



Utilization of essential preventive health services among Asians after the implementation of the preventive services provisions of the Affordable Care Act

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ABSTRACT

Utilization of cost-effective essential preventive health services increased after the implementation of the Affordable Care Act's (ACA) provision that non-grandfathered private insurers provide cost-effective preventive services without cost sharing in 2010. Little is known, however, whether this change is also observed among Asians in the US. We examined patterns of preventive services utilization among Asian subgroups relative to non-Latino whites (whites) after the implementation of the ACA's preventive services provisions. Using 2013–2016 Medical Expenditure Panel Survey data, we examined utilization trends in preventive services among Asian Indians, Chinese, Filipinos, and other Asians relative to whites. We also ran logistic regression models to estimate the likelihood of having received each of the seven essential preventive services (routine checkups, flu vaccinations, cholesterol screenings, blood pressure checkups, Papanicolaou “pap” tests, mammograms, and colorectal cancer screenings). Compared to whites, Asians had higher rates of utilization of routine checkups, cholesterol screenings, and flu vaccinations, but they had lower utilization rates of blood pressure checkups, pap tests, and mammograms. The patterns of preventive services utilization differed across the Asian subgroups. All Asian subgroups, except for Filipinos, were less likely to have pap tests or mammograms than whites. Moreover, we observed a decreasing trend in having pap tests, mammograms, or colorectal cancer screenings among all Asian subgroups between 2013 and 2016. Our findings suggest that there are low cancer screening rates across Asian subgroups. This indicates the need for programs tailored to specific Asian subgroups to improve cancer screening.

1. Introduction

The Affordable Care Act (ACA) expanded access to preventive health care by requiring that non-grandfathered private insurers provide cost-effective preventive services without cost-sharing in 2010, particularly those recommended by the United States Preventive Services Task Force (USPSTF) and the Advisory Committee on Immunization Practices (routine checkup, flu vaccination, cholesterol screening, blood pressure checkup, Papanicolaou “pap” test, mammogram, and colorectal cancer screening) (Koh and Sebelius, 2010; Chait and Glied, 2018). A study found that utilization of preventive services has increased since the implementation of the ACA's preventive services provisions, but the improvements were minimal across all the essential

health benefits (Hong et al., 2017). Another study showed that improvements in use of preventive services were more pronounced among Latinos and non-Latino “blacks” relative to non-Latino “whites” after the implementation of the ACA's preventive services provisions (Agirdas and Holding, 2018), which suggests that racial and ethnic disparities in preventive services utilization have decreased. Improvements were not observed, however, among Asians as a single group (Agirdas and Holding, 2018).

Asians are the most diverse racial group in the United States (US) in terms of culture, language, religion, immigration patterns, and several other characteristics. They are made up of more than 50 different Asian subgroups and 100 languages (Ramakrishnan and Ahmad, 2014). Within the broad umbrella category of Asians, the three largest

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subgroups by country of origin are Chinese, Filipino, and, Asian Indian (Pew Research Center, 2012). Each subgroup has unique socioeconomic profiles (Huang and Carrasquillo, 2008; Lopez et al., 2017). For example, the share of those without health insurance vary by Asian subgroup (Park et al., 2018; Park et al., Forthcoming; Park et al., Forthcoming; Park et al., Under review). Having health insurance and a regular physician or place for health care play critical roles in accessing and using preventive services (Wallace and Sommers, 2016). Disparities in access to health care can lead to differences in preventive services utilization across the Asian subgroups.

Little is known, however, about patterns of preventive services utilization across the Asian subgroups. Due to limited measures of Asian subgroup categories in most population-based surveys, Asians are typically treated as a single monolithic group, which could mask heterogeneity (Holland and Palaniappan, 2012; Islam et al., 2010). To our knowledge, there are no peer-reviewed studies that have examined preventive services utilization among Asian subgroups since the implementation of the ACA's preventive services provisions. There is one study that examined changes in preventive services utilization associated with the provisions of the ACA among Asians in Michigan (Wu and Raghunathan, 2019). This study did not analyze the patterns of preventive services utilization across Asian subgroups.

