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ABSTRACT

The morbidity and mortality rates for cancer are higher for blacks than for whites. The following three contending theories offer possible explanations for these rates: (1) the histology types among cancers of the same site are distributed differently for blacks and whites; (2) there is increased susceptibility in lower social classes, of which many blacks are members; and (3) early detection of cancer is less frequent among minority populations. The latter explanation shows the necessity for developing educational interventions to increase cancer awareness. To design these interventions and to assess the community understanding of cancer, a survey on cancer awareness was conducted. The findings were the following: (1) knowledge of cancer warning signs was high; (2) myths about cancer and its treatment were believed slightly more by women than men; (3) there was optimism that a cure would be found; and (4) cancer-related medical care behavior was fair to good. These findings imply that interventions are needed to demystify cancer, to increase the involvement of medical personnel in early detection, and to develop continuing education programs especially for older people. This paper includes a list of 23 references and 9 tables of statistics. (VM)

Cancer Awareness and Secondary Prevention Practices In Black Americans: Implications for Intervention

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Cancer Awareness and Secondary Prevention Practices
In Black Americans: Implications for Intervention

The American Cancer Society (ACS) has estimated that between 1980 and 1989, an estimated 10 million people will be under care for cancer, an additional six and a half million new cases will be diagnosed. Of this latter group, 54 percent will eventually succumb to their disease. The most common sites of cancer in men are the lungs, prostate, colon and rectum, urinary bladder and stomach. For women, the most common sites are the breasts, colon and rectum, uterus and cervix and the lungs (1,2). These sites account for over 40 percent of cancer cases and cancer deaths in the United States. Alcohol, smoking, nutrition, and such environmental exposure such as sunlight, radiation, occupation, and medications are considered important factors in the non-random distribution of cancer in industrialized countries (3). Reductions in smoking, dietary fats and environmental exposures account for the decline in other non-infectious diseases, e.g. heart disease, cancer morbidity and mortality rates for most cancer sites are either increasing or remaining constant.

The above ACS statistics include all ethnic groups. A comparison of only White and Black populations reveal a significantly poorer outcome for Blacks (4,5). For each of the following cancer sites which affect individuals 40 to 70, cancer of the prostate. colon, rectum, bladder. larynx,

breast, cervix and uterus, the survival rates for the Black population are poorer than for the White population (6,7).

Age adjusted survival differences for the major sites are presented below (8):

Table 1 About Here

While there is no conclusive evidence to support any single theoretical explanation which can account for these significant differences between Black and White populations, the contending theories are briefly described. One explanation is based on differences in the distribution of histology types among cancers of the same site. If the distribution is different for the Black and White populations, with the former group having a higher proportion of more aggressive cancers, then this could explain poorer survival rates. The data on the histology of cervical uterine cancers, for example provides evidence for this explanation (6,7,9). This explanation, while plausible, is not useful as a guide to the primary or secondary prevention of cancer since it targets possible treatment strategies to control the more aggressive forms of cancer.

A second partial explanation of poor survival comes from the field of social epidemiology and contends that susceptibility of the host is greater among certain population groups. One source of this increased susceptibility is the individuals social class background. Berkman and Syme (10) develop a persuasive case for socio-economic status being the explanation for differences in mortality not only for cancer, but also for other major infectious and non-infectious diseases. A recent study by Bassett and Krieger (11) indicates that the excess deaths from breast cancer found among the Black woman is not eliminated after controlling for

age and disease stage, but is when several indicators of socio-economic status of the household are included (these measures are based on census data concerning the geographical location of the household). From this perspective, one would argue that it is not being Black that places the individual at higher risk for cancer, but because there is a high correlation between being Black and being of lower socio-economic status. Thus, the socio-economic status explanation would argue that intervention strategies be targeted to the lower socio-economic subpopulation.

