



Disparities in Access to Primary Care Appointments Among Asian American Subgroups, and the Impact of Concordance

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Abstract

While Asian Americans experience disparate access to health services, little is known about the extent to which providers discriminate against Asian American patients. Further, research on Asian American health disparities tends to group Asian American ethnicities together, overlooking potential within-group differences. We deployed a field experiment to assess whether Asian American ethnic sub-groups experience discrimination in appointment scheduling. We further explored the impact of racial concordance between Asian patients and physicians. Overall, we did not detect significant differences in appointment offer rates between White and Asian American patients. However, we found that Asian Americans experienced longer wait times driven primarily by the treatment of patients of Chinese and Korean descent. Physician offices, surprisingly, offered concordant Asian patients appointments at significantly lower rates. The disparities Asian Americans experience relative to White Americans through longer waits for primary care appointments are not consistent across sub-groups. Increased attention to the unique experiences of people of Asian descent in accessing health services is warranted.

Keywords Field experiment · Healthcare disparities · Statistical discrimination · Asian American

MSC code 62H12

Introduction

Asian Americans are the most rapidly growing racial minority group within the United States [1], representing roughly 5.7 percent of the population [2]. In this study, we deploy a field experiment to assess the extent to which four Asian American ethnic sub-groups experience discrimination at the first access point to the health system: appointment scheduling for primary care services. We explore differences

by region of origin through a sub-analysis that separates Asian Americans based on their country of origin. We focus on native English speakers, as discrimination against non-immigrant Asian Americans has been particularly under-researched.

As a group, Asian Americans face relatively high prevalence levels of undiagnosed mental health conditions [3], cancer-related deaths, and high rates of Type 2 diabetes [4]. These disparities in outcomes may be influenced by disparities in access as Asian American are less likely, overall, to receive some preventive medical services. One study found that 14.8 percent of Korean immigrant women over the age of 65 received mammograms regularly [5], which is 26.1 percentage points lower than the rate among Caucasian women of the same age [6]. Another study found that Asian Americans were the least likely racial and ethnic group to receive recommended diabetes screening [7]. Patient preferences may also influence access; one analysis found that just over half of Asian Americans preferred an ethnically concordant physician [8]. This preference was associated lower levels of acculturation and English language proficiency.

While patient-side factors in accessing health services have been examined, less is known about the extent to

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which providers discriminate against Asian American patients. Experimental research has detected discrimination in access to medical appointments for Black and Hispanic patients compared to White patients [9] but has not examined Asian American groups. Further, a general critique of the research on Asian American health disparities is that it tends to focus on Asian Americans who are non-native English speakers or group all Asian Americans together, thereby overlooking between-group differences. Furthermore, there are important differences within groups based on national origin. These distinctions are intertwined with economic status, employment status, and degree of integration, and pose challenges to the usefulness of aggregated research findings.

Findings from this study can inform targeted approaches to reducing disparities for the groups that experience it. Further, the inclusion of East Asian Americans among the sub-groups is timely given increases in hate speech and violence toward East Asian Americans during the COVID-19 pandemic [10].

Materials and Methods

Data Collection

Female undergraduate research assistants who self-identified as White non-Hispanic American, Indian American, Vietnamese Americans, Chinese American, and Korean American were recruited. All research assistants were native English speakers. The list of actively licensed primary care physicians was obtained from the Texas Medical Board; this list is publicly available upon request and includes physicians self-identified race/ethnicity [11]. Research assistants were randomly assigned a unique list of physician practices in the greater Austin and San Antonio areas. Using pseudonyms that corresponded with their own race or ethnicity and a standard script, the research assistants called the practices and requested the next available new patient appointment. The date and time of the appointment, if offered, were recorded, as well as any questions that the schedulers asked of the callers. Data was collected between February 2021 and May 2022. This study was approved by the Institutional Review Board at the institution of the first author.

Analysis

Regression models were used to estimate associations between race and ethnicity and appointment access outcomes (i.e., appointment offers, wait times, and questions from physicians' offices regarding insurance, ability to

pay, and health status). In the first model, we pooled all Asian American patients into a single category. A second model separated the four Asian ethnicities (Chinese, Korean, Indian, and Vietnamese), utilizing indicator variables for each group. Lastly, we estimated the impact of patient-physician ethnic concordance (both South Asian or both East Asian versus all others) on appointment access outcomes. All regression models controlled for month, day of the week, time of day, city, physician specialty, physician gender, and physician ethnicity (except for the concordance model), as well as time and caller fixed effects. Robust standard errors were clustered at the ZIP code level.

