Short Communication

Cancer Epidemiology, Biomarkers & Prevention

Temporal Trends in Colorectal Cancer Screening among Asian Americans

Stacey A. Fedewa[1,2], Ann Goding Sauer[1], Rebecca L. Siegel[1], Robert A. Smith[3], Lindsey A. Torre[1], and Ahmedin Jemal[1]

Abstract

Asian Americans (AA) are less likely to be screened for colorectal cancer compared with non-Hispanic Whites (NHW), with a widening disparity for some AA subgroups in the early 2000s. Whether these patterns have continued in more recent years is unknown. We examined temporal trends in colorectal cancer screening among AA overall compared with NHWs and by AA subgroup (Chinese, Japanese, Korean, Filipino, South Asian, Vietnamese) using data from the 2003, 2005, 2007, and 2009 California Health Interview Surveys. Unadjusted (PR) and adjusted (aPR) prevalence ratios for colorectal cancer screening, accounting for sociodemographic, health care, and acculturation factors, were calculated for respondents ages 50 to 75 years (NHW $n = 60{,}125$; AA $n = 6{,}630$). Between 2003 and 2009, colorectal cancer screening prevalence increased from 43.3% to 64.6% in AA ($P \leq 0.001$) and from 58.1% to 71.4% in NHW ($P \leq 0.001$). Unadjusted colorectal cancer screening was significantly lower among AA compared with NHW in 2003 [PR = 0.74; 95% confidence interval (CI), 0.68–0.82], 2005 (PR = 0.78; 95% CI, 0.72–0.84), 2007 (PR = 0.91; 95% CI, 0.85–0.96), and 2009 (PR = 0.90; 95% CI, 0.84–0.97), though disparities narrowed over time. After adjustment, there were no significant differences in colorectal cancer screening between the two groups, except in 2003. In subgroup analyses, between 2003 and 2009, colorectal cancer screening significantly increased by 22% in Japanese, 56% in Chinese, 47% in Filipino, and 94% in Koreans. In our study of California residents, colorectal cancer screening disparities between AA and NHW narrowed, but were not eliminated and screening prevalence among AA remains below nationwide goals, including the Healthy People 2020 goal of increasing colorectal cancer screening prevalence to 70.5%. *Cancer Epidemiol Biomarkers Prev; 25(6); 995–1000. ©2016 AACR.*

Introduction

Colorectal cancer is the third most frequently diagnosed cancer and the second leading cause of cancer-related death in the United States (1). Overall, colorectal cancer incidence has declined by 35% since the 1990s, which has been attributed to increased colorectal cancer screening use and changes in the prevalence of known risk factors (2). However, incidence trends have been variable across Asian American (AA) subgroups and declines in colorectal cancer incidence have been slower in AA compared with non-Hispanic Whites (NHW; refs. 3, 4). Furthermore, between 1990 and 2008, incidence rates declined among Chinese (by 0.7% per year) and Japanese (by 4.3% per year) but increased among Koreans (by 2.2% per year; ref. 3). Previous studies note lower colorectal cancer screening use among AA compared with NHW where 46% to 51% of AAs were up-to-date with colorectal cancer screening compared with 56% to 59% of NHW (5–8). Furthermore, Maxwell and colleagues reported growing disparities in colorectal cancer screening use between NHW and some AA subgroups between 2001 and 2005, particularly among Koreans (6). However, it is not known whether these temporal patterns have persisted. Continued examination of colorectal cancer screening patterns by Asian subgroups is important given that previous studies note wide colorectal cancer screening disparities and differences in cultural, socioeconomic, and behavioral factors among AA (5–7). In addition, Asians are the second largest and the fastest growing immigrant population in the United States (9), and nearly a third of all AAs in the United States reside in California (9). In this study, we examined temporal trends in colorectal cancer screening in AAs overall and by subgroup using California Health Interview Survey (CHIS) data between 2003 and 2009.