Diagnosis of cancer when the tumor is more advanced also may result in poorer survival. Early detection of cancer is less frequent among minority populations. Support for this explanation comes from a recent study of SEER in Detroit, Michigan where the incidence rates of localized, regional, and remote breast cancer between Black and White women by age at diagnosis were examined. The findings indicate that older women, particularly Black women, are at elevated risk for being diagnosed with most advanced form of breast cancer (12). However, early detection of cancer varies within the Black population, findings from a public hospital in Brooklyn, New York indicates that invasive cervical cancer was diagnosed in more advanced stages in Haitian and English speaking Black Caribbean immigrants than in US-born Black women (13).

Poorer cancer awareness has been cited as another major cause of poorer survival and higher mortality rates among Black populations. According to a 1980 survey conducted by the American Cancer Society, Blacks are only half as likely as Whites to identify 5 or more of cancer's 7 warning signs (25 percent compared to 54 percent of Whites). Even for a recognized symptom such as "persistent cough or continuing hoarseness,"

only 40 percent of the Black sample could identify it as an early warning sign compared to 64 percent of Whites. Further, Blacks are likely to underestimate the prevalence of cancer as well as underestimate its curability (14). Less frequent use of early detection practices such as mammography, Pap tests, blood stool tests within the Black population and between the Black and White populations may also account for survival differences (13).

This approach explains the problem of differentials in cancer mortality and survival as due to lack of awareness of cancer and poorer use of primary and secondary prevention practices in Black populations. The problem is explained in terms of factors, many of which are modifiable, that promote the delay in seeking medical care for cancer to life circumstances such as poverty, lack of education, help-seeking behaviors; (especially the episodic use of medical care), delays in seeking diagnosis and treatment due to beliefs about the curability of cancer as well as to lack of health insurance or money to pay for medical care, and life style (including sexual behaviors, the use of alcohol, drugs, smoking and nutritional habits).

The various explanations discussed above all have a certain usefulness. However, in designing community intervention programs, the cancer awareness approach has greater utility for Black community members because it affords them the opportunity to be actively involved in solutions to the cancer problem in their community.

In this view, the problem of poorer mortality and survival is assumed to be due to less frequent use of primary and secondary prevention practices resulting from poorer cancer awareness. The alternative

explanation (histological differences in certain cancer) though plausible, has less utility in planning a prevention program and is, therefore, not the focal point of the study. Poorer awareness leads to poorer outcomes as individuals present themselves to the medical care systems when their cancer is already at a later stage. Whether the delayed entry into the medical care system is due to less knowledge about cancer and its warning signs or less knowledge about cancer treatment and its curability is not known. Therefore, a survey about cancer awareness and the use of cancer detection practices was carried out to assess the community understanding of the cancer problem and to design intervention strategies appropriate to the community's knowledge and level of understanding. The community is an urban community in Northern California whose Black population comprises almost fifty percent of its total population.

The conceptual model guiding the design and collection of data was developed by Green and his colleagues to predict relationships between factors in secondary prevention of cancer (15). Its elements are common to general socio-behavioral models of health care utilization (16,17). Three sets of factors are believed to reduce delay in seeking care, these are predisposing factors, enabling factors, and reinforcing factors (15). Predisposing conditions included perception of symptoms and knowledge of their seriousness, belief in personal susceptibility to cancer and in its curability. Finally, support or pressure from family and friends is of great importance. Enabling factors include both system factors such as the availability of a physician, appropriate referrals within the health care system, and the existence of screening program.

Other enabling conditions include the individual's having a source of

medical care and existence of health insurance coverage for outpatient care. Finally, a set of reinforcing factors facilitates the individual's entry into the health care system. These include the individual's previous experiences with both cancer detection tests and with health care providers with the specific individuals relationship with his/her physician (16).

Thus, an individual will seek health care if the individual believes the problem to be serious, himself (herself) to be susceptible, has a positive relationship with this usual source of medical care, insurance to pay for this care and has had the test in the past.

METHODS

Background

This study is part of a larger program to decrease the avoidable mortality among Black residents of an urban community in Northern California. The program consists of a community organizing-health education intervention which will take place over a three-four year period. Outcome evaluation of the program consists of Pre-post surveys in the target community a comparison community. The data for these analyses come from the pre-intervention survey of Oakland.

