

Perceived Medical Discrimination and Cancer Screening Behaviors of Racial and Ethnic Minority Adults

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Abstract

Background: Discrimination has been shown as a major causal factor in health disparities, yet little is known about the relationship between perceived medical discrimination (versus general discrimination outside of medical settings) and cancer screening behaviors. We examined whether perceived medical discrimination is associated with lower screening rates for colorectal and breast cancers among racial and ethnic minority adult Californians.

Methods: Pooled cross-sectional data from 2003 and 2005 California Health Interview Survey were examined for cancer screening trends among African American, American Indian/Alaskan Native, Asian, and Latino adult respondents reporting perceived medical discrimination compared with those not reporting discrimination ($n = 11,245$). Outcome measures were dichotomous screening variables for colorectal cancer among respondents ages 50 to 75 years and breast cancer among women ages 40 to 75 years.

Results: Women perceiving medical discrimination were less likely to be screened for colorectal [odds ratio (OR), 0.66; 95% confidence interval (95% CI), 0.64-0.69] or breast cancer (OR, 0.52; 95% CI, 0.51-0.54) compared with women not perceiving discrimination. Although men who perceived medical discrimination were no less likely to be screened for colorectal cancer than those who did not (OR, 1.02; 95% CI, 0.97-1.07), significantly lower screening rates were found among men who perceived discrimination and reported having a usual source of health care (OR, 0.30; 95% CI, 0.28-0.32).

Conclusions: These findings of a significant association between perceived racial or ethnic-based medical discrimination and cancer screening behaviors have serious implications for cancer health disparities. Gender differences in patterns for screening and perceived medical discrimination warrant further investigation. (Cancer Epidemiol Biomarkers Prev 2008;17(8):1937-44)

Introduction

Much of the morbidity and mortality disparities associated with colorectal and breast cancer can be attributed to lower screening rates or later-stage disease detection among racial or ethnic minority persons compared with Whites (1). Acceptance of and adherence to screening recommendations may be influenced by factors at the patient level (e.g., health beliefs, education status, and cultural barriers), provider level (e.g., failure to recommend), system level (e.g., access, costs, and unavailable translators), or any combination of these factors (2). In their 2002 report on unequal treatment in American health care, the Institute of Medicine raised the concern that racial and ethnic discrimination may play a major causal role in health-care disparities (2). We explored discrimination and its relationship to cancer screening behaviors as a potential contributor to cancer health disparities among racial and ethnic minority adults.

Defined as "differences in care that result from biases, prejudices, stereotyping, and uncertainty in clinical communication and decision-making" (2), discrimination is difficult to measure directly. Indirect observational studies on provider bias have focused on screening

and referral behaviors using differential patient outcome measures (was a patient referred for screening/intervention or not) or physician responses to hypothetical patients in different scenarios as proxies for discrimination (3, 4). Among studies that have employed audio and video techniques to directly observe physician-patient encounters, none have examined indicators of physician bias (5-8). Thus, without direct observed evidence, much of the literature linking discrimination to health outcomes use patient or subject self-reports of the perception of being treated unfairly versus the actual intentional or de facto act of discrimination (9) and thus do not address if and how patients might misinterpret provider behaviors and presume bias when it may not be real. Nonetheless, discrimination (perceived or real) has been shown to affect health-seeking behaviors: persons reporting perceived general (versus medical) discrimination have been shown to be less likely to use prevention services such as cholesterol testing, hemoglobin A1c monitoring, diabetic foot and eye examinations, and flu shots compared with those who do not perceive being treated unfairly (10, 11). Perceived general discrimination has also been shown to influence medication adherence, with delays in filling prescriptions or receiving medical tests being greater among persons who perceive unfair treatment or racism in their health-care setting (12, 13).

