

Primary care physicians' knowledge, attitudes and practices related to cancer screening and cancer prevention clinical trials

Abstract: Native Hawaiians have high cancer incidence and mortality rates, thus would benefit from timely cancer screening and opportunities to participate in cancer prevention clinical trials. Two-hundred-fifty-four (254) primary care physicians (PCPs) were surveyed for their knowledge, attitudes, and practices related to cancer screening and prevention, clinical trials and participation of Native Hawaiians in them. More than 90% of responding PCPs follow guidelines for breast and cervical cancer screening and counsel patients on smoking cessation, and 75% or greater follow guidelines for colonoscopy/sigmoidoscopy testing and counsel patients on exercise, diet, and weight management. About 60% reported familiarity with at least one of three prevention trials offered at the time of the survey, and 28% reported having referred or recommended patients to cancer prevention trials in the past. Major barriers to discussing trials with patients included lack of awareness on the part of physicians and patients, limited support staff, and time constraints. Less than 30% of respondents were aware of community resources supporting cancer research. This study indicated that Hawai'i PCPs follow national guidelines for cancer screening, and many are aware of ongoing prevention trials. However, additional participation in cancer screening and prevention activities will require attention to reducing logistical barriers and increasing awareness of cancer information and research services. **Key Words:** Native Hawaiians, neoplasm, patient participation, physicians, randomized controlled trials

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Introduction

Native Hawaiians have the highest overall cancer incidence rates and the highest age-adjusted cancer mortality rates in Hawai'i¹. When compared nationally, Native Hawaiians have the fourth highest incidence rate of all ethnic groups and the second highest mortality rate for all cancers combined². Higher rates of cancer mortality can be attributed, in part, to the fact that many Hawaiian cancer patients present with late-stage cancer and have poor access to state-of-the-art early detection and cancer care³.

Primary care physicians (PCPs) play an important role in cancer screening and prevention. Physician compliance

with cancer screening recommendations has improved over the past decade, which has contributed to decreased overall cancer incidence and mortality rates^{4,5}. In national surveys, 80 to 90% of PCPs report that they routinely perform breast, cervical, skin, prostate and colon cancer screening exams^{4,6,7}. Additionally, more than half report regularly counseling their patients on physical activity, nutrition, and weight control, and more than 90% report counseling on smoking cessation^{4,8-10}.

Physicians play important roles in discussing and referring patients to clinical trials, although numerous barriers to patient recruitment and retention have been identified¹¹⁻¹³. Among physicians, PCPs would be the best source of referral to cancer prevention clinical trials, given that these trials are directed to the general population. However, research suggests that PCPs may be reluctant to do so because they are concerned that patients may feel the physician is a bigger advocate for research than for patients and that the continuity of patient care will be compromised¹⁴. Inadequate accrual of patients in clinical trials, whether for treatment or prevention, however, limits the advancement and generalizability of cancer research. Participation in trials of cancer treatment is low. Nationally, under 3% of cancer patients enter into clinical trials, and minority representation is much less¹¹. Locally, about 2% of Hawai'i residents diagnosed with cancer participate in treatment clinical trials¹⁵.

Many Native Hawaiians see PCPs for their medical concerns, and studies have shown that these physicians are influential in their health care, including cancer screening. In light of the high rates of cancer in Native Hawaiians and the influence of physicians on cancer screening rates, a study was conducted to survey knowledge, attitudes, and practices relating to cancer screening and prevention clinical trials among PCPs in Hawai'i. The objectives were 1) to

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identify barriers to physician cancer screening practices, 2) to identify barriers to referring Native Hawaiian patients to cancer prevention clinical trials, and 3) to recommend interventions to increase screening and accrual rates.