Survey Design

A two-stage probability sample was drawn. A sample of 200 blocks were selected. The blocks were randomly selected if the Black population was 25 percent or greater using 1980 census data. Within these blocks, households were randomly selected. Using the Kish procedure (18), randomly selected individuals were interviewed face-to-face. If the

individual was not at home during the first visit, intensive efforts were made to interview that individual (each individual was called back at least three times). Only individual's 20 or older were invited to participate. The response rate was 67.0 percent.

Measurement

Data were collected on a number of attitudes, behaviors and beliefs about cancer and socio-demographic characteristics. The respondents' knowledge of cancer, their perception of their own susceptibility to cancer, their beliefs about their own risk, their understanding of its curability, and beliefs about the treatment for cancer. In addition, receipt of any of the following cancer tests as part of a routine physical examination or because of symptoms they experienced was assessed: breast examination, mammography, PAP smear, digital rectal exam, sigmoidoscopy, Hemacult testing. Respondents' health insurance, source of medical care, access to care, and difficulties in receiving medical care was also assessed.

Sample

The sample consists of 568 Black adults. A slightly larger number of the sample were females (317) than males (251). For both gender groups, a greater number of respondents were between 20-39 (N=300) than between 40-64 (N=177) or 65 or older (N=91). Thirty percent of sample had incomes less than $10,000; 23.1 percent's income was between $10,000 and $19,999; 36.3 percent of population had incomes between $20,000 and 44,999 and 10.4 percent had incomes greater than $45,000.

Analysis

First descriptive analyses of the data are presented. This includes

frequency distributions and basic cross-tabulations of measures of demographic variables and measures of susceptibility to cancer with measures of cancer awareness. Finally, models will be developed to help explain cancer awareness among Blacks.

RESULTS

Cancer Awareness and Early Detection Practices

In the ASC survey, knowledge of cancer's "seven warning signs" was assessed. Their measure survey used warning signs grouped together, while in the current survey measures have been disaggregated for comprehension. Thus, rather than seven warnings signs, the current survey assessed eleven symptoms and asked whether individuals would "see their physician right away" or "could wait awhile" before seeing their physician.

Knowledge of cancer warning signs was universally high among the sample ranging from 91.8 percent, who know that "vaginal bleeding either between menstrual cycles or after menopause "should be looked at right away, to 62.8 percent of the sample who believed that "a change in bowel habits" should be looked at right away (see Table 2).

Table 2 About Here

A note of optimism and hope is seen in the beliefs about cancer held by the Oakland residents (Table 3), as 89.2 percent believed that "someday a cure would be found for cancer"

Table 3 About Here

and 91.6 percent know that "there are certain kinds of cancer that are

more curable than others." Women were slightly more likely than men to believe in several myths about cancer--65 percent believe that "cancer is a death sentence for most people," 75.4 percent believe that "surgery can expose cancer to the air and cause it to spread," and 69.8 percent of women believe that "getting treated for cancer is often worse than the actual disease." Thus, it is not surprising that 43.5 percent of women (32.7 percent of men) believe surgery does more harm than good; 40.4 percent of women (34.7 percent of men) believe that chemotherapy does more harm than good; and 53.0 percent of women (40.8 percent of men) believe that radiation therapy does more harm than good (Table 4).

Table 4 About Here

Of the female respondents (N=317), 97.8 percent and 95.3 percent have had a PAP smear or breast exam; about two-thirds have had one in the past year. Fewer women have ever had a mammogram (27.8 percent), one-third for symptoms and two thirds as a routine exam. Almost 50 percent of respondents have had a digital rectal exam, 75 percent had one as part of a routine physical. Fewer respondents had a proctoscopic exam (19.8 percent) or a Hemacult test (Table 5).