Using a nationally representative sample from the 2013–2016 Medical Expenditure Panel Survey (MEPS), we examined patterns of utilization of seven essential preventive services required to be covered by the ACA among Asian subgroups relative to whites after the implementation of the ACA's preventive services provisions. Identifying disparities in utilization of preventive services according to each Asian subgroup may help inform tailored programs to each group and target effective strategies to improve preventive services utilization for all Asians.

2. Methods

2.1. Study sample

We used data from the 2013–2016 MEPS. MEPS is a nationally representative survey of the US civilian, non-institutionalized population. MEPS annually collects information on respondents' demographic, socioeconomic, and health care utilization characteristics. We included adults older than 18 years old who were Asian or non-Latino "white." We included whites as a reference group to compare patterns of preventive services utilization with Asian subgroups. Our sample consisted of 36,661 adults (31,038 whites, 1182 Asian Indians, 1302 Chinese, 924 Filipinos, and 2215 other Asians). Asian Indians, Chinese, and Filipinos are the three largest Asian subgroups. "Other Asians" captures those who self-identified as Asian but not as one of the three Asian subgroups listed above.

2.2. Measures

Our outcome measures were seven of the ten preventive services recommended by the USPSTF (U.S. Preventive Services Task Force, 2014). Following the USPSTF guidelines, we assessed whether eligible individuals had each of the following seven preventive services: routine checkup, flu vaccination, cholesterol screening, blood pressure checkup, pap test, mammogram, and colorectal cancer screening. Specifically, the USPSTF recommends routine checkups and flu vaccinations every year, and, thus, we assessed whether all adults had these services within the past year. For cholesterol screening, the USPSTF guidelines differ between men and women by age and risk group. Specifically, the USPSTF concludes that the benefits of cholesterol screening substantially outweigh the potential harms for men ages 35 and older and women ages 45 and older at increased risk for coronary heart disease. Since risk cannot be accurately measured with MEPS, we followed the approach used in previous studies (Hong et al., 2017;

Holden et al., 2015) and assessed whether men older than age 35 years and women older than age 45 years had the test within the past five years. For blood pressure check up, there is lack of evidence for ideal blood pressure checkup intervals. However, the USPSTF recommends blood pressure screening every 1–2 years depending on one's blood pressure level. Therefore, we assessed whether all adults had the service within the past two years. Moreover, the USPSTF recommends screening for cervical cancer for women ages 21–65 years with cytology every three years. Thus, we assessed whether women ages 21–65 years without a hysterectomy had the test within the past three years. Furthermore, the USPSTF recommends biennial mammography screening for women ages 40–74 years, and thus we assessed whether women ages 40–74 years had the test within the past two years. Finally, the USPSTF recommends that adults ages 50–75 years be screened for colorectal cancer using fecal occult blood testing, sigmoidoscopy, or colonoscopy. Therefore, we assessed whether all adults ages 50–75 years had any of these tests in the past (fecal occult blood testing within the past three years, sigmoidoscopy in the past five years, and colonoscopy in the past ten years). For cancer screening, we excluded cancer survivors with the corresponding cancers (cervical cancer, breast cancer, and colorectal cancer).