Results

Overall, 712 practices were successfully reached. Among these calls, 14.9 percent were placed by Chinese Americans, 5.2 percent by Korean Americans, 27.2 percent by Indian Americans, 6.9 percent by Vietnamese Americans, and 48.2 percent by White Americans (Table 1). In total, 8.0 percent were an Asian doctor-Asian American patient pairing of any Asian ethnicity. There were generally few sub-ethnicity concordant pairings, including no

Table 1 Summary Statistics

	Mean (SD)
Patient race/ethnicity	
East Asian	20.1% (40.1)
Chinese American	14.9% (35.6)
Korean American	5.2% (22.2)
South Asian	
Indian American	27.2% (44.6)
Southeast Asian	
Vietnamese American	6.9% (25.3)
White American	48.2% (50.0)
Physician race/ethnicity	
Asian/Asian American	8.0% (27.2)
Sub-ethnicity concordant	2.9% (16.9)
All others	92.0% (27.2)
Outcome variables	
Appointment offer	41.2% (49.2)
Wait days (mean)	20.0 days (36.8)
Insurance asked	37.4% (48.4)
Ability to pay asked	4.1% (19.8)
Health question asked	18.4% (38.8)
N	712

Source: Authors' analysis of primary data

Table 2 Overall Associations Between Pooled Asian Ethnicity and Health Care Appointment Access

	Appointment Offer	Wait Days	Insurance Asked	Ability to Pay	Health Question
Asian Patient	-0.114 (-0.383 to 0.154) <i>p</i> =0.40	38.32* (-3.062 to 79.703) <i>p</i> =0.07	-0.271*** (-0.462 to -0.080) <i>p</i> <0.01	-0.022 (-0.080 to 0.036) <i>p</i> =0.45	0.099 (-0.153 to 0.351) <i>p</i> =0.44
Asian Physician	-0.011 (-0.120 to 0.098) <i>p</i> =0.85	-1.722 (-15.805 to 12.361) <i>p</i> =0.81	-0.001 (-0.097 to 0.096) <i>p</i> =0.99	0.027 (-0.022 to 0.076) <i>p</i> =0.28	0.038 (-0.051 to 0.127) <i>p</i> =0.40
White Patient Mean (SD)	0.414 (0.493)	21.8 (41.9)	0.364 (0.482)	0.026 (0.160)	0.131 (0.338)
N	712	284	712	712	712

Source: Authors’ analysis of primary data

* *p* < 0.10 ** *p* < 0.05 *** *p* < 0.01

All estimates are percentage-point differences except for wait days. 95% confidence intervals are in parentheses. The reference group is White patients. The analyses controlled for month, day of the week, AM vs. PM, city, physician specialty, physician gender, and physician ethnicity, as well as caller fixed effects. Robust standard errors were clustered at the ZIP code level

Vietnamese concordant pairs. We therefore employed a less stringent measure of concordance by pooling East Asian concordant pairs with South Asian concordant pairs which together comprised 2.9 percent of the sample. Appointments were offered in 41.2 percent of cases, with a mean wait time of about 20 days. Schedulers asked questions about insurance in 37.4 percent of calls, about

ability to pay in 4.1 percent of calls, and about the prospective patient’s health in 18.4 percent of calls.

Asian American callers were not offered appointments at significantly different rates compared to White callers; however, their wait times were significantly longer at 38.2 days [95% CI: -3.1 to 79.9; *p* < 0.07] (Table 2). Asian American callers were 27.1 percentage points [95% CI:

Table 3 Differences Between Asian Ethnicity Subgroups and Health Care Appointment Access