Thus, this brief descriptive review of our findings indicate an awareness about symptoms, optimism about controlling cancer, fair to good medical care behavior, and yet a strong fatalistic attitude toward cancer and cancer treatment.

Table 5 About Here

Potential Predictors of Cancer Awareness

One explanation of the prevention practices of respondents has to do with their perceived susceptibility to cancer (Table 6).

Table 6 About Here

Individuals who perceive their risk of cancer to be greater would be more likely to engage in behaviors that might reduce their risk. The data do not support this assertion. In fact, the opposite seems to be the case. Individuals who perceive themselves to be less susceptible to cancer are more likely to have had cancer tests than those who believe that they are susceptible. However, the individuals who state they had a cancer test because of health problems were likely to perceive themselves susceptible to cancer. It is also interesting to determine who perceives themselves to be at risk (Table 7). Not surprising. If you know "someone who had had cancer",

Table 7 About Here

you are significantly more likely to perceive your own risk of getting cancer is higher. Of the four demographic factors--age, gender, income and education, only age predicts vulnerability. Surprisingly, the findings regarding age and health status are contra-intuitive. Younger people see themselves as more susceptible than do the elderly and if you believe your health status to be fair or poor, you are more likely to see yourself as susceptible to cancer.

The effects of age, income, education, gender, and type of insurance were assessed. Neither one's sex, education nor type of insurance cover-

age explain use of secondary prevention practices. Age (Table 8) and income (Table 9) are important. As seen in Table 8 older people are more likely to have a digital

Table 8 About Here

rectal exam, a proctoscopic exam and a blood stool exam. Older women (65+) are less likely to have a PAP test. This last result reinforces the finding that older individuals do not perceive themselves as susceptible, therefore may not take action. Regarding income (Table 9) and use of secondary prevention practices, access does become an issue for individuals in the lowest income categories.

Table 9 About Here

DISCUSSION

Discussion of Findings

These analyses suggest that the level of knowledge of cancer warning signs is high among the Black population in this urban center of Northern California. The American Cancer Society Survey of 1980 (19) indicates only 25 percent of Blacks know 5 of 7 cancer warning signs. In this study 60.6 percent of these respondents believed that for 10 of 11 symptoms, one should see the doctor right away. A symptom like hoarseness was recognized by 79.7 percent of our sample, compared to 40 percent of the ACS survey. However, beliefs in the efficacy of treatment are lower. A large proportion of the sample still believe that cancer can be spread by air and is a death sentence.

While our findings indicate improvement in knowledge of cancer warning signs, these improvements may be partially explained by differences in the survey population as well as differences in the measures used in the two surveys. The ACS survey was carried out in the Eastern portion of the country and measured respondents' recognition of the "seven warning signs." Some of the warning signs are actually groups of symptoms (e.g. "change in bowel or bladder habits"). They are also asking for knowledge in a school test-type format, which may make respondents uncomfortable. To eliminate these problems, signs of serious medical problems including cancer were made more specific and individuals were asked whether the problem should be seen right away or could wait awhile. In this way, we hoped to eliminate curing the respondent to the answer we wanted, but did not directly test the respondent's recognition of each of the grouped warning signs. Both regional differences in knowledge and measurement bias can account for the improvements in knowledge.

Neither gender nor type of insurance affected the use of early detection tests of respondents. Education was negatively related to having had these tests--those less than high school education were more likely to have had the tests than those with more education. While type of insurance did not relate to having had cancer tests the past year, individuals with no insurance were 20 percent less likely to have had such exams.

Consistent with expectations, older respondents were less likely to see themselves as susceptible to cancer. This translated into being less likely to have a routine PAP smear. While they apparently are more likely to be seeing their physicians for chronic conditions, they are less likely

to be monitored preventively, i.e., before their awareness of symptoms. These findings suggest that health education should be targeted to this group.