We chose control variables based on the Andersen behavioral model of health services utilization (Andersen, 1995). The model was developed to describe three types of factors that lead to the use of health services: predisposing, enabling, and need. According to the model, predisposing factors include factors that predict the propensity to use health services. Enabling factors include factors that facilitate or hinder access to health services. Need factors include factors that measure perceived or evaluated needs for health care services. We used this framework to guide our empirical model specification. In this study, the predisposing factors included the participants' race and Asian subgroup (white, Asian Indian, Chinese, Filipino, or other Asian), age (18–24, 25–34, 35–44, 45–54, 55–64, 65–74, or ≥ 75 years old; different age groups were used for specific preventive services according to the USPSTF guidelines), sex (female or male), marital status (married or unmarried), education (less than high school degree, high school degree, some college, or college graduate), English proficiency (limited English proficiency or fluent English proficiency), and nativity (US-born or non US-born). Enabling factors included family income as a share of the federal poverty level (FPL; 0–99%, 100–124%, 125–199%, 200–399%, or $\geq 400\%$), health insurance status (any private, public only, or uninsured), and area of residence (Northeast, Midwest, South, or West). Need factors included self-reported health status (poor, fair, good, or very good/excellent) and ten chronic conditions (angina, arthritis, asthma, coronary heart disease, diabetes, emphysema, joint pain, myocardial infarction, other heart disease, and stroke). MEPS collects information on about 15 medical conditions for each respondent. Among these medical conditions, we chose these ten because they are common chronic diseases among adults.

2.3. Statistical analysis

We first examined weighted sample characteristics and tested differences by white and Asian subgroups. Then, we estimated weighted unadjusted rates of preventive services utilization and tested differences by white and Asian subgroups. We then examined unadjusted utilization trends in the preventive services between 2013 and 2016 by white and Asian subgroups. Finally, we fitted multivariable logistic regression models to estimate the likelihood of having each of the preventive services among Asian subgroups relative to whites. Since other provisions of the ACA (the individual mandate, subsidized marketplace coverage, and Medicaid expansion) may lead to changes in preventive services utilization among white and Asian subgroups, we conducted a sensitivity analysis by limiting our study population to those between 2014 and 2016. Whites were used as the reference group in the models. All models adjusted for the predisposing, enabling, and need factors

Table 1
Sample characteristics by non-Latino whites and Asian subgroups, 2013–2016.

	Non-Latino white (N = 31,038)	Asian Indian (N = 1182)	<i>P</i> ^a	Chinese (N = 1302)	<i>P</i> ^a	Filipino (N = 924)	<i>P</i> ^a	Other Asian (N = 2215)	<i>P</i> ^a
Predisposing factors									
Age (years), %		***		***		***		***	
18–24	8.38	8.29		9.52		7.36		10.88	
25–34	16.74	34.01		20.58		14.50		18.78	
35–44	15.09	26.48		16.97		20.35		17.79	
45–54	16.94	12.61		19.20		19.05		19.10	
55–64	18.59	10.32		14.98		17.42		13.63	
65–74	13.71	6.60		11.21		13.74		10.97	
> =75	10.55	1.69		7.53		7.58		8.85	
Female, %	52.74	47.72	***	52.30	***	58.87	***	54.72	***
Married, %	22.09	19.12	***	26.57	***	24.78	***	28.58	***
Education, %		***		***		***		***	
Less than high school degree	7.78	7.11		10.98		7.36		12.51	
High school degree	33.19	14.30		17.90		20.02		27.09	
Some college	23.22	21.07		18.43		28.14		23.07	
More than college degree	22.67	47.29		37.86		27.06		22.71	
Limited English proficiency, %	0.44	4.48	***	25.88	***	3.57	***	23.12	***
US born, %	95.53	11.51	***	22.04	***	18.51	***	28.85	***
Enabling factors									
Family income, %		***		***		***		***	
0–99% FPL	11.83	6.68		12.06		5.19		12.01	
100–124% FPL	4.09	2.96		3.92		2.60		7.04	
125–199% FPL	12.57	9.05		12.06		9.42		14.72	
200–399% FPL	29.59	21.24		23.27		34.42		32.19	
> =400% FPL	41.93	60.07		48.69		48.38		34.04	
Health insurance, %		***		***		***		***	
Any private health insurance	71.38	79.10		71.58		77.16		64.60	
Public health insurance only	21.31	14.30		21.35		17.42		24.20	
Uninsured	7.31	6.60		7.07		5.41		11.20	
US census region		***		***		***		***	
Northeast	16.90	27.07		18.28		7.03		10.38	
Midwest	28.23	16.07		9.14		8.66		10.97	
South	33.57	26.40		12.44		8.87		21.94	
West	21.30	30.46		60.14		75.43		56.70	
Need factors									
Parent-reported health status	***		***		***		***		***
Poor	23.09	35.53		27.42		25.22		24.20	
Fair	35.70	37.56		36.25		41.34		33.50	
Good	27.49	22.67		25.35		25.32		30.43	
Very good/excellent	13.71	4.23		10.98		8.12		11.87	
Chronic conditions									
Angina	3.05	0.85	***	1.38	***	1.30	***	1.17	***
Arthritis	32.85	8.88	***	12.98	***	19.70	***	13.27	***
Asthma	10.79	3.89	***	4.30	***	6.71	***	5.78	***
Coronary heart disease	6.50	3.13	***	2.00	***	3.03	***	2.48	***
Diabetes	10.17	8.04	***	5.15	***	14.50	***	11.56	***
Emphysema	3.09	0.25	***	0.46	***	0.76	***	0.50	***
Joint pain	43.01	18.36	***	23.43	***	24.78	***	23.02	***
Myocardial infarction	4.90	1.78	***	0.77	***	1.41	***	1.63	***
Other heart disease	14.59	3.13	***	5.61	***	5.30	***	5.28	***
Stroke	4.67	1.44	***	1.46	***	3.03	***	2.93	***