Methods

Sample and survey distribution

This study included 100% of PCPs identified through the Hawai'i Medical Association: 454 internists, family and general practitioners, and OB/GYN specialists who were actively practicing medicine in the state of Hawai'i in 2000-2001. The self-administered questionnaire was approved by the Native Hawaiian Health Care Systems-Institutional Review Board and mailed with a coded return envelope with postage pre-paid. Two weeks later, an identical questionnaire was mailed to non-respondents and, beginning two weeks after the second mailing, three or more reminder phone calls were made. Surveys were faxed to the remaining non-respondents upon request. The surveys were returned by mail or faxed back over a 12-month period, and data received were analyzed by September 2002.

Measures

Literature on cancer screening practices and patient accrual to clinical trials was reviewed to design the 22-item survey tool¹¹⁻¹³. Demographic items on the survey included ethnicity, medical specialty, years in practice, current practice location and size, percentage of Hawaiian/Part Hawaiian patients in each physician's practice, and the number of patients diagnosed with cancer in the past year. Physicians were surveyed for their familiarity with cancer screening guidelines and their cancer screening practice patterns. A series of questions referred to cancer prevention clinical trials, physician interest in these trials, comfort discussing them, attitudes toward these trials, trial referral patterns, and barriers to participation. Another series of items asked how well-informed physicians felt about the available trials and other cancer-related services, whether they would like more information, and, if so, what sources they would consider to be most influential. Because there was particular interest in how to increase screening and trial participation among Native Hawaiians, open-ended questions were included for respondents to write more about barriers and to provide specific suggestions for increasing Native Hawaiian participation in cancer screening and prevention trials.

Analysis

Data were entered and analyzed using SPSS 10.0, a computer-based statistical package appropriate to questionnaire data analysis. Means and frequencies were calculated.

Results

Respondent characteristics

Of the 454 surveys distributed, 254 (54%) were returned. Among respondents, almost half were medical internists, 29% were family practitioners, 18% specialized in obstetrics/gynecology (OB/GYN), and 7% were general practitioners (Table 1). Almost half of the sample was Asian (Japanese, Chinese, Korean, or Filipino) and 33% was Caucasian. Native Hawaiian physicians were over-represented, comprising 15% of the sample (they comprise approximately 5% of licensed physicians in Hawai'i)^{16,17}. Most respondents (72%) were practicing on the island of O'ahu, and 80% had been in practice for more than 10 years. Practice size varied, and about 40% of practices had a clientele of at least 10% Native Hawaiians.

Table 1. Sample characteristics of PCP respondents (n=254)

	n (%) ^a
Primary specialty	
Internal medicine	117 (46)
Family practice	73 (29)
OB/GYN	45 (18)
General practice	17 (7)
Ethnicity	
Caucasian	84 (33)
Japanese	55 (22)
Chinese	26 (10)
Filipino	17 (7)
Korean	9 (4)
Native Hawaiian	39 (15)
Mixed	9 (4)
Other	9 (4)
Years practicing medicine	
0-10	49 (20)
11-30	169 (70)
>30	25 (10)
Location of your practice	
O'ahu urban	120 (47)
O'ahu rural	48 (19)
O'ahu urban and rural	12 (5)
Neighbor island	66 (26)
Number of patients in your practice	
< 1,000	64 (25)
1,000-2,000	82 (32)
> 2,000	94 (37)
Proportion of your patients that are Native Hawaiian	
< 5%	62 (24)
5-10%	79 (31)
11-20%	54 (21)
> 20%	46 (18)

^a Percentages may not total 100 due to missing data and rounding.