Materials and Methods

We used 2003, 2005, 2007, and 2009 data from CHIS, a cross-sectional, biannual, telephone-based survey designed to provide estimates of health behaviors among noninstitutionalized civilians living in California (10). These years were selected on the basis of the availability of colorectal cancer questions with 2009 being the most recent; questions regarding colorectal cancer screening were not included in the 2011–2012 and 2013–2014 CHIS. The CHIS was used because it contains a large sample of AA and interviews are conducted in English, Mandarin, Cantonese, Korean, and Vietnamese, ensuring a sufficient sample size to analyze temporal trends by Asian subtype (10). CHIS adult response rates ranged from 17.7% in 2009 to 33.5% in 2003, similar to other telephone-based health surveys including

[1]Surveillance and Health Services Research, American Cancer Society, Atlanta, Georgia. [2]Department of Epidemiology, Emory University School of Public Health, Atlanta, Georgia. [3]Cancer Control Sciences, American Cancer Society, Atlanta, Georgia.

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Corresponding Author: Stacey A. Fedewa, American Cancer Society, 250 Williams Street, Atlanta, GA 30303. Phone: 404-417-5931; Fax: 404-321-4669; E-mail: staceyfedewa@cancer.org

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California's Behavioral Risk Factor Surveillance System (BRFSS; ref. 10). Two other health surveys, the National Health Interview Survey and BRFSS, contain colorectal cancer screening data among Asian subgroups across the United States; however, the sample sizes were not sufficient for such analyses.

We selected AA ($n = 6{,}630$) and NHW ($n = 60{,}125$) respondents ages 50 to 75 years from the 2003, 2005, 2007, and 2009 CHIS. Respondents missing data on specific Asian ethnicity ($n = 57$) were excluded from subgroup analyses ($n = 6{,}563$). All variables were self-reported.

The primary outcome was up-to-date colorectal cancer screening using the U.S. Preventive Services Task Force recommendations: colonoscopy in the past 10 years, at-home stool-based testing [fecal occult blood test (FOBT) or fecal immunochemical test (FIT)] in the past year, or flexible sigmoidoscopy in the past 5 years for average-risk adults between 50 and 75 years (11). Primary analyses included colorectal cancer tests for any reason because questions regarding diagnostic versus screening tests were only included in the 2007 and 2009 surveys.

Primary independent variables in our study were race/ethnicity (NHW, AA, and subgroup: Chinese, Filipino, Japanese, Korean, South Asians, Southeast Asian/Cambodian/Other, and Vietnamese) and survey year (2003, 2005, 2007, and 2009). Other covariates included: sex, age, marital status, educational attainment, income, insurance type, and number of visits to a physician in the past year. We also considered measures related to acculturation including: language spoken at home and the proportion of life spent in the United Stated. In sensitivity analyses, place of birth (U.S. born vs. non-U.S. born) was considered instead of the proportion of life spent in the United States.

Weighted prevalence estimates, accounting for the sample design, were used to assess changes in colorectal cancer screening practices by race/ethnicity and survey year. Overall comparisons were made between NHW and AA as an aggregate group. For subgroup analyses, Japanese respondents were used as the referent group because they had the highest colorectal cancer screening prevalence in 2003. Unadjusted (PR) and adjusted prevalence ratios (aPR) and corresponding 95% confidence intervals (CI) of colorectal cancer screening were estimated using logistic regression models with predicted marginal probabilities (12). We primarily reported unadjusted PR, which may be more applicable to public health efforts aimed at improving colorectal cancer screening prevalence whereas adjusted models were used to determine whether the aforementioned sociodemographic, acculturation, and health care factors accounted for potential differences in colorectal cancer screening. Adjusted models excluded 25 (AA $n = 10$; NHW $n = 15$) respondents due to missing data on insurance type. Sensitivity analyses restricting colorectal cancer screening for routine reasons compared with not being up-to-date with colorectal cancer screening were conducted for 2007 to 2009 (NHW $n = 35{,}3503$; AA $n = 3{,}915$). We also conducted supplementary analyses using 2012 and 2014 California BRFSS to compare colorectal cancer screening (for any reason) among NHW ($n = 7{,}762$) and AA as an aggregate group ($n = 383$) to examine colorectal cancer screening prevalence in the most recent years.

