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Cancer Screening Practices among Physicians Serving Chinese Immigrants

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Abstract

Chinese immigrants in the United States are broadly affected by cancer health disparities. We examined the cancer screening attitudes and practices of physicians serving Chinese immigrants in the New York City (NYC) area by mailing a cancer screening survey, based on current guidelines, to a random sample of physicians serving this population. Fifty three physicians (44%) completed the survey. Seventy-two percent reported following the guidelines for breast cancer, 35% for cervical cancer screening, and 45% for all colorectal cancer screening tests. Sixty-eight percent of physicians were satisfied with their current rates of cancer screening with their Chinese immigrant patient population. Physicians serving the Chinese community in NYC follow cancer screening guidelines inadequately. Cancer screening rates in this population could likely be increased by interventions that target physicians and improve awareness of guidelines and recommended best practices.

Keywords

Chinese; immigrants; cancer screening; physician practices; primary care

Cancer health disparities disfavoring Chinese immigrants in the United States (defined as differences between population groups in the prevalence, mortality, and burden of cancer and related adverse health) have been well documented.¹⁻³ Although Asian Americans, including Chinese immigrants, have lower incidence rates for various cancer types when compared with other races/ethnicities in the United States,^{4,5} cancer screening and prevention remain inadequate. According to the American Cancer Society, Asians in the United States have the lowest rates of screening for breast, cervical, prostate, and colorectal cancer (CRC) when compared with other races/ethnicities; rates for recent immigrants are the lowest.⁶

The Chinese community in the United States has grown significantly during the last decade. Approximately 2.3 million Chinese immigrants live in the U.S., constituting 70% of all

Asian immigrants in the country.⁷ This large and growing population faces multiple barriers to effective cancer screening and prevention, including linguistic, cultural, and economic barriers.^{1,8-10}

The role of physicians in helping to overcome these barriers has been well established. Physician referral is considered the best determinant of follow-up with cancer screening.¹¹ One of the reasons that patients, regardless of race or ethnicity, most often cite for not having a cancer screening test is that their physician has never recommended it.¹²⁻¹⁴ While cancer screening guidelines are quite explicit,¹⁵ several studies have shown that physician practices are not fully consistent.^{16,17} Despite the crucial role physicians play in patient participation in cancer screening, those working with medically underserved populations have demonstrated gaps in screening knowledge and practices.^{16,18} Inadequate knowledge of national guidelines reduces the likelihood that patients will be screened for cancer.¹⁹ A recent study of physicians serving the Haitian community in New York City revealed inconsistencies between their cancer screening practices and current guidelines, specifically in the areas of cervical and colorectal cancer screening.²⁰

Data on cancer attitudes and practices of providers serving this much larger community are sparse, leaving a knowledge deficit on how best to increase the enrollment of Chinese immigrants in cancer screening and early detection activities. This study addresses this gap by assessing physician-related factors in cancer screening practices, attitudes, and beliefs among those serving the Chinese American community in New York City.

Methods

Study sample

A list of primary care physicians practicing in areas densely populated by Chinese immigrants in New York City was compiled using physician association lists, community-based organization networks' physician lists, and New York State Medical Association lists superimposed on data from the U.S. Census Bureau for Chinese residential ZIP codes. Five hundred and seventy five physicians were identified and a random sample was sought until the proposed sample size of 53 was achieved. The sample size was calculated using a 95% confidence interval and proportions of the different outcomes (rates of cancer screening) ranging from 0.10 to 0.90.

Survey instrument

Utilizing the cancer screening guidelines of the American Cancer Society and National Cancer Institute as of July 2003, we developed a fifty-item questionnaire in English to assess physicians' attitudes and practices towards breast, cervical, colorectal, and prostate cancer screening. The authors pilot-tested the survey with a sample of 20 physicians who served Chinese immigrant patients and then revised it.

Data collection

We mailed the survey to the randomly-selected physicians beginning in August 2003. A follow-up telephone call was made several days later to ensure that the survey had been received. If the provider requested it, a research assistant administered the survey in person. Participants who completed the survey received \$40. The data were analyzed using SPSS version 13 for Windows (SPSS for Windows, Rel. 13.0.1. 2004. Chicago: SPSS Inc.).