Perceiving oneself as susceptible to cancer does not mean that the individual is more likely to use early detection practices. In fact, with one exception, the opposite appears to have happened. That is, individuals with high susceptibility are less likely to take action. To understand this apparent barrier to taking action, some preliminary analyses into the causes and consequences of susceptibility are in progress. Age is a predictor of susceptibility and is mediated by knowing someone who has cancer. The belief that cancer is spread by air also predicts susceptibility. However, susceptibility does not predict taking acting. Instead, it predicts the belief that cancer is a death sentence. As we continue to understand the relationship of these myths to each other we will be better able to design intervention that can overcome the socio-psychological barriers to using early detection practices.

These data suggest that the lack of secondary prevention is less related to inadequate knowledge of the importance of symptoms and their needs for follow-up than it is to the fear of cancer. This fear is perpetuated by overestimates of cancer prevalence, underestimates of its cure and/or control, and fears about the types of cancer treatment. These fears are expressed more by women than than by men in the sample. A large percentage of the women in the sample. especially women over 65, have not had cancer prevention tests. However, the poor secondary prevention of this group is probably only partly due to the constellation of negative beliefs about cancer and its treatment.

Generally, the physician not the patient initiates the request for a early detection test. Thus the low utilization of cancer test is also understandable in view of recent survey of over a thousand primary care physicians conducted by the American Cancer Society (1985). This survey found that only 11 percent of physicians state they observe the Cancer Society's guideline for use of mammography, 18 percent for protoscopy, 48 percent for stool blood exams, 50 percent for digital rectal exams, and 75 percent observe the guidelines for Paps smears. The utilizations of cancer secondary prevention practices is reinforced by the attitudes toward these tests by primary care physicians(19), Thus, when asked in the current survey or in one ten years ago elsewhere in the state whether a woman would have a mammography if suggested by their physician, the overwhelming response was "yes". (20)

Implications for Intervention

The findings of the survey have implications for all three sets of factors in the conceptual model.

Predisposing Factors: Even with the caveats discussed above, knowledge of cancer warning signs appears high. This suggests that ACS has been successful in educating the public as to what the warning signs are and further effort in the direction would be both inefficient and redundant. Knowledge of other predisposing factors do provide information on areas of concern. Belief in personal susceptibility to cancer and its curability is less widespread. These beliefs are negatively related to each other and are also related myths about how cancer is spread. Cancer continues to be a "fear" word, a conversation stopper. Our experience in the community indicates that individuals are not interested in discussing how

a cancer education program might be developed for this community. To utilize the oral tradition of the Black community, efforts should be directed to desensitizing cancer. The use of local residents who are cancer survivors to publicize the cure and control of cancer is one strategy. Indeed, an early study by Eardley (21) found that increased assurance of curability reduced delay in seeking care for breast symptoms. Other strategies include using both the formal (e.g. the mayor's office) and informal structure (e.g. ministers and other influential community members) of the local community. In all these efforts the link between early detection and survival should be emphasized.

Enabling Factors: As such a campaign will be directed to the entire community, the importance of family and friends as facilitations must also be encouraged. Help seeking for health and other problems is often a two-step process. An individual who is worried about a problem will usually seek advise form a member of his social network (family and friends) prior to seeking professional assistance (22,23). Utilizing natural helping systems composed of friends and kin has been cited as an effective method of assisting members of the Black community to seek help. Neighbors and Jackson (23) found that regardless of age, gender, or socioeconomic status, most individuals seek help for physical symptoms through informal or a combination of informal and professional channels. Few (8.2) go directly to the professional sources for help. Interventions using these natural albeit informal systems of social support would appear useful. This can be accomplished by training community members who have experience as volunteers to be sources of assistance in the community in helping individuals identify the need for medical follow-up for physical

symptoms and to desensitize myths about the incurability of cancer.