Results

Overall, a higher proportion of AA were college graduates (49.4%) compared with NHW (43.6%). AAs were also more likely to be uninsured or Medicaid insured, and to have spent more of their life living outside the United States (Table 1). Among AA survey participants, the largest subgroup was Chinese ($n = 1{,}953$), followed by Vietnamese ($n = 1{,}184$), Korean ($n = 1{,}027$), Filipino ($n = 975$), Japanese ($n = 721$), South Asian ($n = 363$), and Southeast Asian/Cambodian/Other ($n = 285$). There were considerable variations in sociodemographic, acculturation, and health care factors by AA subgroup (Table 1). Between 2003 and 2009 combined, Japanese were more likely to be born in the United States and have insurance whereas a large proportion of other Asian subtypes were foreign born and uninsured.

AAs versus NHWs

Between 2003 and 2009, colorectal cancer screening increased by 49% among AA (from 43.3% to 64.6%; Supplementary Table S1). During this time, colorectal cancer increased by 58% (from 40.0% to 63.1%) in foreign born AA and by 21% (from 60.0% to 72.6%) in U.S.-born AA. (Fig. 1A) Between 2003 and 2009, colorectal cancer screening prevalence increased by 23% (from 58.1% to 71.4%) in NHW. FOBT and colonoscopy use increased between 2003 and 2009 in NHW and AA whereas sigmoidoscopy remained stable (Supplementary Table S1).

Unadjusted colorectal cancer screening was significantly lower among AA compared with NHW in 2003, 2005, 2007, and 2009, though the difference between the two groups narrowed over time. Colorectal cancer screening prevalence was 26% lower in 2003 (PR = 0.74; 95% CI, 0.68–0.82) among AA relative to NHW and by 2009, colorectal cancer screening was 10% lower (PR = 0.90; 95% CI, 0.85–0.96) in AAs compared with NHWs (Table 2). In adjusted analyses, AA has significantly lower colorectal cancer screening in 2003 and 2005, but results were nonsignificant in 2007 and 2009. Multivariate results were similar in sensitivity analyses where place of birth (U.S.-born vs. foreign-born) was considered instead of the time spent in the United States (data not shown). In analyses restricted to 2007 and 2009 data, where the reason for colorectal cancer screening was ascertained, adjusted results comparing screening for routine reasons compared with not being up-to-date with colorectal cancer screening were similar to our main findings where colorectal cancer testing for any reason was considered (Supplementary Table S2). Results from California BRFSS data are shown in Supplementary Table S3. Among AA, colorectal cancer screening prevalence was >70% in 2012 (72.7%) and 2014 (70.7%) and comparable with NHW (2012:73.0%; 2014:72.6%).

Colorectal cancer screening by Asian subgroup

Figure 1B displays colorectal cancer screening patterns by AA subgroups and CHIS survey year. Between 2003 and 2009, colorectal cancer screening prevalence significantly increased for Japanese, Chinese, Filipinos, and South Asians and nonsignificantly for Vietnamese. For Koreans, colorectal cancer screening nonsignificantly declined between 2003 and 2005 ($P = 0.636$), and significantly increased between 2005 and 2009 ($P < 0.001$). FOBT and colonoscopy use increased between 2003 and 2009 across all AA subgroups (Supplementary Table S1).