This study was approved by the New York University School of Medicine Institutional Review Board.

Results

Physicians were randomly selected from a pool of 575 until the desired sample size was achieved. One hundred and twenty-one physicians were randomly selected, and received a survey by mail. Fifty-three providers completed the survey and were included in the analysis. Twenty-four physicians did not respond to the survey and 28 declined to complete it. Sixteen physicians were excluded due to their specialties (non-primary care physicians).

Forty physicians self-administered the survey; a research assistant helped administer the survey to 13. We found no statistical difference in the demographic characteristics or responses between the two groups. Of those that completed the survey, 63% were male, the mean age was 49 years, 87% were born in China, 51% obtained their medical degrees in the United States and 90% had practiced medicine in NYC for at least 5 years prior to the study. Other socio-demographic characteristics of physicians in the study are shown in Table 1. No associations were found between socio-demographic characteristics or medical background with the cancer screening practices described.

Breast cancer screening

Fifty-one percent of physicians reported referring their female patients 40–49 years old, with no family history, for mammography annually and 85% with family history. Eighty-three percent of physicians reported referring their female patients 50 years and older, with no family history, for mammography annually and 87% with family history. Sixty-five percent of physicians stated that they perform clinical breast exam in their patients under 40 years of age with or without family history of breast cancer, and 78% stated that they perform clinical breast exam in their patients 40 years or older with or without family history of breast cancer. Overall, 72% of respondents reported following all the guidelines correctly, in all the specific subgroups, for breast cancer.

Cervical cancer screening

Thirty-nine percent of providers stated that they recommend Pap tests to female patients age 21 and up, even if the patient is not sexually active. Eighty-three percent recommend Pap tests to their asymptomatic female patients regardless of age if the patient has had sexual intercourse within the past three years. Only 35% of providers reported following both of these recommended practices with their Chinese immigrant patients.

Colorectal cancer screening

The survey asked physicians how often they refer and/ or perform colorectal cancer screening tests specified in the guidelines for their asymptomatic patients 50 years and older and with no family history of colorectal cancer. Sixty-eight percent of providers reported recommending fecal occult blood test (FOBT) annually for their male patients and 83.3% for their female patients. Of those physicians who recommend sigmoidoscopy for screening, 39% recommend sigmoidoscopy for screening every five years for their male patients and 54% for their female patients. Fifteen percent do not recommend sigmoidoscopy for screening. Just over one fourth (25.9%) recommend colonoscopy every 10 years for their male patients (44.4% every five years) and 33.3% for their female patients (55.6% every five years). Overall, 45% of respondents reported practices in keeping with the guidelines on all screening tests for colorectal cancer screening. Thirty percent of respondents reported recommending at least one screening test more often than recommended by the guidelines.

Prostate cancer screening

Forty-four percent of respondents reported recommending prostate-specific antigen (PSA) to their male patients 45 to 50 years old with no family history of prostate cancer and 86% to

their patients 45 to 50 years old with family history. Fifty-three percent recommend digital rectal exam (DRE) annually for the same group of patients with no family history, and 86% for patients with family history of prostate cancer. Nearly all recommend DRE and PSA to their patients 50 years or older.

Cancer screening attitudes

Sixty-eight percent of physicians were satisfied with the rates of cancer screening among their Chinese immigrant patients. Of those physicians who were not satisfied, 76% would like to increase their screening rates but think there is not enough time for them to do so and 41% would like to increase their screening rates but reported not knowing how. The great majority of respondents (92.6%) reported knowing how to counsel their patients for cancer screening effectively. Other physician attitudes towards cancer screening are shown in Table 2.

Cancer screening: education and system reminders

Sixty-five percent of respondents reported that they had attended a physician education workshop on cancer screening during the previous 10 years. Of those, 49% reported attending a workshop during the previous two years, and 34% during the previous year.

When asked about current means of increasing or maintaining screening rates, 60.4% responded that they use medical record checklists and flow charts. Twenty-four percent of those who did not use record checklists and flow charts thought such a system would be practical to implement. Only 6.4% had a computer-generated reminder system and, of those who did not have it, 37% thought that it would be a helpful tool to increase cancer screening rates. As for chart stickers or tags as reminders, 22.7% reported using this method (alone or in combination with others). Data on physicians' perceptions of methods to increase cancer screening are shown in Table 3.

