Blood Test for Male and Female Age 50 and Older

	Has your primary care physician recommended that you obtain a fecal occult blood test (FOBT)?			
50+	Count		Percentage %	
Gender	Yes	No	Yes	No
Male	46	26	64	36
Female	111	71	61	39

Table 9 displays the results of a Chi-square analysis. Male and female participants who are age 50 and older, display similar percentages when reporting their primary care physician recommend they obtain a FOBT. Male participants have a percentage of 64% while female participants show a percentage of 61%. The Chi-square has a significance level greater than alpha (x^2= .184, p=.668), which indicates there is not a statistical significance between men and women in respect to this comparison.

Table 10. Physician Recommendation for a Flexible Sigmoidoscopy Screening for Male and Female Age 50 and Older

	Has your primary care physician recommended that you receive a flexible sigmoidoscopy (SIG)?			
50+	Count		Percentage %	
Gender	Yes	No	Yes	No
Male	46	26	64	36
Female	89	90	50	50

Table 10 displays the results of a Chi-square analysis. Male and female participants, who are age 50 and older, had different percentage when reporting their primary care physician recommended they obtain a SIG screening. Male participants have a higher percentage (64%) than female participants (50%) reporting their physician recommended this test. The Chi-square has a significance level less than alpha ($x^2 = 4.147$, $p = .042$), which indicates there is a statistical significance.

Table 11. Physician Recommendation for Colonoscopy Screening for Male and Female Age 50 and Older

	Has your primary care physician recommended that you receive a colonoscopy (COL)?			
50+	Count		Percentage %	
Gender	Yes	No	Yes	No
Male	45	26	63	37
Female	100	81	55	45

Table 11 displays the results of a Chi-square analysis. Male and female participants who are age 50 and older, display slightly different percentages when reporting their primary care physician recommended they receive a COL screening with men having higher percentages (63%) than women (55%). However, the Chi-square has a significance level greater than alpha ($x^2 = 1.380$, $p = .240$), which indicates that the different percentages are not statistically significant.

Table 12. Physician Recommendation for a Fecal Occult Blood Test for Different Ethnicities Age 50 and Older

	Has your primary care physician recommended that you obtain a fecal occult blood test (FOBT)?			
50+	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	82	34	70	30
Hispanic/Latino	35	44	44	56
Asian/Pacific Islander	4	5	44	56
Caucasian	36	15	70	30

Table 12 displays the results concerning the relationship between race and having a primary care physician recommending a FOBT. Both African Americans and Caucasians age 50 and older have the same percentage (70%) reporting that their primary care physician did recommend they obtain a FOBT. While 44% of both Hispanic/Latino and Asian/Pacific Islander participants report that their primary care physician recommended they obtain a FOBT. The Chi-square analysis for this data shows a significance level less than alpha ($x^2 = 16.899$, $p = .001$), which indicates there is a statistical significance.

Table 13. Physician Recommendation for a Flexible Sigmoidoscopy Screening for Different Ethnicities Age 50 and Older

	Has your primary care physician recommended that you receive a flexible sigmoidoscopy (SIG)?			
50+	Count		Percentage %	
Gender	Yes	No	Yes	No
African-American	80	34	70	30
Hispanic/Latino	20	58	26	74
Asian/Pacific Islander	4	5	44	56
Caucasian	31	20	61	39

Table 13 displays the results concerning the relationship between race and having a primary care physician recommending a SIG screening. Of African Americans age 50 and older 70% report their primary care physician recommend they obtain a SIG screening, while 61% of Caucasians age 50 and older report the same. The Hispanic/Latino participants have the lowest percentage (26%) declaring that their primary care physician did recommend they obtain a SIG screening. Forty-four percent of Asian/Pacific Islander participants age 50 and older reported to have received a SIG screening recommendation; the sample size was only nine persons in this category. The Chi-square analysis for this data shows a significance level less than alpha ($x^2 = 38.468$, $p = .000$), which indicates there is a statistical significance.