The substantial literature on the relationship between perceived discrimination and health outcomes has most commonly measured discrimination experienced in general (such as at the workplace or other social arenas)

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rather than medical discrimination (unfair perceived or real treatment experienced within the health system or by medical providers; refs. 9, 14-26). It would seem that the proximity of perceived discriminatory behaviors or cues occurring in settings where health advice or recommendations are given would have a greater influence on patient health practices than perceived discrimination occurring in non-health-care settings. Therefore, we wished to explore if patients who perceive racial or ethnic-based discrimination in medical settings would be similarly less likely to participate in prevention activities. We were particularly interested in understanding the relationship between perceived medical (as opposed to general) discrimination and specific cancer screening behaviors, as there have been no studies that have tested this particular association.

In this article, we examine the association between perceived racial or ethnic-based medical discrimination and screening outcomes for two leading causes of cancer morbidity and mortality (colorectal and breast cancers) among a large racially and ethnically diverse sample. Previous surveys found that the study population met or exceeded Healthy People 2000 and 2010 screening goals for colorectal, breast, and cervical cancers; however, Asian Americans and Latinos consistently showed lower screening rates for colorectal and breast cancers (but not for cervical cancer; refs. 27, 28). We therefore limit our article to colorectal and breast cancer screening outcomes. Our study aims are to (a) determine the rates of cancer screening for racial and ethnic minority populations in California according to recommendations for colorectal and breast cancer and (b) determine whether recent perceived racial or ethnic-based medical discrimination (within the past 5 years) is associated with being up-to-date with screening for these two types of cancers.

Materials and Methods

Data Source and Sampling. We used pooled data from the 2003 and 2005 surveys of adult women and men, from the California Health Interview Survey (CHIS), a large population survey of noninstitutionalized racially and ethnically diverse adults residing in California households. The CHIS is one of several state-wide surveys that provide data on health behaviors, including cancer screening practices. It is unique among state surveys (such as individual state modules for the Behavioral Risk Factor Surveillance System) or among national surveys (such as the National Health Interview Survey) in that it is the only survey that has included specific questions on both perceived racial or ethnic-based medical discrimination and cancer screening. CHIS survey methods were similar across both 2003 and 2005 study years; thus, pooling was achieved by concatenating data from both surveys and creating new replicate and final statistical weights for the combined data. Details of this process have been described previously (29).

Sample selection was made by a random-digit dialing using a list-assisted procedure (30). Randomly generated telephone numbers within the California area codes were classified as listed, unlisted, or nonresidential by matching to computerized files of White Pages (residential) and Yellow Pages (business). All numbers listed in the Yellow Pages were eliminated from the sample. A random

sample of remaining numbers was drawn from within each of 41 predefined geographic areas (roughly equivalent to all California counties). Only one adult per household was sampled. Households without landlines (3% of California households) or with cell phones only (10% of households) were not included in the sample (30-32). Telephone interviews were then conducted in one of the six major languages spoken by most Californians (English, Spanish, Mandarin, Cantonese, Vietnamese, and Korean).

Response rates for each survey year are reported by the University of California-Los Angeles Center for Health Policy Research (33, 34). About 55.9% of households contacted in 2003 completed the survey screening questionnaire; in 2005, the screening completion rate was 49.8%. The adult interview completion rates among those screened were 60% and 54% for 2003 and 2005, respectively. Thus, the overall response rates (composites of screener and adult interview completion rates) were 33.5% for the 2003 CHIS survey and 26.9% for the 2005 survey. These figures are comparable with California Behavioral Risk Factor Surveillance System response rates for the same survey years.

Data were obtained directly from public use files available at http://www.chis.ucla.edu/chis_questionnaires.html. For our analysis, the sample was limited to the population for whom screening recommendations for colorectal and breast cancer have been established (35-38). This includes women and men ages 50 to 75 years (for colorectal cancer screening) and women ages 40 to 75 years (for breast cancer screening). Following the reports from the Institute of Medicine study on racial and ethnic discrimination (2), we were interested in perceived discrimination among all respondents who self-described their race as African American, American Indian/Alaskan Native, Asian, or ethnicity as Latino. We did not include White, non-Hispanics (who represented 63% of the 2003 and 2005 CHIS respondents), as this group historically has not been subjected to discrimination based on race or ethnicity (2). In addition, respondents identifying as "other" or as multiple racial groups were excluded as they represented only 3% of the total sample.