As discussed earlier, the ACS survey of primary care physicians found that the ACS guidelines for secondary prevention tests are not uniformly followed. Thus, getting community residents to the physician's office is not likely to solve the problem by itself. While an assertive individual will be successful in getting a cancer prevention checkup, the prescription for most diagnostic and screening tests continue to be initiated by the physician. In addition, reimbursement policies of insurers and health maintenance organizations discourage "unnecessary lab tests and x-rays". Therefore, it is critical to involve the medical community in the development of community programs whose purpose is to increase the early detection of cancer. Physicians and other health providers whose services are used by the Black community need to discuss what types of early detection protocals make sense for their community. For example, the ACS guidelines for the early detection of breast and prostate cancer do not completely fit the epidemiology of these cancers among Blacks where data indicate an earlier onset (8). For example. the guidelines suggest that all men over 50 have an annual digital rectal exam. Since the incidence of prostate cancer in Black males is higher in the 40-50 age group, it has been suggested in our community that an annual digital-rectal exam be recommended for all Black males over 40.

Reinforcing Factors: Our assessment has indicated that older women are less likely to perceive themselves as susceptible to cancer and are less likely to receive cancer screening tests, e.g. Pap smears. It is important to differentiate whether people are receiving less tests because of physician referral behavior or because of less frequent use of

the medical care system needs as intervention strategies will differ. The intervention strategy for the former was discussed above. In planning protocals and, perhaps, developing continuing education programs it will be important to emphasize incidence of cervical cancer in older age groups.

Our evidence, however, suggests that this group may not be receiving tests because they are not seeing physicians as routinely as they were during child bearing. When they do occur, physician visits are for a chronic health condition such as hypertension or diabetes where general screening for preventive health is less frequent. In either case, this group is one group for whom intervention should be targeted.

In conclusion, the objective of the study was to assess a community's understanding of cancer in order to design a secondary prevention program to increase cancer survival among Blacks. The Green model was utilized as the theoretical framework to assess the problem of cancer awareness, The comphensiveness of the model was useful in guiding the development of our assessment survey and subsequent data analysis. However, our findings suggest that this model needs further specification as a guide to action for use with this population for this problem.

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Table 1

Five-year Relative Survival Rates for Black and White Populations for selected cancer sites: 1973-81 (percent) (8)

CANCER SITE	BLACKS	WHITES
	percent	percent
Bladder	50.0	74.0
Breast (female)	63.0	75.0a
Cervix Uteri	63.0	68.0b
Corpus Uteri	57.0	88.0
Colon and Rectum	44.0	51.0c
Larynx	59.0	67.0d
Prostate	59.0	69.0e

a - Survival rate for Japanese is highest at 85.0 percent

b - Survival rate for Hawaiians is highest at 73.0 percent

c - Survival rate for Japanese is highest at 59.0 percent

d - Survival rate for Hawaiians is highest at 79.0 percent

e - Survival rate for Hawaiians is highest at 85.0 percent

Table 2

Number and percentage of individuals who know that cancer signs should be seen right away (N = 568)

	SYMPTOMS	CAN WAIT A WHILE		SHOULD BE LOOKED AT RIGHT AWAY	
		percent	(N)	percent	(N)
1.	A sore that was not healing	17.3	(98)	82.7	(469)
2.	A lump or thichening in breast or somewhere else in the body	5.1	(29)	94.9	(539)
3.	A clear or bloody discharge from the nipples	1.6	(9)	98.4	(559)
4.	A persistent cough without a cold	25.6	(145)	74.4	(422)
5.	Hoarseness that would not go away	20,3	(115)	79.7	(452)
6.	A change in bowel habits	37.2	(211)	62.8	(356)
7.	Blood on the paper after a bowel movement	18.4	(104)	81.6	(461)
8.	Frequent indigestion or difficulty swallowing	16.5	(94)	83.5	(474)
9.	A mole that suddenly become larger or darker	15,7	(89)	84.3	(479)
10.	Having trouble starting to urinate	9.5	(54)	90.5	(513)
11.	Vaginal bleeding either between menstrual periods or after menopause	8.2	(46)	91.8	(518)

Table 3

Beliefs about Cancer Among Black Male and Female Residents of Oakland, California (N-568)