Table 14. Physician Recommendation for a Colonoscopy Screening for Different Ethnicities Age 50 and Older

	Has your primary care physician talked to you about colon cancer screening (COL)?			
50+	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	105	11	91	9
Hispanic/Latino	46	32	59	41
Asian/Pacific Islander	5	4	56	44
Caucasian	47	6	89	11

Table 14 displays the results concerning the relationship between race and having talked to a primary care physician about COL screening. Both African Americans (91%) and Caucasians age 50 and older (89%) reported similar, high percentages that their primary care physician talked to them about COL screening, while Asian/Pacific Islander s(56%) and Hispanic/Latinos (59%) age 50 and older have the lowest numbers reported. The sample size for Asian/Pacific Islander was only nine persons in this category. The Chi-square analysis for this data shows a significance level less than alpha ($x^2 = 34.450$ $p=.000$), which indicates there is a statistical significance.

Table 15. Physician Recommendations for a Fecal Occult Blood Test Screening for Different Ethnicities Age 50 and Older That Have a Family History of Colon Cancer or Colon Polyps

	Has your primary care physician recommended that you obtain a fecal occult blood test (FOBT)?			
50+	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	17	5	77	23
Hispanic/Latino	5	1	83	17
Asian/Pacific Islander	1	1	50	50
Caucasian	7	4	64	36

Table 15 displays the results concerning the relationship between race and having a primary care physician recommend a FOBT, when family history of colon cancer or colon polyps is present. The highest percentage (83%) occurs for the Hispanic/Latino participants age 50 and older reporting that their primary care physician recommended they obtain an FOBT followed next 77% of African Americans age 50 and older declaring their primary care physician recommended they obtain an FOBT, and 64% of Caucasians age 50 and older reporting the same. Asian/Pacific Islanders only had two participants in this category.

The Chi-square analysis for this data shows a significance level greater than alpha (x^2= 1.561, p=.668), which indicates there is no statistical significance.

Table 16. Physician Recommendations for Flexible Sigmoidoscopy Screening for Different Ethnicities Age 50 and Older Who Answered Yes to Having a Family History of Colon Cancer or Colon Polyps

	Has your primary care physician recommended that you receive a flexible sigmoidoscopy (SIG)?			
50+	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	16	4	80	20
Hispanic/Latino	4	1	80	20
Asian/Pacific Islander	1	1	50	50
Caucasian	7	4	64	36

Table 16 displays the results concerning the relationship between race and having a primary care physician recommend a SIG screening, when family history of colon cancer or colon polyps is present. Eighty percent of both African Americans and Hispanics/Latinos age 50 and older reported that their primary care physician recommended they receive a SIG screening. Asian/Pacific Islander participants age 50 and older only have two participants within this

category. Caucasians who are age 50 and older have the lowest percentage (64%). The Chi-square analysis for this data shows a significance level greater than alpha (x^2= 1.561, p=.668), which indicates there is no statistical significance.

Table 17. Physician Dialogue with Different Ethnicities Age 50 and Older Who Answered Yes to Having a Family History of Colon Cancer or Colon Polyps About Colon Cancer Screening

	Has your primary care physician talked to you about colon cancer screening?			
50+	Count		Percentage %	
Race	Yes	No	Yes	No
African-American	22	0	100	0
Hispanic/Latino	4	2	67	33
Asian/Pacific Islander	1	1	50	50
Caucasian	11	1	92	8

Table 17 displays the results concerning the relationship between race and having talked to a primary care physician about colon cancer screening. Both African American (100%) and Caucasian (92%) participants who are age 50 and older and have a family history of colon cancer or colon polyps have high percentages stating that their primary care physician talked to them about CRC

screening. Sixty seven percent of Hispanic/Latino participants who were age 50 and older and had a family history of colon cancer or colon polyps report their primary care physician talked to them about CRC screening. Only two Asian/Pacific Islanders who were age 50 and older and had a family history of colon cancer or colon polyps were included in these analyses. The Chi-square analysis of this data show a significance level greater than alpha ($x^2 = 10.086$, $p = .018$), which indicates there is no statistical significance.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The primary aim of the study was to examine physician's recommendations for CRC screenings among Caucasians and minorities (African American, Asian American and Latino), age 50 years and older. Furthermore, additional analyses were run to examine the subset group of Caucasians and minorities (African American, Asian American and Latino) age 49 and under with a family history of colon cancer and/or polyps. Of the four hypotheses in this study, only one hypothesis was supported.