Study Design

Analyses. We conducted separate multivariate logistic regression models with up-to-date colorectal and breast cancer screenings as the outcome variables using weighted data to account for potential sampling biases (39). These models tested the associations between perceived racial or ethnic-based medical discrimination and measures of recent colorectal and breast cancer screenings. Based on past literature showing differential reporting of perceived discrimination by gender (10, 11, 14), we explored potential interactions by adding the variable gender along with a combined cross-product (gender-discrimination). Both variables were highly significant (data not shown); thus, we stratified by gender. In addition, we ran two models for each cancer screening outcome, adjusting for potential confounding from sociodemographic factors (age, education, household income, race, or ethnicity) and health-related factors (health insurance, health status, having a usual source of care, and having a previous diagnosis of cancer; refs. 40-42). For both colorectal and breast cancer screening, model 1 examined the association between

perceived medical discrimination and screening, adjusted for sociodemographic factors and survey year. Model 2 adjusted for sociodemographic factors in addition to health-related factors and survey year. Results for models 1 and 2 are presented separately for women and men as adjusted odds ratios (OR) with 95% confidence intervals (95% CI). Lastly, we present screening rates (adjusted for potential confounding variables) by race or ethnicity and gender and by whether respondents perceived or did not perceive medical discrimination. We present this as weighted data to be representative of the California population.

Predictor Variable. The predictor variable in the models was perceived racial or ethnic-based medical discrimination within the last 5 years (yes/no). The variable was derived from two survey questions: "Was there ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group?" and if yes, "Think about the last time this happened. How long ago was that?" Because we were interested in whether recent perceptions of medical discrimination affected whether a respondent was up-to-date with screening recommendations (screening within the last 1-5 years), we limited our analysis to respondents who reported perceived medical discrimination within that time period.

Outcome Variables. The outcome variables in the models were derived from survey questions related to colorectal and breast cancer screening. Respondents were asked if they ever had a home blood stool test, if they ever had an endoscopic exam, and if they ever had a mammogram. Each question was followed by asking about time intervals (how long since the most recent of these tests). To determine if respondents were up-to-date for those cancer screenings, we followed recommendations established by the U.S. Preventive Services Task Force (38), the American Cancer Society (35), the American Gastroenterological Society (36), and the American Geriatrics Society (37). There are several options available for colorectal cancer screening, each with different recommended time intervals. The recommended interval for home fecal occult blood testing (FOBT) is once yearly. Although recommendations differ between the timing of the two endoscopic examinations (sigmoidoscopy every 5 years and colonoscopy every 10 years), the CHS combines both in a single question. Therefore, we limited our analysis to endoscopic screening for the more recent of the two intervals (5 years). The recommended screening interval for mammography is once yearly. Thus, we created dichotomous (yes/no) outcome variables defined as follows:

- Endoscopy and/or FOBT: a combined variable of endoscopic tests (sigmoidoscopy or colonoscopy) within 5 years and/or FOBT within the past 1 year to assess whether respondents received either one or both of these two recommended colorectal cancer screening modalities, ages 50 to 75 years.
- Mammography: breast cancer screening by mammography within the past 1 year, ages 40 and 75 years.