Beliefs	Male				Female			
	Agree		Disagree		Agree		Disagree	
	%	(N)	%	(N)	%	(N)	%	(N)
(1) Getting cancer is a death sentence for most people * *	56.2	(141)	41.8	(105)	65.0	(206)	35.0	(111)
(2) Surgery can expose cancer to the air and cause it to spread *	54.2	(136)	43.2	(108)	75.4	(239)	24.0	(76)
(3) Someday a cure will be found for cancer	89.2	(223)	9.6	(24)	89.2	(281)	10.5	(33)
(4) Getting treated for cancer is often worse than the actual disease *	55.6	(139)	41.2	(103)	69.8	(220)	27.9	(88)
(5) There are certain kinds of cancer that are more curable than others	91.6	(230)	4.8	(12)	93.4	(296)	5.4	(17)
(6) If you had cancer you would rather not know about it	19.4	(48)	80.6	(199)	24.8	(78)	75.2	(237)
(7) You would worry about getting cancer if you spent much time with someone who had it * * *	25.9	(64)	74.1	(183)	19.9	(63)	80.1	(254)

* X_2 Statistically Significant ($p. < .01$)
* * X_2 Statistically Significant ($p. < .07$)
* * * X_2 Statistically Significant ($p. < .11$)

Table 4
Perceptions of Cancer Treatment Efficacy Among Black Males and Females

	Does more Good Than Harm				Does more Harm Than Good				No Idea			
	Male		Female		Male		Female		Male		Female	
	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)	%	(N)
(1) Surgery	59.8	(150)	50.2	(158)	32.7	(82)	43.5	(137)	7.6	(19)	6.3	(20)
(2) Chemotherapy	56.6	(142)	51.1	(162)	34.6	(87)	40.4	(128)	8.8	(19)	8.5	(27)
(3) Radiation or X-ray Treatment	50.0	(125)	36.8	(116)	40.8	(102)	53.0	(167)	9.2	(23)	10.2	(32)

Table 5
Cancer Prevention Practices of Black Males and Females

Preventive Tests	Percent	(N)
Female Only (N=317)		
(1) Had a Pap Smear:	97.8	(310)
If yes, was it because of:		
(a) Symptoms	5.2	(16)
(b) Routine Physical	94.8	(294)
(c) Past 12 months	67.2	(208)
(2) Had a breast exam:	95.3	(302)
If yes, was it because of:		
(a) Symptoms	9.3	(28)
(b) Routine Physical	90.6	(273)
(c) Past 12 months	71.0	(214)
(3) Had a mammogram:	27.8	(88)
If yes, was it because of:		
(a) Symptoms	34.2	(26)
(b) Routine Physical	65.8	(50)
Male and Female (N=586)		
(4) Had a digital rectal examination:	71.8	(408)
If had, was it because of:		
(a) Symptoms	25.0	(100)
(b) Routine Physical	75.0	(300)
(5) Had a proctoscopic examination:	19.8	(112)
If had, was it because of:		
(a) Symptoms	46.8	(52)
(b) Routine Physical	53.2	(59)
(6) Had a blood stool examination:	37.9	(215)
If had, was it because of:		
(a) Symptoms	34.8	(73)
(b) Routine Physical	65.2	(137)

Table 6

PREVENTION PRACTICES AS A FUNCTION OF PRECEIVED VULNERABILITY

PRACTICE	VULNERABILITY HIGH percent (N)	LOW percent (N)	CHI SQUARE
Routine physical			
1+during year	54.4 (137)	55.3 (145)	n.s.
None	45.6 (115)	44.7 (117)	
Digital rectal exam			
Routine P.E.	72.1 (124)	80.3 (151)	.09
Health Problem	27.9 (48)	19.7 (37)	
Proctoscopic Exam			
Routine P.E.	51.0 (26)	61.7 (29)	n.s.
Health Problem	59.0 (25)	38.3 (18)	
Blood Stool Exam			
Routine P.E.	55.7 (49)	73.3 (66)	.02
Health Problem	44.3 (38)	26.7 (24)	
Pap Smear			
12 mos.	66.4 (93)	69.3 (97)	n.s.
1+yr	33.6 (47)	30.7 (43)	
Breast Exam			
Routine P.E.	94.1 (127)	86.1 (118)	.03
Health Problem	5.9 (8)	13.9 (19)	
Mammography			
Routine P.E.	50.0 (16)	80.0 (28)	.02
Health Problem	50.0 (16)	20.0 (7)	