Summary of Conclusions

Within the study, two main findings were evident: 1) Among those age 50 and older, Hispanic/Latino participants reported less physician recommendations when compared to African Americans and Caucasians; 2) Among those age 50 and older, African American and Caucasian participants reported high physician recommendations when compared to other racial groups. The statistical analysis revealed fewer Hispanic/Latino and Asian/Pacific Islander participants were recommended by their primary care physician for CRC screenings. Of the four hypotheses tested, only one hypothesis was supported: Among those who are age 50 and older, Caucasians are more likely than minorities (African American,

Hispanic/Latino and Asian American) to report they talked with a primary care physician about CRC screenings. This hypothesis compared Caucasians to minorities within a grouped environment. Yet, when ethnicities, age 50 and older, were examined separately African Americans (90%) and Caucasians (89%) reported higher screening recommendations by their primary care physician. Furthermore, the Hispanic/Latino (60%) participants, age 50 and over, received lower screening recommendations from their primary care physician.

Moreover, additional analyses were explored to focus on race and age. Only four of twelve analyses showed statistical significance among participants who were age 50 and older. This group of participants displayed a trend among the findings for Caucasians and African Americans within the SIG, FOBT, and COL screenings. For both men and women, age 50 and older, when receiving a SIG screening recommendation from their physicians, gender was a likely factor, revealing women receive more recommendations by their primary care physicians than men. In addition, when it comes to physicians recommending a FOBT, COL, or a SIG for different racial/ethnic groups, age 50 and older, African Americans and Caucasians exhibited higher numbers when compared to Hispanics/Latinos. From the bi-variate associations, it is not clear why the FOBT, SIG, and COL screenings were the only tests that produced a significant difference between the groups when compared to other screenings for this population.

Based on 2004 national statistics reported by the American Cancer Society (2007), the screening rate differential between minorities and white adults, age 50 and older, has decreased for use of fecal occult blood test (19.4% and 19.2%), respectively and colonoscopy and sigmoidoscopy combined (47.0% and 44.3%), respectively (as cited in Berry et al., 2009, p. 62).

Health Disparities in Screenings and Quality of Care

According to the National Center for Health Statistics, when examining the health disparities that currently exist in the United States, we see that many groups of people do not experience reasonably equivalent health outcomes when compared with the majority of Caucasian Americans (2008). The individuals who unwillingly fall victim to this are minority populations who have low socioeconomic status. Adler (2002), Link (1995), Viswanath, et al., (2006) found that the complicated roots of such health disparities include many social factors (e.g., living environment, education, employment and communication opportunities) that disproportionately affect the health of poor and minority populations (as cited in Adler, 2008). When a part of the population is under-served, health becomes a factor of the outcome.

According to Williams and Collins, socioeconomic differences between racial groups are largely responsible for the observed patterns of racial disparities in health status.

"Not surprisingly, differentials in health status associated with race are smaller than those associated with SES" (socioeconomic status) (Williams & Collins, 1995, p. 363). Furthermore, lower household income reflects poorer health when compared to individuals who have a higher household income and according to Navarro (1990) "blacks were 1.9 times more likely to be in poor health than whites" (as cited in Williams & Collins, 1995, p. 364).

> Also, when a study by Vlahov et al., (2005) adjusted age, gender, access to care (using income and insurance), status and risk profile (cancer in family, smoking, and obesity), African Americans (32.8%) were still less likely than Whites (48.0%) to have undergone a sigmoidoscopy or colonoscopy within the past 5 years (as cited in Berry et al., 2009, p. 66).