Covariables. Covariables in the models included the survey year and the following sociodemographic and

health status variables (to account for potential confounders; refs. 40-42) as well as all first-order interaction terms:

- Sociodemographic factors: age (continuous), education (in four categories: <12, 12, 13-15, and ≥ 16 years of education), household income (imputation was used for missing data; thus, income as percentage of federal poverty level was complete, reported in four categories: ratio of annual household income divided by federal poverty level), and self-reported race or ethnicity (using University of California-Los Angeles Center for Health Policy Research categories, self-described ethnicity as African American, American Indian/Alaskan Native, Asian American, or Latino; ref. 39).
- Health status factors: health insurance (yes/no), self-reported health status (five levels: excellent/very good/good/fair/poor), having a usual source of care (yes/no), and having a previous diagnosis of cancer (yes/no).
- Survey year: 2003 or 2005 CHS survey.

Results

Our sample included 8,051 women ages 40 to 75 years and 3,194 men ages 50 to 75 years. The sociodemographic, health related profile, and cancer screening rates are shown in Table 1 (unweighted data characterizing the actual sample). About 53% of women and 56% of men had completed some college or more. Most reported having at least some health insurance (84% women and 86% men), identified having a usual source of health care (92% women and 91% men), and reported their health status as good to excellent (65% women and 64% men). Less than 7% of respondents reported a previous diagnosis of cancer. Nearly 9% of women reported perceived racial or ethnic-based medical discrimination within the past 5 years; reported rates for men were lower (6.2%). Colorectal cancer screening rates were nearly identical for women and men ages 50 to 75 years (42% and 43%, respectively). Nearly 60% of women ages 40 to 75 years had received a mammogram within the past year.

Figure 1 presents the adjusted OR and 95% CI from the logistic regression models (models 1 and 2), showing the associations between perceived racial or ethnic-based medical discrimination and the two cancer screening outcomes, by gender. In model 1, which examined the association between perceived medical discrimination and screening and adjusted for the four sociodemographic factors (age, education, household income, race, or ethnicity), men who had perceived medical discrimination were no less likely (OR, 1.02) to be screened for colorectal cancer using endoscopic and/or FOBT compared with those who did not perceive medical discrimination (95% CI, 0.97-1.07). By contrast, women who had perceived medical discrimination within the past 5 years were two thirds as likely to be screened for colorectal cancer and more than half as likely to have received a mammogram compared with women who did not perceive medical discrimination (colorectal screening: OR, 0.66; 95% CI, 0.64-0.69; mammography screening: OR, 0.52; 95% CI, 0.51-0.54).

In model 2, when more specific health-related factors (health insurance, health status, having a usual source of care, and having a previous diagnosis of cancer) were added to the previous model, we found a consistent pattern of lower odds of screening for all tests among both men and women who reported perceived medical discrimination. In this second model, it is notable that men who perceived medical discrimination had roughly one-third the risk of not being screened for colorectal cancer using either endoscopy or FOBT compared with those who did not perceive medical discrimination (OR, 0.30; 95% CI, 0.28-0.32). A stepwise regression to explain the differences in outcomes among men between models 1 and 2 showed significant changes when the interaction between having a usual source of care and discrimination was added to the model, indicating that this factor accounted for almost all the decreased likelihood for screening for men.

Differences in adjusted screening rates for colorectal and breast cancer by gender across the four racial or ethnic minority groups are shown in Table 2 (weighted data). When adjusted for sociodemographic factors, all colorectal cancer screening modalities were consistently lower among women compared with men. This pattern held when screening rates were adjusted by both sociodemographic and health related factors for all groups, except African Americans, for whom men had slightly lower screening rates than women. In general, the pattern for women across all ethnic groups showed lower screening rates among those who reported medical discrimination compared with those who did not. This pattern was seen among men as well when screening rates were adjusted for both sociodemographic and health factors but not when adjusted for sociodemographic factors alone.