p* < .05. *p* < .01. ****p* < .001.

^a *P* values were estimated relative to non-Latino whites.

described above. We estimated the models by accounting for the robustness of standard errors and the clustered survey design. For all analyses, we used survey weights to adjust sample characteristics to be representative of the US population. All analyses were conducted using Stata 15. All data were analyzed in 2019.

3. Results

Table 1 shows the weighted sample characteristics by white and Asian subgroups. Compared to whites, Asian subgroups had varying predisposing, enabling, and need factors. Specifically, Asian subgroups were significantly more likely to have higher educational attainment, more likely to have limited English proficiency, more likely to be non-US-born, more likely to self-report poor or fair health status, but they

were less likely to have chronic conditions. Differences in the characteristics were observed across the Asian subgroups. Particularly, Filipinos, Asian Indians, and Chinese (5.41%, 6.60%, and 7.07%, respectively) were less likely to be uninsured than other Asians (11.20%). Also, Asian Indians and Filipinos (4.06% and 2.20%, respectively) were less likely to have limited English proficiency than Chinese and other Asians (21.46% and 16.78%, respectively). There were also differences in educational attainment, family income, and nativity. Specifically, Asian Indians, Chinese, and Filipinos were more likely to have a college degree or higher, more likely to have household incomes above 400% of the FPL, and less likely to be non-US born than other Asians.

Table 2 presents the weighted unadjusted rates of preventive services utilization by white and Asian subgroups. Compared to whites, all Asian subgroups were less likely to have blood pressure checkups and

Table 2
Weighted unadjusted rates of preventive services utilization by non-Latino whites and Asian subgroups, 2013–2016.

	Routine checkup			Flu vaccination			Cholesterol screening			Blood pressure checkup			Pap test			Mammogram			Colorectal cancer screening		
	%	N	P ^a	%	N	P ^a	%	N	P ^a	%	N	P ^a	%	N	P ^a	%	N	P ^a	%	N	P ^a
Non-Latino white	70.60	30,504		48.67	30,477		93.48	20,788		93.80	30,639		79.05	12,014		72.02	10,193		28.13	30,655	
Asian Indian	67.62	1172	***	46.64	1159	*	96.13	549	*	91.08	1167		76.13	490		57.38	212	***	26.68	1176	
Chinese	72.06	1268	***	47.67	1277	***	92.38	789		89.36	1271		73.30	558		68.43	379	*	29.72	1279	*
Filipino	74.78	871	*	57.99	866		94.56	604		92.57	875	***	79.10	420		65.76	321		33.29	908	**
Other Asian	65.02	2129	***	46.98	2128	***	92.04	1332		86.01	2131		66.09	971	***	66.24	689	**	33.23	2176	***

*p < .05. **p < .01. ***p < .001.