In unadjusted analyses, compared with Japanese, colorectal cancer screening was significantly lower among Chinese (2005–2007), Korean (2003–2007), Filipino (2003–2005), Vietnamese (2005), and South Asian (2003) in survey years prior to 2009. By 2009, colorectal cancer screening prevalence was comparable across Asian subtypes. In adjusted analyses, there were no differences in colorectal cancer screening comparing

Table 1. Respondent characteristics by race/ethnicity, California adults ages 50–75 years, CHIS 2003, 2005, 2007, and 2009[a]

	NHW	Asian	P[b]	Chinese	Japanese	Korean	Filipino	South Asian	Vietnamese	SE/CAMB/OTH/MULT	P[c]
Total unweighted *N*	60,125	6,630		1,953	741	1,072	975	363	1,184	285	
	N (%)	*N* (%)		*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	*N* (%)	
Age, years											<0.0001
50–64	39,126 (72.8)	4,501 (70)	0.0002	1,395 (67.9)	466 (63)	585 (69.1)	695 (70.1)	264 (70.9)	834 (80.1)	218 (72)	
65–75	20,999 (27.2)	2,129 (30)		558 (32.1)	275 (37)	487 (30.9)	280 (29.9)	99 (29.1)	350 (19.9)	67 (28)	
Sex											<0.0001
Female	35,630 (51.7)	3,769 (56)	<0.0001	1,112 (53.3)	450 (60)	649 (59.2)	630 (62.8)	150 (38.2)	579 (52.3)	171 (55.7)	
Male	24,495 (48.3)	2,861 (44)		841 (46.7)	291 (40)	423 (40.8)	345 (37.2)	213 (61.8)	605 (47.7)	114 (44.3)	
Marital status											<0.0001
Married	32,978 (66.9)	4,744 (78)	<0.0001	1,463 (82.2)	443 (71.2)	806 (81.2)	650 (73.9)	300 (88.4)	857 (76.8)	193 (72)	
Not married	27,147 (33.1)	1,886 (22)		490 (17.8)	298 (28.9)	266 (18.8)	325 (26.1)	63 (11.6)	327 (23.3)	92 (28)	
Education											
≤HS	14,132 (28.3)	2,147 (34.3)	<0.0001	596 (40.1)	127 (21.7)	414 (45.5)	155 (19.1)	47 (13.6)	708 (67.8)	84 (34.1)	<0.0001
Some college	18,371 (28.1)	1,197 (16.3)		318 (14.4)	210 (28.1)	131 (8.8)	206 (18.8)	32 (8.1)	222 (13.6)	65 (23.7)	
≥College	27,622 (43.6)	3,286 (49.4)		1,039 (45.5)	404 (50.2)	527 (45.7)	614 (62.1)	284 (78.2)	254 (18.6)	136 (42.2)	
Language spoken											
English	54,923 (90.5)	1,356 (19.4)	<0.0001	354 (14)	539 (73.7)	43 (4)	228 (17.3)	59 (15.2)	17 (1.6[d])	82 (26)	<0.0001