Table 2. Awareness and use of cancer screening guidelines

	How familiar are you with current national guidelines for the following practices in healthy asymptomatic patients? ^b			Do you perform, prescribe or recommend the following services according to current national guidelines as part of health care maintenance? ^b		
	Not familiar n (%)	Somewhat familiar n (%)	Very familiar n (%)	Inconsistently n (%)	Most of the time n (%)	Always n (%)
Mammography	1 (1)	31 (12)	215 (85)	12 (4)	78 (31)	157 (62)
Pap smear	4 (2)	31 (12)	212 (84)	16 (7)	76 (30)	154 (61)
Endoscopy ^a	4 (2)	34 (13)	208 (82)	42 (17)	105 (41)	100 (39)
PSA testing	18 (7)	46 (18)	182 (72)	79 (27)	82 (32)	90 (35)
Skin cancer	17 (7)	89 (35)	140 (55)	87 (35)	103 (41)	56 (22)
Counseling						
Smoking cessation	6 (2)	55 (22)	186 (73)	27 (11)	88 (35)	133 (52)
Exercise	7 (3)	80 (32)	160 (63)	64 (21)	101 (40)	93 (37)
Healthy diet	8 (3)	83 (33)	156 (61)	56 (23)	106 (42)	86 (34)
Weight management	10 (4)	87 (34)	150 (59)	56 (23)	109 (43)	83 (33)

^a Endoscopy includes colonoscopy and sigmoidoscopy.

^b Percentages may not total 100 due to missing data and rounding.

Awareness and use of cancer screening guidelines

More than 80% of respondents said they were very familiar with screening guidelines for mammography, Pap smears, and colonoscopy/sigmoidoscopy. More than 70% were very familiar with guidelines for PSA testing and smoking cessation counseling. Between 55% and 63% answered that they were very familiar with screening guidelines for skin cancer and for counseling on weight management, exercise, and diet.

Adherence to practice standards mirrored familiarity. For example, only 4-7% said they were inconsistent in following guidelines for mammography and Pap smears, 17% for colonoscopy/sigmoidoscopy, 27% for PSA testing, and 35% for skin cancer screening. Related to lifestyle counseling, almost 90% PCPs provided messages about smoking cessation, and 75% provided messages about weight control, exercise, and diet.

Cancer prevention clinical trials

Interest. Almost one-third of respondents said they were very interested in cancer prevention clinical trials, and 44% were very comfortable discussing trials with their patients (Table 2). Approximately half reported that they saw one to five newly diagnosed cancer patients each month, and another third saw between six and 15 newly diagnosed cancer patients monthly.

Awareness and Referral Patterns. Three cancer prevention clinical trials were being offered in Hawai'i at the time of this survey: 1) the Study of Tamoxifen and Raloxifene (STAR), 2) the Human Papilloma Virus (HPV) Study, and 3) the Selenium and Vitamin E Cancer Prevention Trial (SELECT).

About 60% of respondents were aware of the STAR trial and said they would encourage eligible patients to participate. Only 30% were aware of the HPV study and 20% aware of SELECT, but more said they would recommend them to patients (50% and 43%, respectively). Of respondents, 28% said they had recommended or referred patients to cancer prevention clinical trials in the past.

Barriers. Physicians were presented with a list of 10 common barriers to clinical trial participation—six physician-related barriers and four patient-related barriers (Table 4)¹¹⁻¹³. The two most frequently noted barriers to referring patients to clinical trials were lack of support staff (selected by 72% of PCPs) and the perception that clinical trials take too much physician time (selected by 48% of PCPs). Other physician-related barriers included, discomfort with subjecting patients to randomized trials (27%); feeling that trials are unimportant to their practice (21%); feeling that clinical trials interfere with the doctor/patient relationship (12%); and feeling conflict between assuming the roles of clinician and research advocate (11%). PCPs identified patient-related barriers as well, noting that patients refuse to participate (36%), have co-morbidities that preclude their participation in clinical trials (37%), lack transportation to clinical trials (36%), and lack insurance (25%).