^a P values were estimated relative to non-Latino whites.

mammograms. However, statistically significant differences were found only for Filipinos in having blood pressure checkups and Asian Indians, Chinese, and other Asians in having mammograms. For the other five preventive services, the pattern of preventive services utilization differed by subgroup. Specifically, Asian Indians were more likely to have cholesterol screenings and less likely to have flu vaccinations and pap tests than whites. Chinese were more likely to have pap tests and colorectal cancer screenings and less likely to have flu vaccinations than whites. Filipinos were more likely to have routine checkups and colorectal cancer screenings than whites. Other Asians were more likely to have colorectal cancer screenings and less likely to routine checkups, flu vaccinations, and pap tests than whites.

Fig. 1 shows utilization trends in the seven preventive services between 2013 and 2016 by white and Asian subgroups. There was an increasing trend in having routine checkups, blood pressure checkups, cholesterol screenings, and flu vaccinations across almost all Asian subgroups (Fig. 1). However, a decreasing trend was observed in having pap tests, mammograms, and colorectal cancer screenings among several Asian subgroups. Specifically, we observed a consistently decreasing trend in having pap tests among Chinese, having mammograms among Asian Indians and other Asians, and having colorectal cancer screenings among Asian Indians and Filipinos.

Table 3 presents the likelihood of having each of the preventive services among Asian subgroups relative to whites. A similar pattern was observed even when adjusted for the predisposing, enabling, and need factors. Compared to whites, all Asian subgroups were more likely to have flu vaccinations. However, there were no significant differences in having colorectal cancer screenings among Asian subgroups relative to whites. For the other five preventive services, all Asian subgroups tended to have a higher likelihood of having routine checkups and cholesterol screenings than whites, but they had a lower likelihood of having blood pressure checkups, pap tests, and mammograms. Specifically, compared to whites, Chinese and Filipinos were more likely to have routine checkups, and Asian Indians were more likely to have blood pressure checkups. Compared to whites, Asian Indians, Chinese, and other Asians were less likely to have pap tests, and Asian Indians and other Asians were less likely to have mammograms and blood pressure checkups. Among the seven preventive services, cancer screening services were of particular interest. With the exception of Filipinos, the Asian subgroups were less likely to have pap tests or mammograms than whites. These findings remain unchanged when our study population was limited to those between 2014 and 2016.

4. Discussion

This study demonstrates that compared to whites, Asians tended to have lower utilization of blood pressure screenings, pap tests, and mammograms. Cancer screenings were notable. Specifically, we observed a decreasing trend in having pap tests, mammograms, or colorectal cancer screenings among all Asian subgroups between 2013 and 2016. Moreover, with the exception of Filipinos, all Asian subgroups were less likely to have pap tests or mammograms than whites. On the other hand, Asians tended to have higher utilization of routine checkups, cholesterol screenings, and flu vaccinations than whites. We also found that the patterns of preventive services utilization differed across the Asian subgroups. Our findings point to the need for programs tailored to Asian subgroups to improve preventive services utilization among Asians, particularly cancer screening services.