Physicians' perceptions of patient barriers to cancer screening

Respondents also identified their perceptions of patients' cancer screening barriers. Physicians reported perceiving that cost (77.8%), pain/discomfort (77.4%), patients' belief that the screening test is unnecessary (88.7%), embarrassment (81.5%), and lack of clarity in the national guidelines (78.8%) are barriers to cancer screening for their patients. Specifically, for each cancer type and test, the biggest perceived patient barriers were: physician perception of patient's pain and discomfort with the test for mammography (54.7%); patients' beliefs that the test is unnecessary for the Pap test (23.1%); embarrassment for DRE and colonoscopy (34.6% and 50% respectively); and pain/discomfort for FOBT (5.8%) (Table 4).

Discussion

Cancer screening guidelines have been used for several decades and are well-accepted by the medical community.²² Physician recommendation of cancer screening has been proven effective in overcoming patient barriers.^{9,13,23} We found that physicians serving the Chinese immigrant community in NYC were inadequately following the cancer screening guidelines proposed by the American Cancer Society or The National Cancer Institute.

According to the NYC Department of Health, 74% of all eligible Asian women living in NYC were screened for breast cancer with a mammogram during the prior two years.²⁴ In our study, 72% of physicians reported following breast cancer screening guidelines, the largest compared with reported screening practices for other cancer types. The high rate of adherence with breast cancer screening guidelines could be the result of interventions that

target providers with educational programs to increase physician referral and help overcome patient barriers for breast cancer screening.^{25,26}

Chinese women in the United States have a lower cervical cancer screening rate than Hispanic, African American, and non-Hispanic White women.^{1,27,28} Several studies have reported that Chinese women in the United States have high rates of invasive cervical cancer.^{29,30} Physicians in our study showed limited adherence to guidelines for cervical cancer screening. Only 35% reported screening practices in keeping with the guidelines. Although several barriers to cervical cancer screening have been described for this population,^{31,32} low physician adherence to the correct guidelines could be the rate-limiting factor in screening Chinese immigrant women for cervical cancer.

Colorectal cancer screening rates remain the lowest for all cancer screening.⁶ Only 45% of the eligible population is screened in the United States, and Asian immigrants have the lowest screening rates of all races/ethnicities.²⁷ Coughlin et al. found that large percentages of patients were not referred for colorectal cancer screening by their physicians or were not recommended FOBT, with similar results among all races/ethnicities.¹² Although the majority of physicians in the study reported recommending FOBT to their patients in accordance with the guidelines, we found that only 45% of physicians reported following the correct guidelines on all screening tests for CRC and that respondents demonstrated a large, although not statistically significant, discrepancy between female and male patients. We also found a group of physicians in the study that recommend CRC screening tests more often than specified by the guidelines, revealing another sort of confusion about those guidelines. There are several patient barriers that must be overcome to increase the rate of colorectal cancer screening among Chinese immigrants^{9,33,34} but, again, our results indicate that there is a great need to clarify guidelines among physicians.

We found that almost 30% of the physicians included in this study were not satisfied with their patients' rates of cancer screening. These physicians may be particularly receptive to programs that will help them improve their cancer screening practices. Identifying these physicians, and tailoring educational strategies to them, will facilitate cancer screening among the Chinese immigrant population.

In our study, 35% of physicians had not attended an educational workshop during the previous 10 years and only 34% of those who had attended one had done so during the previous year. Continuing medical education (CME) has been proven to be effective in modifying physician's behaviors and increasing cancer screening rates,^{35,36} and should be used to increase cancer screening in this population. Almost 80% of the physicians believed that CME would be helpful to this end. Ethnically-specific physician membership organizations could work to increase education and disseminate computer-based reminder systems among physicians who care for Chinese immigrants. In addition, physicians in the study identified time constraints, low reimbursement rates for screening tests, and lack of cancer screening information in the Chinese language as difficulties for cancer screening among their Chinese immigrant patients. Increasing the availability and awareness of educational materials in Chinese language, providing low-cost services, and delivering these services at times that the immigrant population is available would be important interventions.