English + other	4,058 (7.4)	2,353 (42.1)		630 (30.9)	171 (21.6)	324 (34.1)	567 (65.1)	257 (71.9)	299 (25.5)	90 (35.9)	
Not English	1,144 (2.2)	2,921 (38.6)		969 (55.1)	31 (4.7)	705 (61.9)	180 (17.6)	47 (12.9)	868 (72.9)	113 (38.2)	
Immigration status											
Born in US	55,630 (91.4)	1,136 (14.8)	<0.0001	338 (13.2)	529 (69.9)	16 (0.9[d])	142 (8.6)	7 (0.9[d])	1 (0[d])	59 (18)	<0.0001
Born outside US	4,495 (8.6)	5,494 (85.2)		1,615 (86.8)	212 (30.1)	1,056 (99.1)	833 (91.4)	356 (99.1)	1,183 (100)	226 (82.1)	
Time spent in US											
0%–40%	702 (1.6)	2,498 (39.2)	<0.0001	785 (44.7)	30 (4.5)	465 (45.9)	276 (35.8)	126 (43.5)	738 (60.3)	76 (29.2)	<0.0001
41%–60%	1,177 (2.3)	2,122 (31.9)		538 (29.1)	72 (9.4)	504 (46.3)	362 (35.6)	157 (42)	381 (32.7)	101 (36.2)	
61+%	58,246 (96.1)	2,010 (29)		630 (26.1)	639 (86.1)	103 (7.8)	337 (28.5)	80 (14.5)	65 (7)	108 (34.6)	
Insurance[e]											
Uninsured/Medicaid/public	8,677 (13.9)	2,223 (31.4)	<0.0001	505 (30.8)	74 (10.1)	547 (52.4)	209 (22.8)	62 (22.4)	732 (62.1)	83 (31.4)	<0.0001
Medicare	19,297 (25.3)	1,165 (16.8)		334 (17.4)	245 (31.5)	198 (11)	186 (17.5)	66 (17.8)	83 (4.4)	40 (16.5)	
Private HMO	16,358 (32.3)	2,081 (35)		709 (33.6)	218 (31.3)	198 (20.9)	412 (44.5)	156 (40.4)	268 (26.7)	104 (35.2)	
Private non-HMO	15,778 (28.5)	1,151 (16.8)		405 (18.2)	203 (27.2)	129 (15.7)	164 (15.2)	76 (19.4)	99 (6.7)	58 (16.9)	
No. of physician visits in past year											
None	6,076 (10.8)	979 (14.3)	<0.0001	334 (16.8)	99 (12.8)	165 (21.3)	109 (9.2)	51 (14.2)	178 (16)	39 (15.7)	<0.0001
1 visit	9,457 (16.2)	1,119 (18.2)		357 (18.2)	138 (16.9)	158 (14.5)	185 (22.5)	62 (19.2)	155 (12.7)	53 (15.9)	
2–3 visits	17,291 (29)	1,871 (29.1)		535 (26.8)	240 (35.8)	291 (24.1)	302 (30.5)	131 (34.5)	262 (24.3)	92 (36.7)	
>3 visits	27,301 (44.1)	2,661 (38.5)		727 (38.3)	264 (34.5)	458 (40.2)	379 (37.9)	119 (32.1)	589 (47.1)	101 (31.8)	
Income											
0%–199% FPL	9,485 (13.8)	2,368 (32.9)	<0.0001	650 (37.5)	82 (10.6)	462 (38.2)	231 (23.7)	64 (20.6)	763 (63.7)	100 (39.1)	<0.0001
≥200% FPL	50,640 (86.2)	4,262 (67.1)		1,303 (62.6)	659 (89.4)	610 (61.9)	744 (76.3)	299 (79.4)	421 (36.3)	185 (60.9)	