We observed that some Asian subgroups were less likely to have blood pressure screenings, pap tests, and mammograms than whites. In particular, low screening rates for pap tests and mammograms are of interest because cancer is the leading cause of death among Asians (McCracken et al., 2007). Low screening rates for cancer among Asians have been reported in previous studies (Kandula et al., 2006; Klabunde et al., 2012). In addition, we found that utilization of pap tests, mammograms, or colorectal cancer screenings has decreased between 2013

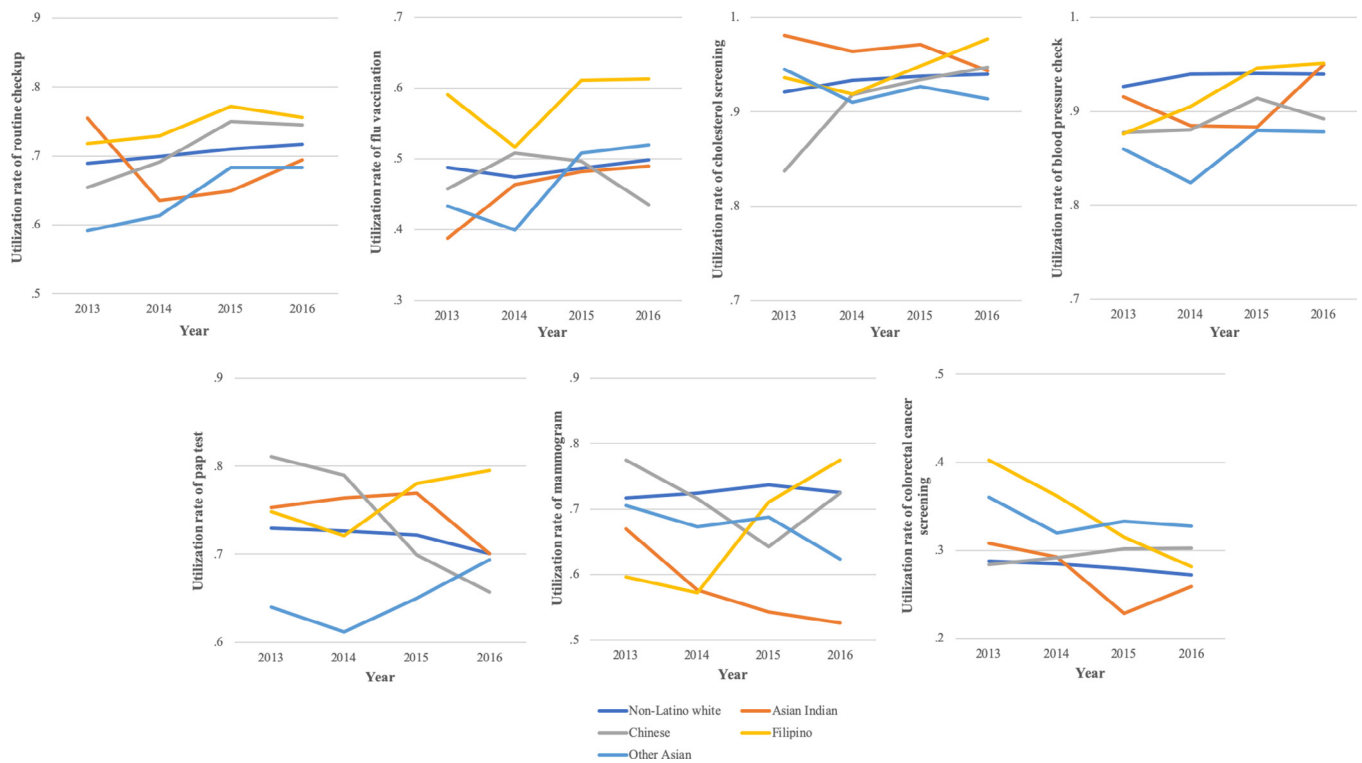


Fig. 1. Utilization trends in preventive services by non-Latino whites and Asian subgroups, 2013–2016.