	Appointment Offer	Wait Days	Insurance Asked	Ability to Pay	Health Question
Chinese	-0.124 (-0.418 to 0.170) <i>p</i> =0.40	39.603* (-2.328 to 81.533) <i>p</i> =0.06	-0.265** (-0.479 to -0.050) <i>p</i> =0.02	-0.029 (-0.092 to 0.033) <i>p</i> =0.36	0.099 (-0.176 to 0.374) <i>p</i> =0.48
Indian	-0.185 (-0.738 to 0.369) <i>p</i> =0.51	18.090 (-22.688 to 58.869) <i>p</i> =0.38	-0.278 (-0.731 to 0.175) <i>p</i> =0.23	-0.062 (-0.211 to 0.088) <i>p</i> =0.41	-0.067 (-0.523 to 0.390) <i>p</i> =0.77
Korean	-0.005 (-0.230 to 0.219) <i>p</i> =0.96	27.930** (4.566 to 51.295) <i>p</i> =0.02	0.046 (-0.197 to 0.290) <i>p</i> =0.71	-0.013 (-0.063 to 0.036) <i>p</i> =0.60	0.133 (-0.055 to 0.321) <i>p</i> =0.16
Vietnamese	0.162 (-0.134 to 0.458) <i>p</i> =0.28	-5.051 (-54.934 to 44.833) <i>p</i> =0.84	-0.221 (-0.544 to 0.103) <i>p</i> =0.18	0.167* (-0.024 to 0.358) <i>p</i> =0.09	-0.005 (-0.227 to 0.218) <i>p</i> =0.97
Asian Doctor	-0.011 (-0.119 to 0.098) <i>p</i> =0.85	-1.441 (-15.791 to 12.909) <i>p</i> =0.84	=0.01 (-0.097 to 0.097) <i>p</i> =1.00	0.027 (-0.022 to 0.076) <i>p</i> =0.28	0.040 (-0.049 to 0.129) <i>p</i> =0.37
White Patient Mean (SD)	0.414 (0.493)	21.8 (41.9)	0.364 (0.482)	0.026 (0.160)	0.131 (0.338)
N	712	284	712	712	712

Source: Authors’ analysis of primary data

* *p* < 0.10 ** *p* < 0.05 *** *p* < 0.01

All estimates are percentage-point differences except for wait days. 95% confidence intervals are in parentheses. The reference group is White patients. The analyses controlled for month, day of the week, AM vs. PM, city, physician specialty, physician gender, and physician ethnicity, as well as caller fixed effects. Robust standard errors were clustered at the ZIP code level

-0.46 to -0.08; $p < 0.01$] less likely to be asked about their insurance. From the perspective of the provider, there were no differences between Asian physicians' practices and all other practices in terms of appointment offer rates, wait days, or the questions that they asked.

There were also no differences in appointment offers between Asian American subgroups and White callers. However, callers of Chinese and Korean descent had significantly longer wait times on the order of 39.60 days [CI: -2.33 to 81.53; $p < 0.06$] and 27.93 days [CI: 4.57 to 51.30; $p < 0.02$], respectively, while the estimates were not statistically significant for Indian or Vietnamese callers (Table 3). Chinese callers were also 26.5 percentage points [95% CI: -0.479 to -0.050; $p < 0.02$] less likely to be asked about their insurance while Vietnamese callers were 16.7 percentage points [95% CI: -0.024 to 0.358; $p < 0.09$] more likely to be questioned about their ability to pay.

When the Asian American caller and the physician were race-concordant (i.e., both East Asian or both Indian) callers were 18.1 percentage points [95% CI: -0.30 to 0.02; $p < 0.08$] less likely to receive an appointment

offer and 29.8 percentage points less likely to be asked about insurance [95% CI: -0.43 to -0.16; $p < 0.01$]. Further, while the aggregate results did not differ between Asian providers and non-Asian providers, East Asian doctors asked about ability to pay 2.7 percentage points less often [95% CI: -0.052 to -0.002; $p < 0.03$] while South Asian doctors asked it 8.0 percentage points more often [95% CI: 0.005 to 0.155; $p < 0.04$] (Table 4).

Discussion

In this field experiment, we focused on native English speakers (to disentangle the impact of being an immigrant from being Asian American), disaggregated by country of origin within Asia, and evaluated patient-provider concordance to examine potential primary care appointment access discrimination. We found no differences in overall appointment offers but significant differences in when those appointment were offered. The differences in wait times for appointments were driven by East Asian patients

Table 4 Differences Between Concordant Asian Pairings and Health Care Appointment Access