Abbreviations: CAMB, Cambodia; FPL, Federal Poverty Level; HMO, Health Maintenance Organization; NHW, non-Hispanic White; No, number; OTH, other; SE, Southeast; US, United States.

[a]All percentages are weighted, numbers presented are unweighted.

[b]*P* value comparing NHW with Asian American (AA; overall).

[c]*P* value comparing differences across AA subgroups.

[d]Unreliable estimates due to small sample size or relative standard error >30%.

[e]There were 15 NHW missing insurance, 10 AA missing insurance (1 Japanese, 4 Filipino, 3 South Asian, 2 Vietnamese).

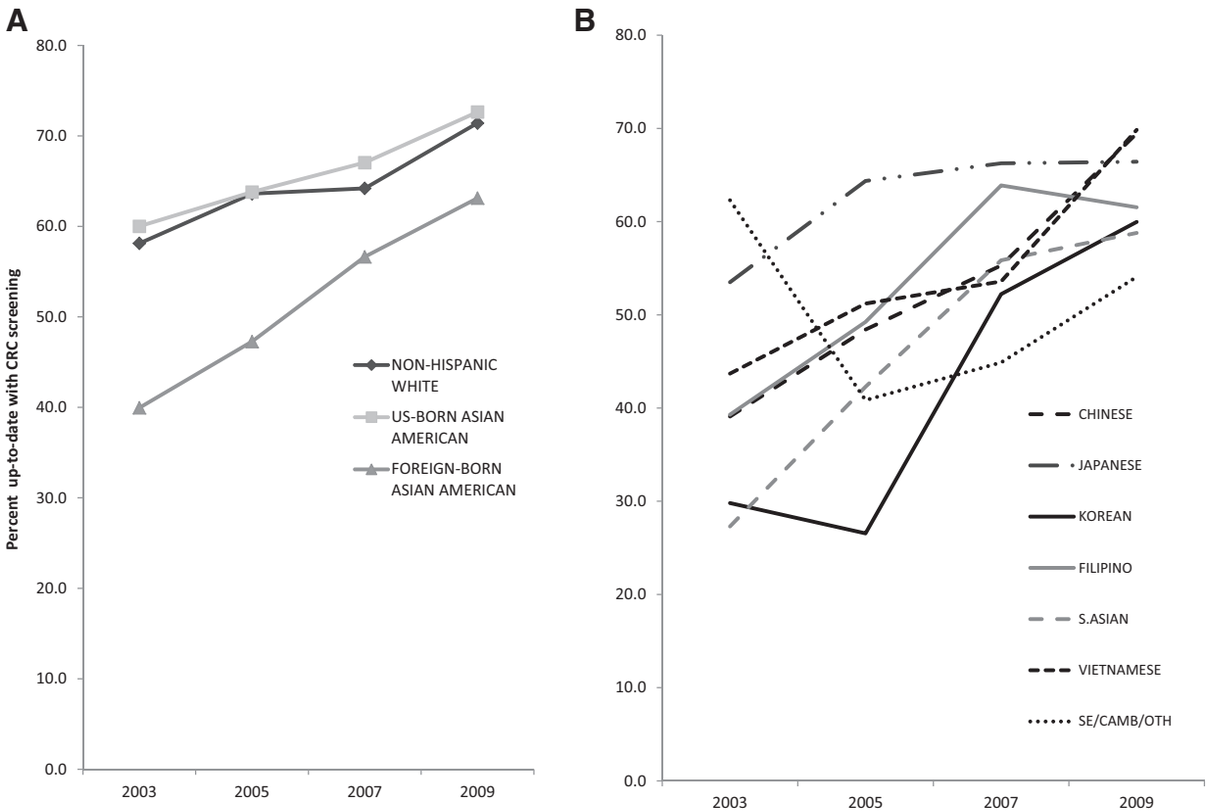

Figure 1.
Up-to-date colorectal cancer screening among California adults ages 50–75 years, CHIS 2003, 2005, 2007, 2009. A, colorectal cancer screening prevalence among Asian Americans by place of birth and non-Hispanic Whites. B, colorectal cancer screening among Asian Americans, by subgroup. CAMB, Cambodian; CRC, colorectal cancer; OTH, other; S, South; SE, Southeast; US, United States.

Japanese to other Asian subgroups for any given year, except for Koreans among whom screening was lower in 2005 and in South Asians in 2003.

Discussion

In our study of California residents, colorectal cancer screening prevalence increased in relative terms by 49% in AA and 23% in NHW between 2003 and 2009, reducing, but not completely eliminating disparities during this time. Furthermore, colorectal cancer screening improved for each AA subgroup, and inequalities between Japanese, who have similar colorectal cancer screening patterns as NHW, and other Asian subgroups were nonsignificant by the end of the study period. Despite recent increases in colorectal cancer screening, prevalence for all AA combined and several AA subgroups including Koreans, Filipinos, and South

Table 2. Unadjusted PR and aPR and 95% CI of up-to-date colorectal cancer screening by Asian subgroup and survey year, CHIS (2003, 2005, 2007, 2009)[a]