Two open-ended questions asked specifically about Native Hawaiian participation in cancer screening and cancer prevention trials, and about one-third of PCPs responded to these items (not shown in tables). Of those providing responses, more than half called for more education about cancer and appropriate screening tests for Native Hawaiians. They recommended that educators go door-to-door in Hawaiian communities, support Native Hawaiian cancer survivors as educators, engage Native Hawaiian leaders as

Table 3. PCP interest, comfort, and participation in cancer prevention clinical trials (n=254)

	n (%) ^a
Interest in cancer prevention clinical trials	
Very interested	79 (31)
Somewhat interested	134 (53)
Not at all interested	35 (14)
Comfort discussing cancer treatment clinical trials with patients	
Very comfortable	111 (44)
Somewhat comfortable	104 (41)
Not at all comfortable	28 (11)
Per physician, newly diagnosed cancer patients seen each month	
None	9 (4)
1-5	116 (49)
6-15	70 (33)
16-25	28 (12)
>25	15 (6)
Is aware of	
STAR (Study of Tamoxifen and Raloxifene)	157 (62)
HPV (Human Papilloma Virus Study)	75 (30)
SELECT (Selenium and Vitamin E Cancer Prevention Trial)	52 (21)
Would refer or encourage patients to participate in	
STAR (Study of Tamoxifen and Raloxifene)	145 (57)
HPV (Human Papilloma Virus Study)	128 (50)
SELECT (Selenium and Vitamin E Cancer Prevention Trial)	108 (43)
Has recommended or referred patients to cancer prevention clinical trials in the past	
	72 (28)

^a Percentages may not total 100 due to missing data and rounding.

role models, offer screening programs through established Hawaiian organizations, and utilize television and radio to get the word out. Others recommended developing culturally sensitive literature for distribution in stores, churches, and schools, as well as through physician offices. About a third of respondents recommended increasing access to low-cost and free screening services. Specific to participation in clinical trials, about half of responding PCPs again identified lack of awareness as the leading barrier for Native Hawaiians and the physicians that serve them. A third of PCPs cited lack of interest in clinical trials, and a third

brought up logistical issues, e.g., limited access to trials in rural communities, lack of transportation, no or limited insurance, family issues, time conflicts, and inconvenience. Ten percent noted that some Native Hawaiians were distrustful of Western medicine. Five percent said that their patients were reluctant to be research “guinea pigs,” and another 5% mentioned that some patients were in denial or held fatalistic attitudes toward cancer.

Awareness and use of cancer-related information resources and services

The majority of PCPs cited more than one source for information about cancer prevention clinical trials. The most commonly cited sources were conferences (39%), journals (34%), patient-oriented literature (26%), rounds (24%), the Cancer Research Center of Hawai’i (23%), internet/web resources (22%), and the American Cancer Society (19%).

Respondents were asked if they were aware of and had used three cancer-related programs sponsored and funded by the National Cancer Institute (NCI): the Cancer Information Service (CIS), Physician’s Data Query (PDQ), and staff support from the Cancer Research

Table 4. Barriers to discussing cancer prevention clinical trials with patients (n=254)

	n (%)
Physician factors	
Not enough support staff	182 (72)
Clinical trials take too much of my time	121 (48)
Not comfortable subjecting patients to randomized trials	69 (27)
Trials not important in my practice	54 (21)
Trials interfere with the doctor/patient relationship	31 (12)
Conflict between my role as clinician vs. researcher	28 (11)
Patient factors	
Patients refuse to participate.	91 (36)
Patients have co-morbidities.	93 (37)
Patients lack transportation.	92 (36)
Patients lack insurance.	64 (25)

Center of Hawai'i (CRCH). The CIS operates a toll-free phone line with workers providing outreach and education services to health care providers. They also offer cancer information (including information about clinical trials) to the general public, patients, and family members. More than one-fourth (28%) of physicians said they were aware of CIS, and 15% had used it. The PDQ is a Web-based resource that provides up-to-date reviews of the scientific literature related to cancer prevention, detection, treatment, supportive care and genetics, as well as inventories and contact information for clinical trials and cancer organizations. In all, 23% of respondents said they were aware of PDQ, and 9% had used it. The CRCH, through its Minority-based Community Clinical Oncology Program, employs staff to support physicians in presenting information about cancer clinical trials to patients and in assisting with the informed consent process. Among our respondents, 24% were aware of this program, and 9% had accessed it. Additionally, 67% said they were aware of local support groups for cancer patients and their families, and almost half (45%) had referred patients to them.