Limitations

Within the study, there were a number of limitations that occurred. Since the researcher was not the original collector of the sample's data, it is believed that every effort was exhausted to collect a variety of individuals for this sample. However, even with this effort the data still does not display a full representation of Caucasians or minorities within the Southern California area, nor within the United States. The population sample reported higher income, was insured, had higher education, and the majority of the participants had primary care physicians. This information does not accurately reflect the broader health-related factors and demographic characteristics of minorities.

In regards to screening knowledge, this population sample was rather knowledgeable overall about CRC screenings, which might have distorted the overall study.

Furthermore, the sample had a disproportionate higher number of female participants, which is believed to have distorted the data when comparing men and women who were age 50 and older. In addition, when computing the data, a more advance approach could have shown more correlations with a T-test, summary scale or a multivariate analysis. Moreover, a limitation that occurred within the data was the lack of information to see whether there was a correspondence between race/ethnicity of the primary care physician and the race/ethnicity of the patient. This information was not added as a question to the original survey, but could have proven to be of great significance to the study and could prove to be an important factor for future research. Moreover, if an association was found, physician training would need to be implemented to deal with a variety of ethnicities in an efficient manner. Furthermore, a larger sample size could have shown more relationships within the data as well.

Suggested Further Research

Latinos were most negatively affected within this study, which may be due to a number of multilevel factors including health access, insurance coverage and language barriers. These findings suggest a need for greater multi-component efforts including physician referral, coverage and addressing cultural

and personal barriers to increase CRC screening in under-served populations. Minorities, especially those who are immigrants and not proficient in English, are more likely to be uninsured compared to other minority groups and European Americans. Moreover, the data used for this study did not find convincing evidence that support the existing high CRC mortality rates within minority communities due to a lack of physician recommendations. Therefore, further research is needed to examine the high CRC mortality rates within the minority community. Also, "low-income non-citizen adults generally have lower levels of access to physician services than citizens who are of the same race or ethnicity, but the disparity between non-citizens and citizens is the widest for Latinos" (Ku & Waidmann, 2003, p. 13). Random samples of minorities, specifically Hispanics/Latinos, who do not have health insurances or access to health services, are important for longitudinal studies.

"Risk tools that communicate a level of cancer risk may also be generally valuable for teaching information about modifiable risk factors, because they require individuals to note specific behaviors related to risk for disease" (Larkey, & Gonzalez, 2007, p. 273). This study shows that the Hispanic/Latino participants reported low numbers of CRC screening recommendations by their primary care physician. Further research to accurately see how the patient's knowledge could be improved when visiting his primary care physician would empower the patient to take control of his/her health and not to rely on his physician to recommend CRC screenings to him/her.

Conclusion

In sum, this study was to examine physician recommendations for CRC screenings among Caucasians and minorities. The results of this study did not demonstrate a large enough significance between Caucasians and minorities, specifically African Americans, to draw a comprehensive conclusion. However, what was displayed was the lack of physician recommendations within the Hispanic/Latino community. It is with great hope that this study sheds light on the lack of screening recommendations by a primary care physician for different racial groups and will further the CRC screening research within minority communities.

APPENDIX A

INSTITUTIONAL REVIEW BOARD APPROVAL

CALIFORNIA STATE UNIVERSITY
SAN BERNARDINO

Academic Affairs
Office of Academic Research • Institutional Review Board

September 17, 2010

CSUSB INSTITUTIONAL REVIEW BOARD
Administrative Review
IRB# 10016
Status
APPROVED

Ms. Patrina Archie
c/o: Prof. James V. Fenelon
Department of Sociology
California State University
5500 University Parkway
San Bernardino, California 92407

Dear Ms. Archie:

Your application to use human subjects, titled, "Health Disparities: A Look at Colorectal Cancer Screenings in the Minority Community" has been reviewed and approved by the Chair of the Institutional Review Board (IRB) of California State University, San Bernardino and concurs that your application meets the requirements for exemption from IRB review Federal requirements under 45 CFR 46. As the researcher under the exempt category you do not have to follow the requirements under 45 CFR 46 which requires annual renewal and documentation of written informed consent which are not required for the exempt review category. However, exempt status still requires you to attain consent from participants before conducting your research.