		AA subgroup analyses; all subgroups are vs. Japanese[c]					
Survey year	Overall AAs vs. NHW[b]	Chinese	Korean	Filipino	South Asian	Vietnamese	SE/CAMB/OTH
		Unadjusted PR (95% CI)					
2003	**0.74 (0.68–0.82)**	0.80 (0.64–1.00)	**0.55 (0.38–0.80)**	**0.75 (0.58–0.96)**	**0.50 (0.31–0.83)**	0.80 (0.60–1.07)	1.12 (0.79–1.59)
2005	**0.78 (0.72–0.84)**	**0.77 (0.63–0.93)**	**0.42 (0.32–0.55)**	**0.76 (0.61–0.96)**	0.66 (0.44–1.00)	**0.79 (0.63–0.99)**	**0.63 (0.43–0.93)**
2007	**0.91 (0.85–0.96)**	**0.84 (0.71–0.99)**	**0.79 (0.64–0.97)**	0.97 (0.81–1.18)	0.85 (0.66–1.09)	0.81 (0.64–1.03)	0.71 (0.50–1.01)
2009	**0.90 (0.84–0.97)**	1.02 (0.88–1.18)	0.87 (0.69–1.11)	0.90 (0.74–1.10)	0.86 (0.65–1.12)	1.03 (0.86–1.23)	0.81 (0.56–1.18)
		Adjusted PR (95% CI)[d]					
2003	**0.89 (0.82–0.97)**	1.04 (0.84–1.30)	0.88 (0.62–1.24)	0.89 (0.68–1.15)	**0.57 (0.35–0.93)**	1.25 (0.97–1.63)	1.37 (0.97–1.93)
2005	**0.91 (0.85–0.97)**	0.93 (0.75–1.15)	**0.60 (0.46–0.79)**	0.83 (0.64–1.07)	0.76 (0.52–1.12)	1.06 (0.85–1.33)	0.74 (0.48–1.14)
2007	1.01 (0.96–1.07)	1.01 (0.82–1.23)	1.07 (0.86–1.34)	1.08 (0.85–1.36)	0.99 (0.75–1.30)	1.17 (0.93–1.46)	0.93 (0.66–1.29)
2009	0.99 (0.93–1.05)	1.12 (0.95–1.32)	0.97 (0.76–1.24)	0.96 (0.78–1.18)	0.94 (0.69–1.27)	**1.22 (1.03–1.45)**	0.89 (0.61–1.31)

Abbreviations: AA, Asian American; CAMB, Cambodia; NHW, non-Hispanic White; OTH, other; SE, Southeast.
[a]Bold font indicates statistical significance.
[b]Unadjusted model includes 58,987 NHW and 6,481 AAs. Adjusted model includes 58,972 NHW and 6,471 AAs.
[c]Unadjusted model includes 6,428 respondents and adjusted model includes 6,418 respondents.
[d]Adjusted for: age, sex, marital status, educational attainment, language spoken at home, percent of lifetime spent in the United States, insurance type/status, health care utilization, and income.

Asians, were below the Healthy People 2020 target of 70.5% and the National Colorectal Cancer Roundtable's goal of 80% by 2018 (13, 14).

More recent increases in colorectal cancer screening among AAs suggests that they may have been later adopters of colorectal cancer screening compared with NHW in keeping with the diffusion of innovations (DOI) concept. DOI states that adoption of preventive health behaviors follows an S-shaped pattern and occurs in phases—first among innovators, followed by early adopters, the early majority, then late majority, and eventually laggers (15, 16). Specifically, changes in insurance coverage and policies; more awareness; and outreach programs aimed at improving colorectal cancer screening uptake in AA communities may account for gains in colorectal cancer screening use (17–19). We observed increases in both FOBT and colonoscopy, which is in contrast to nationwide patterns where colonoscopy has increased and FOBT use has either declined (among higher SES adults) or remained the same (among lower SES adults; ref. 20). Greater FOBT use in our study may be partly attributable to programs in California that depend on FOBT or FIT as the primary colorectal cancer screening method. For example, the FLU-FIT program, which offers patients FIT or FOBT tests with annual influenza vaccinations and has been shown to improve colorectal cancer screening utilization, was used in public health clinics serving low-income Chinese Americans in San Fransisco during the later part of our study period (2008–2009; ref. 18). In addition, the considerable increases in colorectal cancer screening in the more recent time period (2007–2009) coincided with the launch of Southern and Northern California Kaiser Permanente's (health insurance plans covering ~7 million adults) organized colorectal cancer screening programs wherein FIT kits were mailed to enrollees (21).