Discussion

Our findings suggest that most PCPs surveyed in Hawai'i are aware of national cancer screening guidelines. More than 90% reported following guidelines for breast and cervical cancer screening and counseling patients on smoking cessation, and 75% or more followed guidelines for colonoscopy/sigmoidoscopy testing and counseling patients on exercise, diet, and weight management. These percentages mirror or exceed those reported in physician surveys conducted in the continental US^{4,6-10}.

Our findings also suggest that about 85% of Hawai'i PCPs are at least somewhat interested in and feel somewhat comfortable with discussing clinical trials with patients. About half indicated that they would be willing to refer their patients to cancer prevention clinical trials if they knew about them.

Although these findings are encouraging, our study was limited by a modest response rate (54%). Also of note, Native Hawaiians comprised 15% of respondents even though the Hawai'i Medical Association records suggest that only 5% of Hawai'i's physicians are Native Hawaiian¹⁶⁻¹⁷. It is conceivable that respondents represented physicians who were more compliant with cancer screening recommendations, more enthusiastic about prevention trials, and/or more responsive to research that aims to promote Native Hawaiian health than non-respondents. Research also suggests that physicians tend to overestimate their compliance with screening and counseling practices¹⁸⁻²⁰. Thus, it is not unreasonable to call for further improvements to both screening and prevention trial participation.

Table 5. PCP awareness and use of cancer-related information sources and services (n=254)

	n (%)
Obtains information on cancer prevention clinical trials from	
Conferences	100 (39)
Journals	86 (34)
Patient-oriented literature	67 (26)
One-hour meetings/rounds	60 (24)
Cancer Research Center	59 (23)
Web and Internet resources	56 (22)
American Cancer Society	49 (19)
Is aware of	
Cancer Information Service	72 (28)
Physicians Data Query (PDQ)	58 (23)
Support staff from CRCH	61 (24)
Cancer support groups	171 (67)
Has used or referred to	
Cancer Information Service	38 (15)
Physicians Data Query (PDQ)	24 (9)
Support staff from CRCH	22 (9)
Cancer support groups	114 (45)

The literature offers strategies for increasing cancer screening rates. These include scheduling annual health maintenance visits, adopting flowcharts and checklists for office staff to review with patients, and investing in tickler files and computer-based reminder programs that require the physician to respond with an order or document why screening was not done^{18,21-23}. This is especially important for smaller practices, where patients have been found nationally to have lower rates of screening compliance²¹. Besides being good practice, investigators have found that physician counseling on smoking cessation and other lifestyle behavior changes does not reduce patient satisfaction with care and may, in fact, increase it²⁴.

Regarding clinical trials, this survey suggests that the primary barriers are lack of awareness and logistical problems. Educating physicians is an ongoing process. Because Hawai'i physicians did not identify a single best source for information about trials, it is recommended that educators continue to send messages through multiple avenues. Logistical issues include lack of physician and staff time. Few Hawai'i physicians are aware of the availability of CRCH research staff to assist with explaining trials and obtaining consent; information about these services needs to be included in education messages to PCPs.

Patients of all ethnicities, but perhaps more so Native Hawaiians, face awareness and logistical barriers as well. Federal funds have been made available to some organizations to support intensive outreach programs in minority communities for purposes of increasing participation in research²⁵. Successful strategies include developing community advisory boards, hiring minority staff, developing culturally sensitive outreach materials, providing concep-

tual (rather than literal) translations of research documents, removing logistical barriers, and providing feedback to the community²⁶.

Conclusion

Additional participation in cancer screening and prevention activities, including clinical trials, will require attention to reducing logistical barriers and increasing awareness of community resources. Interaction between the community and health care organizations is needed to plan effective intervention strategies. The positive attitudes and current practices of the physicians in this study indicate that Hawai'i PCPs are likely to be active participants in such programs.

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