Table 1. Sociodemographic and health-related profile and cancer screening rates for study sample, pooled 2003 and 2005 CHIS data, unweighted, women ages 40 to 75 years and men ages 50 to 75 years

	Women, n (%)	Men, n (%)
Sociodemographic characteristics		
Age group (y)		
40-49	3,493 (43.4)	— (—)
50-59	2,523 (31.3)	1,758 (55.0)
60-75	2,035 (25.3)	1,436 (45.0)
Education (y)		
<12	2,065 (25.6)	770 (24.1)
12	1,764 (21.9)	628 (19.7)
13-15	2,043 (25.4)	730 (22.8)
>15	2,179 (27.1)	1,066 (33.4)
2002 household income (% of federal poverty level)		
0-99	1,679 (20.8)	533 (16.7)
100-199	1,882 (23.4)	658 (20.6)
200-299	1,027 (12.8)	449 (14.1)
≥300	3,463 (43.0)	1,554 (48.6)
Race/ethnicity*		
African American	1,744 (21.7)	676 (21.2)
American Indian/American Native	420 (5.2)	176 (5.5)
Asian	2,601 (32.3)	1,152 (36.1)
Latino	3,286 (40.8)	1,190 (37.2)
Health-related profile		
Insurance status		
Insured	6,757 (83.9)	2,734 (85.6)
Uninsured	1,294 (16.1)	460 (14.4)
Usual source of health care		
Yes	7,417 (92.1)	2,891 (90.5)
No	634 (7.9)	303 (9.5)
Health status		
Excellent	997 (12.4)	406 (12.7)
Very good	1,846 (22.9)	710 (22.2)
Good	2,392 (29.7)	942 (29.5)
Fair	2,020 (25.1)	790 (24.7)
Poor	796 (9.9)	346 (10.8)
Ever told had cancer		
Yes	536 (6.7)	222 (6.9)
No	7,515 (93.3)	2,972 (93.1)
Perceived medical discrimination within last 5 y [†]		
Yes	685 (8.9)	187 (6.2)
No	7,041 (91.1)	2,825 (93.8)
Cancer screening rates		
Endoscopy within past 5 y and/or FOBT within past year, age ≥50 y [‡]	1,903 (41.8)	1,386 (43.4)
Mammography within past year, age ≥40 y	4,761 (59.1)	— (—)

* Self-reported race/ethnic identity using University of California-Los Angeles CHPR categories; White, non-Hispanic excluded.

[†] Respondents answering "yes" to question: "Was there ever a time when you would have gotten better medical care if you had belonged to a different race or ethnic group?"

[‡] Endoscopy: sigmoidoscopy or colonoscopy.

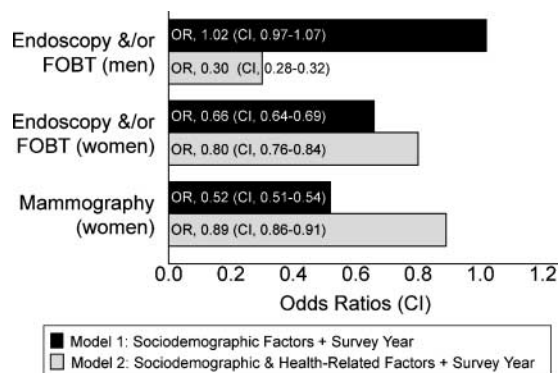


Figure 1. Logistic regression models: medical discrimination and colorectal and breast cancer screening, adjusted OR (95% CI) by gender.

Discussion

For cancer outcomes, the consequences of delaying or not receiving screening can be critical. When detected early, 5-year survival rates for colorectal and breast cancer are >90%. However, survival drops drastically (down to 10% for colorectal cancer and 23% for breast cancer) if detected at an advanced stage. Results from analyses of CHIS data provide a window into cancer screening patterns among Californians. Using earlier 2001 California Health Information Survey data, Etzioni et al. found that the lack of insurance or not having a usual source of