and 2016 among all Asian subgroups (pap tests for Chinese, mammograms for Asian Indians and other Asians, and colorectal cancer screenings for Asian Indians and Filipinos). These phenomena may be explained by Asians being less aware of the availability of benefits and/or the importance of cancer screening likely due to limited English proficiency and/or limited health literacy. Research has found that decreased acculturation (as measured by language preference, length of residency in the US, age at arrival in the US, ethnic origin of friends and peers, and self-identity) was associated with lower utilization of cancer screening services for Asians (Lee et al., 2014). This implies that limited English proficiency and/or limited health literacy may serve as a significant barrier to accessing cancer screening services. Moreover, we observed no significant differences in having colorectal cancer screenings among all Asian subgroups relative to whites. However, for two reasons, this finding should not be interpreted as indicating that Asian subgroups do not experience limited access to colorectal cancer screenings. First, the absolute levels were low for all Asian subgroups and whites (ranging from 26.68% to 33.23%). Second, prior research showed that Asians were more likely to have colorectal cancer screenings than whites, which suggests there are disparities in colorectal cancer screenings among Asian subgroups (Ghai et al., 2018).

We also found that compared to whites, Asians tended to have

similar or better levels of utilization of preventive services in terms of routine checkups, flu vaccinations, and cholesterol screenings. These observations may be explained by the ACA requiring no cost sharing for these services (Koh and Sebelius, 2010; Chait and Glied, 2018), and thus the economic burden due to these services to patients is minimal. Eliminating cost sharing for these services may lead to increased utilization of these preventive services among Asians. Furthermore, previous studies have shown that limited English proficiency and/or limited health literacy serve as substantial barriers to accessing care among Asians (Lee et al., 2015; Kim and Keefe, 2010; Jang and Kim, 2019). However, this might be less relevant because the use of these preventive services has been well-known to be beneficial and advanced linguistic ability may not be required. This supposition is supported by our findings showing that limited English proficiency was not associated with the likelihood of having any of these services (not shown).

There were differences, however, in the utilization of preventive services by Asian subgroups. Identifying which preventive services are being underutilized for each Asian subgroup could help health planners and policymakers develop effective programs for specific types of preventive services among Asian subgroups. Specifically, compared to whites, Asian Indians were less likely to have mammograms, Chinese were less likely to have pap tests, and other Asians were less likely to

Table 3

The likelihood of having preventive services among Asian subgroups relative to non-Latino whites, 2013–2016.

	Routine checkup		Flu vaccination		Cholesterol screening		Blood pressure checkup		Pap test		Mammogram		Colorectal cancer screening	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Non-Latino white	REF		REF		REF		REF		REF		REF		REF	
Asian Indian	1.13	0.89–1.43	1.48	1.19–1.85	2.64	1.40–4.98	1.01	0.70–1.46	0.41	0.26–0.62	0.42	0.24–0.73	1.19	0.87–1.64
Chinese	1.34	1.09–1.65	1.42	1.16–1.73	1.20	0.75–1.91	0.74	0.54–1.00	0.62	0.42–0.91	1.21	0.79–1.86	0.97	0.73–1.30
Filipino	1.46	1.11–1.93	2.43	1.89–3.13	1.70	0.90–3.20	0.89	0.55–1.42	0.82	0.51–1.31	0.94	0.56–1.58	1.12	0.83–1.51
Other Asian	1.06	0.89–1.27	1.65	1.38–1.99	1.50	0.97–2.33	0.60	0.46–0.78	0.48	0.34–0.66	1.08	0.75–1.56	1.06	0.83–1.37

Note: Boldface indicates statistical significance ($p < 0.05$).

have blood pressure checkups and pap tests. There are multiple mechanisms that could explain differences in the utilization of preventive services by subgroup. First, some Asians lack health insurance, which could lead to lack of a usual source of care. This issue is more relevant to “other Asians” who had a relatively higher proportion of the uninsured (11.20%). Second, limited English proficiency and/or limited health literacy may result in difficulty in navigating the US health care system, which possibly results in low levels of preventive services (Park et al., *Forthcoming*). This phenomenon may be more pronounced among Chinese who were less likely to speak English fluently or well and/or Asian Indians who were more likely to speak English fluently or well, but less likely to be born in the US than other Asian subgroups. Third, cultural differences and beliefs around using health care services could be the result of barriers to accessing care (Kim and Keefe, 2010; Au, 2002). Prior research showed that Asians were less likely to rely on primary care services than whites (Park et al., *Under review*). This might be because they are likely to consider complementary and alternative medicine as substitutes for conventional medicine because these types of treatment are culturally familiar and require lower costs and little understanding of the US health care system (Su and Li, 2011). This may lead to reliance on these treatments and prevent them from using more effective preventive services.