The CSUSB IRB has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval notice does not replace any departmental or additional approvals which may be required.

Although exempt from federal regulatory requirements under 45 CFR 46, the CSUSB Federal Wide Assurance does commit all research conducted by members of CSUSB to adhere to the Belmont Commission's ethical principles of respect, beneficence and justice. You must, therefore, still assure that a process of informed consent takes place, that the benefits of doing the research outweigh the risks, that risks are minimized, and that the burden, risks, and benefits of your research have been justly distributed.

You are required to do the following:

1) Notify the IRB if any changes (no matter how minor) are made in your research prospectus/protocol.
2) If any adverse events/serious adverse/unanticipated events are experienced by subjects during your research.
3) And, when your project has ended.

Failure to notify the IRB of the above, emphasizing items 1 and 2, may result in administrative disciplinary action. You are required to keep copies of the informed consent forms and data for at least three years.

If you have any questions regarding the IRB decision, please contact Michael Gillespie, IRB Compliance Coordinator. Mr. Michael Gillespie can be reached by phone at (909) 537-7588, by fax at (909) 537-7028, or by email at mgillesp@csusb.edu. Please include your application identification number (above) in all correspondence.

Best of luck with your research.

Sincerely, Sharon L Ward, Ph.D.

Sharon Ward, Ph.D, Chair
Institutional Review Board

SW/mg

cc: Prof. James V. Fenelon, Department of Sociology

909.537.7588 • fax 909.537.7028 • http://irb.csusb.edu/
5500 UNIVERSITY PARKWAY, SAN BERNARDINO, CA 92407-2393

APPENDIX B

PERMISSION LETTERS FROM CITY OF HOPE

1500 East Duarte Road
Duarte, CA 91010-3000
Phone 626-256-4673
Ext:64537
Fax 626-301-8985
www.cityofhope.org

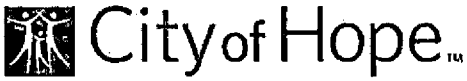
To
Professor Sharon Ward Ph.D. (Institutional Review Board Chair)
Department of Psychology
CSU San Bernardino
5500 University Parkway
San Bernardino, CA. 92407

Michael Gillespie (Institutional Review Board Coordinator/Compliance) B.S, M.P.A., C.I.P.
Administrative Analyst/Specialist
Office of Academic Research AD-179
CSU San Bernardino
5500 University Parkway
San Bernardino, CA. 92407

This letter is written to confirm that Patrina Archie obtained an internship position within the Center of Community Alliance for Research & Education (CCARE) at City of Hope. As part of this internship training Patrina has been granted access to an archival data set from our community which is stripped of all identifiable variables for the use for her Master's thesis project at CSUSB. The original data collected has met all Institutional Review Board requirements. The Institutional Review Board Identification number for this data set: 09042

If you have any questions or require further information, please don't hesitate to contact me at 626-256-4673, extension 64537; email:kashing@coh.org

Thank you,
Kimlin Ashing-Giwa, PH.D
Kimlin Ashing-Giwa, Ph. D.
Professor & Founding Director
Center of Community Alliance for Research & Education (CCARE)
Division of Population Sciences



1500 East Duarte Road
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Phone 626-256-4673
Ext:64537
Fax 626-301-8985
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To
Dr. Sandra Kamusikiri
Office of Graduate Studies & Assessment and Planning
CSU San Bernardino
5500 University Parkway
San Bernardino, CA. 92407

This letter is written to acknowledge that Patrina Archie has permission to use the colon cancer questionnaire issued by the Center of Community Alliance for Research & Education (CCARE) at City of Hope in collaboration with the African American outreach within her thesis at California State University, San Bernardino.