medical care was associated with decreased colorectal cancer screening rates (43). Other CHIS investigators reporting on the effect of immigration or citizenship status suggest that noncitizens and recent immigrants are less likely to be screened for breast or colorectal cancer than immigrants who hold U.S. citizenship (44-46). These earlier CHIS studies did not include perceived discrimination among their predictor variables. Only one study to date has used data from the 2001 CHIS to examine relationships between perceived discrimination and the use of preventive health services; however, prostate-specific antigen testing was the only cancer screening measure included among other measures of prevention (10). In addition, the survey question regarding perceived discrimination used in the 2001 CHIS differed from subsequent years. Respondents in 2001 were not asked specifically about perceived racial or ethnic discrimination but rather if they felt they perceived health-care discrimination for any reason. Subsequent analyses showed that the most frequently cited reason for perceived discrimination among 2001 respondents was insurance type (10). By contrast, the 2003 and 2005 CHIS surveys asked a more specific question about perceived racial or ethnic discrimination within the health-care system.

Reports of survey data from other U.S. populations have shown no correlations between perceived medical discrimination and cancer screening practices. A study of community-based African American and White women reported no association between perceived discrimination (defined as the experience of discrimination in any one of several settings) and breast cancer screening

Table 2. Weighted colorectal and breast cancer screening rates by ethnicity and medical discrimination

	% Screened		Women % screened		Men % screened	
	Women	Men	No reported discrimination	Reported discrimination	No reported discrimination	Reported discrimination
Sociodemographic model*						
Endoscopy and/or FOBT screening (adults, ages 50-75 y, n = 7,752)						
African American	45.6	50.5	47.7	43.6	50.5 [†]	50.4 [†]
American Indian/Alaskan Native	33.7	48.2	42.9	25.5	49.4	47.0
Asian	38.4	46.9	43.4	33.7	46.7 [†]	47.2 [†]
Latino	38.3	45.3	41.3	35.4	44.4	46.1
Mammography screening (women, ages 40-75 y, n = 8,051)						
African American			68.3	49.3		
American Indian/Alaskan Native			64.9	33.9		
Asian			64.0	48.2		
Latino			66.9	47.4		
Sociodemographic + health factors model[‡]						
Endoscopy and/or FOBT screening (adults, ages 50-75 y, n = 7,752)						
African American	42.9	38.6	44.1	41.7	54.4	24.9
American Indian/Alaskan Native	26.8	48.1	31.4	22.6	63.6	33.1
Asian	32.3	48.4	34.8	29.9	63.0	33.9
Latino	29.9	42.1	30.8	29.0	55.1	30.1
Mammography screening (women, ages 40-75 y, n = 8,051)						
African American			56.3	49.4		
American Indian/Alaskan Native			44.0	30.7		
Asian			55.8	52.8		
Latino			50.9	47.3		

NOTE: Unless otherwise indicated, all the comparisons between no reported and reported discrimination are statistically significant (P < 0.001).

* Predictor variables included in the sociodemographic model were age, education, household income, ethnicity, and survey year.

[†] Not statistically significant.

[‡] Predictor variables included in the sociodemographic and health factors model were age, education, household income, ethnicity, survey year, health insurance, health status, having a usual source of care, and having a previous diagnosis of cancer.

behavior; however, investigators did not study the independent effects of medical discrimination (47). In a national study of medical discrimination among 6,722 adults, investigators similarly reported no relationship between "optimal cancer screening" (a combined variable of FOBT, Papanicolaou smear, and mammography screening) and whether respondents reported a range of negative perceptions in health-care settings (11). Our study differed from these earlier studies in that we focused on medical discrimination and we analyzed colorectal and breast cancer screening as separate outcomes rather than combined. In addition, we defined our colorectal screening variable to account for multiple testing options rather than one test alone (FOBT), a choice consistent with other investigators and with overall recommendations for colorectal cancer screening (48-50).