It is worth noting that other ACA provisions such as Medicaid expansion and establishment of marketplace insurance exchanges may affect preventive services utilization among Asian subgroups, but our findings did not change when our study population was limited to those between 2014 and 2016. This suggests that major ACA provisions implemented in 2014 may not substantially affect preventive services utilization among Asian subgroups. Previous research found that Medicaid coverage played a key role in increasing coverage gains among all Asian subgroups, especially for those in low household incomes and non-US citizens (Park et al., *Under review*). This indicates that Medicaid coverage led to coverage gains among Asian subgroups, but this does not necessarily result in increases in preventive services utilization. A similar result was observed in another study. Asian subgroups gained insurance coverage after the implementation of the ACA, but there were no improvements in access to usual sources of care (Park et al., *Forthcoming*). However, it may take time to observe changes in health care access. Thus, further study is warranted to examine whether other ACA provisions may lead to changes in preventive services utilization among Asian subgroups with longer period data.

These findings point to the need for programs tailored to Asian subgroups to improve preventive services utilization among Asians, particularly cancer screening services. Since Asian subgroups have different socioeconomic barriers to accessing care, interventions and campaigns should be linguistically, culturally, and socially tailored to address special health needs and disparities of Asians. For example, Chinese are less likely to speak English fluently or well. This suggests that targeted programs and campaigns for Chinese may help language interpretation. On the other hand, Asian Indians are more likely to speak English fluently or well, but they are less likely to be born in the US. This indicates that targeted programs that can be effective for Asian Indians may help them navigate the health care system. In order to improve utilization of preventive services among Asian subgroups, therefore, it is critical to understand barriers that each Asian subgroup is facing and develop tailored programs to address the specific barriers faced by each Asian subgroup. Further investigation is warranted to understand and identify determinants leading to variations in preventive services utilization among Asian subgroups.

Our study has several limitations. First, MEPS categorized Asians into four subgroups, and, thus, “other Asians” were lumped together and measured as a homogeneous group. Second, since the USPSTF guidelines do not directly align with MEPS questions, utilization may be slightly underestimated or overestimated. Third, our outcome measures relied on self-reported information derived from interviews, and thus self-reporting errors may occur. Fourth, interviews were conducted in

English or Spanish and not in any Asian languages. This may lead to selection bias by disproportionately including those who were educated or were fluent in English. Fifth, as categories for Asian subgroups in MEPS were collected since 2013, we could not analyze data prior to the implementation of the ACA’s preventive services provisions to examine how the ACA’s provisions affect preventive services utilization among Asian subgroups. Finally, we could not adjust for all other potential confounding factors. However, we controlled for a wide range of predisposing, enabling and need factors, which should have attenuated the risk of bias from omitted factors.

5. Conclusion

This study demonstrates that Asian subgroups have low cancer screening rates relative to whites even after the implementation of the ACA’s preventive services provisions, whereas they had similar or better levels of utilization in other preventive services recommended by the USPSTF. This study also shows that differences in preventive services utilization exist across Asian subgroups. These findings highlight the importance of prioritizing the availability of cancer screening services and the need for programs tailored to each Asian subgroup. Future strategies and policies should consider linguistically, culturally, and socially appropriate interventions to address special health needs and disparities of Asians in order to improve their utilization of preventive services.

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Declaration of Competing Interest

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