If you have any questions or require further information, please don't hesitate to contact me at 626-256-4673, extension 64537; email:kashing@coh.org

Thank you,

Kimlin Ashing-Giwa, PH.D

Kimlin Ashing-Giwa, Ph. D.
Professor & Founding Director
Center of Community Alliance for Research & Education (CCARE)
Division of Population Sciences

APPENDIX C

CITY OF HOPE QUESTIONNAIRE

For Office Use ONLY
Date _____ By_____
#

American Cancer Society®
African-American Outreach

Where did you get this survey?

Colon Cancer Questionnaire

1. Which age group do you belong to?
( ) 20-29 ( ) 30-39 ( ) 40-49 ( ) 50-59 ( )60-69 ( ) 70 & over

2. What is your gender?
( ) Male ( ) Female

3. What is your race ? (check all that apply)
( ) African-American ( ) Caucasian ( ) Native
( ) Hispanic/Latino ( ) Asian Pacific Islander ( ) Other

4. What is your highest level of education?
( ) Grade school ( ) College
( ) High school ( ) Post graduate training

5. What is your income level?
( ) Less than $30,000 ( ) $30,000-$60,0000 ( ) Greater than $60,000

6. What type of insurance do you have?
( ) PPO ( ) HMO ( ) Medicare ( ) None

7. Do you have a primary care physician?
( ) Yes ( ) No

8. Has your primary care physician talked to you about colon cancer screening?
( ) Yes ( ) No ( ) Not applicable

9. Has your primary care physician *recommended* that you obtain a fecal occult blood test/ **FOBT** (test where a stool sample is given to see if blood is present)?
( ) Yes ( ) No ( ) Not applicable

9.a If so, did you take the exam?
( ) Yes ( ) No ( ) Not applicable

10. Has your primary care physician *recommended* that you receive a flexible sigmoidoscopy (a short tube with a camera placed into the rectum to look at bowel)?
( ) Yes ( ) No ( ) Not applicable

10.a If so, did you take the exam?
( ) Yes ( ) No ( ) Not applicable

1

American Cancer Society
African-American Outreach

11. Has your primary care physician *recommended* that you receive a colonoscopy (a long tube with a camera placed into the rectum to look at the bowel)?
( ) Yes ( ) No ( ) Not applicable

11.a If so, did you take the exam?
( ) Yes ( ) No ( ) Not applicable

12. To the best of your knowledge is colon cancer preventable?
( ) Yes ( ) No ( ) Don't know

13 To the best of your knowledge, is colon cancer curable if it is diagnosed early?
( ) Yes ( ) No ( ) Don't know

14. To the best of your knowledge, is prostate cancer curable if it is diagnosed early?
( ) Yes ( ) No ( ) Don't know

15. Is colon cancer more common in African-Americans?
( ) Yes ( ) No ( ) Don't know

16. Is breast cancer mortality more common in African-American women than in women from other racial groups?
( ) Yes ( ) No ( ) Don't know

17. Have you had a history of colon cancer?
( ) Yes ( ) No ( ) Don't know

18. Have you ever had a polyp/growth in your colon?
( ) Yes ( ) No ( ) Don't know

19. Do you have a family history of colon cancer or colon polyps?
( ) Yes ( ) No ( ) Don't know

20. Colonoscopy is now covered by Medicare to screen for colorectal cancer in people aged 50 nor over. At the appropriate age, would you consider having a colonoscopy?
( ) Yes ( ) No

21. [FOR MEN ONLY] Has your primary care physician talked to you about prostate cancer screening?
( ) Yes ( ) No ( ) Not applicable

22. [FOR WOMEN ONLY] Has your primary care physician talked to you about obtaining a mammogram (machine used to examine the breast to see if breast cancer is present)?
( ) Yes ( ) No ( ) Not applicable

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