TABLE 7

PREDICTORS OF VULNERABILITY TO CANCER

PREDICTORS		VULNERABILITY HIGH percent (N)	LOW percent (N)	CHI SQUARE
1. Know somewone with cancer	Yes	53.3 (180)	46.7 (158)	.01
	No	46.7 (158)	60.0 (105)	
2. Respondent's Age				
20-39		51.0 (146)	49.0 (140)	.002
40-64		53.5 (84)	46.5 (73)	
65+		30.1 (22)	69.9 (51)	
3. Health Status				
Good - Excellent		53.5 (180)	40.0 (70)	.006
Fair - Poor		46.7 (158)	60.0 (105)	

TABLE 8

USE OF PREVENTIVE TESTS FOR EACH AGE GROUP

PREVENTIVE TEST		AGE						CHI SQUARE
		20-39		40-64		65+		
		percent	(N)	percent	(N)	percent	(N)	
1. Digital Rectal Exam	Yes	60.3	(181)	82.5	(146)	89.0	(81)	.0000
	No	39.7	(119)	17.5	(31)	11.0	(10)	
2. Proctoscopic Exam	Yes	7.7	(23)	31.1	(55)	37.8	(34)	.0000
	No	92.3	(277)	68.8	(122)	62.2	(56)	
3. Blood Stool Exam	Yes	19.3	(58)	57.1	(101)	61.5	(56)	.0000
	No	86.7	(242)	42.9	(76)	38.5	(35)	
4. Pap Smear	< 12mos.	80.6	(137)	56.7	(51)	41.2	(21)	.0000
	1+yrs	19.4	(33)	43.3	(39)	58.8	(30)	
5. Breast Exam	< 12mos.	74.8	(122)	66.3	(57)	66.7	(32)	n.s.
	1+yrs	25.2	(41)	33.7	(29)	33.3	(16)	

TABLE 9

Use of Preventive Tests By Type of Insurance

Preventive Test		Type of Insurance: Private Insurance percent (N)	Medicare percent (N)	Medi-cal percent (N)	HMO's percent (N)	No Insurance percent (N)
1. Digital Rectal Exam *	Yes	76.9 (103)	80.0 (40)	70.8 (63)	72.3 (162)	54.2 (32)
	No	23.1 (31)	20.0 (10)	29.2 (26)	27.7 (62)	45.8 (27)
2. Proctosiopic Exam * *	Yes	17.2 (23)	28.6 (14)	27.0 (24)	19.6 (44)	8.5 (5)
	No	82.8 (111)	71.4 (35)	73.0 (65)	80.4 (180)	91.5 (54)
3. Blood Stool Exam	Yes	35.8 (48)	52.0 (26)	40.4 (36)	37.1 (83)	32.2 (19)
	No	64.2 (86)	48.0 (24)	59.6 (53)	62.9 (141)	67.8 (40)
4. Pap Smear * < 12mos.		88.1 (52)	38.5 (10)	58.8 (40)	67.5 (85)	69.0 (20)
1+yr.		11.9 (7)	61.6 (16)	41.2 (28)	32.5 (41)	31.0 (9)
5. Breast Exam < 12mos.		87.5 (49)	68.0 (17)	67.2 (41)	66.9 (83)	67.9 (19)
* * * 1+yr.		12.5 (7)	32.0 (8)	32.8 (20)	33.1 (41)	32.1 (9)

* x^2 Statistically Significant ($p < .01$)
* * x^2 Statictically Significant ($p < .03$)
* * * x^2 Statictically Significant ($p < .06$)