There are limitations to our study. The sample of providers included was obtained randomly from a list of providers identified from Chinese physicians' organizations, the state medical society, or community-based organization networks' physician lists, omitting providers not associated with these institutions. It is likely that some of the results are underestimated due to the response rate. The lack of survey anonymity may have made it more likely for those

adhering to screening guidelines to respond. Some providers may not have responded due to lack of knowledge or lack of adherence with screening guidelines. Additionally, self-report is likely to have led to an overestimation of correct practices.

This study reveals several areas where tailored interventions can help overcome cancer health disparities among the Chinese immigrant population in the United States. Our results indicate that cancer screening rates can likely be improved by targeting physicians to increase their awareness of the proposed guidelines and their current practices and to facilitate the use of any or better systems to increase cancer screening rates.

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Notes

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Table 1**SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE (N=53)**

Characteristic	
Age (mean)	49 years (range: 32–74)
Gender: Male	34 (63%)
Country of birth: China	46 (87%)
Years since moved to the U.S. (mean)	27 years (range: 8–69)
Speak Mandarin	39 (74%)
Speak Cantonese	42 (80%)
Speak English well or very well	53 (100%)
Years since graduating from medical school	23 years (range 6–49)
Obtained medical degree in the U.S.	27 (51%)
Practicing in NYC for at least 5 years	48 (90%)

Table 2**PHYSICIANS' ATTITUDES TOWARD CANCER SCREENING (N=53)^a**

	Agree/strongly agree n (%)	Disagree/strongly disagree n (%)
Know how to effectively counsel patients for cancer screening	49 (92.6)	4 (7.4)
Demand to see increasing number of patients limits cancer screening	17 (31.5)	25 (46.3)
Not comfortable performing the test when patient comes for different problem CBE/ DRE	14 (26) / 13 (24.1)	30 (57.4) / 25 (48.1)
Reimbursement is low	21 (39.8)	14 (25.9)
Aware of cultural issues regarding cancer screening	47 (88.9)	2 (3.7)
Don't have time to perform/refer for cancer screening	9 (14.8)	38 (71.7)
Lack of cancer screening written information in patients' language	28 (51.9)	17 (31.5)
I am satisfied with the rate of cancer screening in my patients	36 (68.5)	5 (9.3)

^a An option to respond *neutral* was also given.

CBE = clinical breast exam.

DRE = digital rectal exam.

Table 3**PHYSICIANS' PERCEPTIONS OF USEFULNESS OF METHODS TO INCREASE CANCER SCREENING (N=53)**

Method	Useful n (%)	Not useful n (%)
In-office physician cancer screening reminder	50 (94.4)	3 (5.6)
Provider workshops	42 (79.6)	11 (20.4)
Educational materials in the patients' languages	50 (94.4)	3 (5.6)
Patient reminder	51 (96.2)	2 (3.8)
Professional interpreter	37 (69.8)	16 (30.2)
Cultural competency training	42 (79.6)	11 (20.4)

Table 4
 PHYSICIANS' PERCEPTIONS OF PATIENT BARRIERS TO SCREENING (N=53)

Screening test	Perceived barrier				
	Cost/lack of insurance n (%)	Pain/discomfort n (%)	Patient thinks it unnecessary n (%)	Embarrassment n (%)	National guidelines unclear n (%)
Mammography	7 (13.5)	29 (54.7)	23 (43.4)	19 (35.8)	2 (4)
PAP test ^a	2 (3.8)	8 (15.4)	12 (23.1)	12 (22.6)	1 (2)
PSA ^b	4 (7.7)	2 (3.8)	4 (7.5)	—	6 (11.5)
DRE ^c	—	11 (21.2)	9 (17)	18 (34.6)	3 (6)
FOBT ^d	0 (0)	3 (5.8)	2 (3.8)	2 (3.8)	1 (2)
Colonoscopy	13 (25)	24 (45.3)	26 (49.1)	27 (50)	2 (4)

^aPapanicolaou test

^bProstate-specific antigen

^cDigital rectal exam

^dFecal occult blood test