Although the analysis of cross-sectional survey data precludes making causal inferences regarding perceived discrimination and cancer screening behaviors, our findings add to the knowledge of factors that should be considered when determining causes of disparities in cancer screening. We suggest that some persons may delay or avoid getting screened for cancers and that this delay may be associated with racial or ethnic-based experiences they encounter within the medical setting. These results are supported by the range of earlier studies reported by the Institute of Medicine that cite racial or ethnic discrimination as one of the underlying mechanisms accounting for ethnic cancer health disparities (2).

Our findings showed gender differences in three areas: reporting perceived discrimination, being up-to-date with cancer screening, and the effect of having a usual source of care. A slightly greater proportion of women in our CHIS sample reported medical discrimination (8.9%) compared with men (6.2%). Trivedi and Ayanian also found more California women (5.3%) than men (4.0%) reporting perceived discrimination (for any reason) in the earlier 2001 CHIS (10). As other investigators have reported that (non-California) men are more likely than women to report perceived general (14) or medical (11) discrimination, our findings and that of Trivedi and Ayanian may reflect gender differences in self-disclosure (51) that may be specific to California populations.

We also found gender differences in colorectal cancer screening rates. After adjusting for sociodemographic and health factors, screening rates for men exceeded women across all racial and ethnic groups, except for African Americans. Previous investigators have shown gender differences in preferences for types of screening tests (52, 53). In their analysis of Health Information National Trends Survey data, investigators found that the prevalence of FOBT use was greater among women than men; conversely, more men than women used endoscopy for colorectal cancer screening (52). As our study combined several screening test options (home FOBT, sigmoidoscopy, or colonoscopy) into one outcome variable, we were unable to detect gender differences by type of screening test.

We detected gender differences in the effects of having a usual source of medical care on cancer screening outcomes, consistent with other investigators. A multi-year study of National Health Interview Survey data showed that the increased use of endoscopy by men was

modified by having a usual source of health care and other primary care factors (53). Our logistic regression models analyzing the interaction of having a usual source of care on the relationship between perceived discrimination and cancer screening did not show a strong effect for women. However, for men, the effects were not only striking in magnitude but also in direction. Why would having a usual source of care increase the odds that discrimination negatively affects screening among men? One possible explanation is that having a usual source of care may increase exposure to situations unique for men that are subsequently perceived to be discriminatory. Discrimination may be compounded by the simultaneous experience of gender bias; that is, gender stereotyping may affect the experience and perception of differential treatment based on race or ethnicity (54, 55). Therefore, in situations where one group (e.g., African American men) may be subject to more gender bias (e.g., stereotyped as violent), the result may be more discrimination toward or greater perception of racial discrimination by those men compared with women in similar situations. Thus, gender differences in perceptions and effect of discrimination are likely context specific.

Although the overall survey response rates (33.5% for 2003 and 26.9% for 2005) may introduce sample bias, the use of weighted estimates statistically adjusts for nonresponse and other sample biases (56, 57). The sample excludes institutionalized persons, the small percent (3%) of those without landline telephones, and the 10% of households with only cellular telephones, which may limit generalizations to these small segments of the population who reside in California. In addition, the use of broad ethnic categories fails to account for differences among subgroups within these aggregated population groups (e.g., Mexican Americans within Latino populations; refs. 58, 59). Nonetheless, the strengths of this study include its use of a pooled representative sample over time that captures the rich diversity of the California population, its inclusion of the four primary ethnic minority groups in the state, and its administration in six languages.

By focusing on medical discrimination, as opposed to general discrimination, our findings suggest that disparities in outcomes may be associated with events (or perceptions of events) that take place in health-care settings. We cannot know whether the reported events represented actual discriminatory acts or if perception of discrimination was accurate. Clearly, more research is needed to confirm these initial findings and to explain gender differences as well as to explore important subgroup differences. Equally important is the need to identify specific provider and/or institutional behaviors or cues that signal discrimination among racial and ethnic minority patients. In turn, identifying gender-based and culturally specific interventions and strategies within medical settings may improve the experience of patients from diverse backgrounds and contribute to increased participation in cancer screening and other prevention activities.

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

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