Our findings of lower colorectal cancer screening among AAs compared with NHW, in unadjusted but not adjusted analyses of CHIS data, are consistent with a previous report and suggest that acculturation, health utilization, and demographic factors account for these differences (22). Studies examining reasons for not being screened among AAs report that lack of awareness and not having symptoms/problems as the most common reasons; foreign-born AA were especially prone to view screening as response to symptoms/problems as opposed to a preventive measure (22, 23). A substantial percentage of AA (particularly Korean and Vietnamese) either had no insurance or Medicaid insurance where colorectal cancer screening rates are low (24), which may also contribute to lower colorectal cancer screening in these groups (5). However, not having insurance or a doctor was infrequently cited as reasons for not receiving screening among AA (22), suggesting that more nuanced interactions between health care and cultural factors may also play a role. AA may seek health care from traditional practitioners or physicians that speak the same language, who may be less likely to recommend colorectal cancer screening (25).

There are several limitations in our study. Our analysis relied on self-reported screening behavior, which is likely over reported (26). People with healthier behaviors may be more likely to respond to CHIS, leading to selection bias, however, health behaviors between responders and nonresponders were not significantly different after accounting for demographic factors according to a 2007 CHIS report (10). Furthermore, screening patterns in California may not be representative of national patterns as there may be more non-English services there compared with other states (9). According to 2010 nationwide estimates, the AA/NHW disparity was slightly larger (absolute and relative difference of 12.9% and 21.6%, respectively) than what was observed in California (27). It is not clear whether colorectal cancer screening continued to increase among AA in more recent years due to the lack of more recent CHIS screening data, though, results from a limited number of AA ($n = 383$) from 2012 to 2014 BRFSS data, which may be less representative of non–English speaking AA, showed that AA's colorectal cancer screening prevalence was similar to NHW. We were unable to differentiate between diagnostic versus screening tests throughout our study period; however, results restricted to 2007–2009 during which this information was available were mostly similar to our main findings. In addition, we were not able to adjust for all factors related to colorectal cancer screening including family history. Also, we combined Southeast Asians, Cambodians, and others into one group due to the small numbers ($n = 285$), however, these ethnicities are unique and the mix of these various ethnicities may have changed over survey years, which further obscures temporal trends in this group.

In conclusion, we observed a narrowing in, but not elimination of, disparities between AAs and NHWs in our study of California residents. Furthermore, colorectal cancer screening improved for each AA subgroup, and inequalities between Asian subgroups were either eliminated or dampened. Improvements in colorectal cancer screening in AA and by subgroup are encouraging and likely a result of changes in health insurance coverage, policies, targeted interventions, and organized approaches to screening in these populations. However, colorectal cancer screening prevalence among AAs is below nationwide colorectal cancer screening goals, and continued culturally appropriate and tailored interventions are needed.

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

Authors' Contributions

Conception and design: S.A. Fedewa
Development of methodology: S.A. Fedewa
Analysis and interpretation of data (e.g., statistical analysis, biostatistics, computational analysis): S.A. Fedewa, A. Goding Sauer, A. Jemal
Writing, review, and/or revision of the manuscript: S.A. Fedewa, A. Goding Sauer, R.L. Siegel, R.A. Smith, L.A. Torre, A. Jemal
Administrative, technical, or material support (i.e., reporting or organizing data, constructing databases): S.A. Fedewa, A. Goding Sauer
Study supervision: S.A. Fedewa, A. Jemal

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