	Appointment Offer	Wait Days	Insurance Asked	Ability to Pay	Health Question
Asian Concordance	-0.181* (-0.387 to 0.024) $p=0.08$	27.294 (-8.716 to 63.305) $p=0.14$	-0.298*** (-0.433 to -0.163) $p < 0.01$	-0.039 (-0.148 to 0.070) $p=0.48$	-0.035 (-0.216 to 0.146) $p=0.71$
East Asian Patient	-0.028 (-0.231 to 0.175) $p=0.78$	30.786** (5.718 to 55.853) $p=0.02$	-0.053 (-0.253 to 0.147) $p=0.60$	-0.030 (-0.067 to 0.008) $p=0.12$	0.122 (-0.054 to 0.298) $p=0.17$
South Asian Patient	-0.063 (-0.564 to 0.438) $p=0.80$	10.128 (-21.355 to 41.61) $p=0.52$	-0.032 (-0.481 to 0.418) $p=0.89$	-0.063 (-0.195 to 0.070) $p=0.35$	-0.038 (-0.415 to 0.339) $p=0.84$
East Asian Doctor	0.087 (-0.142 to 0.317) $p=0.45$	-7.180 (-22.060 to 7.700) $p=0.34$	0.065 (-0.151 to 0.281) $p=0.55$	-0.027** (-0.052 to -0.002) $p=0.03$	0.015 (-0.148 to 0.177) $p=0.86$
South Asian Doctor	-0.013 (-0.166 to 0.140) $p=0.87$	-2.668 (-27.651 to 22.314) $p=0.83$	0.095 (-0.033 to 0.222) $p=0.14$	0.080** (0.005 to 0.155) $p=0.04$	=0.001 (-0.112 to 0.112) $p=1.00$
White Patient Mean (SD)	0.414 (0.493)	21.8 (41.9)	0.364 (0.482)	0.026 (0.160)	0.131 (0.338)
N	712	284	712	712	712

Source: Authors' analysis of primary data

* $p < 0.10$ ** $p < 0.05$ *** $p < 0.01$

All estimates are percentage-point differences except for wait days. 95% confidence intervals are in parentheses. Vietnamese patients were controlled for in this specification but did not contribute to the concordance group as there were no concordant observations. The reference group is White patients. The analyses controlled for month, day of the week, AM vs. PM, city, physician specialty, physician gender, and physician ethnicity, as well as caller fixed effects. Robust standard errors were clustered at the ZIP code level

of Chinese or Korean descent. While identifying the reasons for this is beyond the scope of the study, the fact that data collection occurred during the COVID-19 pandemic when East Asians were particularly stigmatized is one plausible explanation.

It does not appear that Asian race or ethnicity is being used as a proxy for socioeconomic status for Asian Americans in this setting. Chinese patients were significantly less likely to be asked about their insurance, but this did not appear to translate to higher appointment offers or shorter wait times. Similarly, Vietnamese patients were more likely to face questions about their ability to pay, but their rates of appointment offers and wait times did not differ significantly.

Interestingly, the elsewhere reported slight preference that Asian Americans have shown for concordant physicians [6] was not reciprocated by physicians with physician offices offering concordant Asian patients appointments at significantly lower rates. This seems to indicate that efforts to improve access by diversifying the physician workforce may not benefit Asian American patients' access to primary care. Conversely, as these results are for new patients, it could be that Asian American physicians' practices are already heavily concordant and that the physicians are trying to foster diversity among the patients they treat.

Limitations

This study was conducted in a few cities in one state during the COVID-19 pandemic and may not be generalizable to other settings and time periods. Our patients were limited to female, native English speakers in their early 20's. Consequently, our estimates are likely to underreport the potential combined effect of race, ethnicity, and language if all of these factors contribute to reduced access. In our physician data, race was reported as Asian, so to get to ethnicity-level values we relied upon a mixture of country of birth (in which case ethnicity was contingent upon being born in Asia) and provider name (in which case ethnicity was contingent upon first or last name alignment with these broader ethnicities). Lastly, while patients represented a wider range of subgroups than are usually included in research, there are still many groups with origins in Asia that were not assessed, and sample size limitations underpowered finer assessments.

Conclusion

In this experiment, we find evidence of discrimination against Asian Americans in wait times to new patient appointments, and that these disparities were driven by the treatment of patients of Chinese and Korean descent. Our findings likely understate disparities faced by non-native English speakers, particularly during the COVID-19 pandemic. Increased attention to the unique experiences of people of Asian descent in accessing health services is warranted.

Author Contributions Janna Wisniewski and Brigham Walker contributed to the study conception and design. Material preparation and data collection were performed by Janna Wisniewski and Isha Patlola. Analysis were performed by Brigham Walker. The first draft of the manuscript was written by Janna Wisniewski, Brigham Walker, and Isha Patlola, with substantive input related to analysis and interpretation from Rajiv Sharma. All authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

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Data Availability Data available on request from the authors.

Declarations

Ethics Approval This study was approved by the Institutional Review Board of Tulane University (Study #:2017-389. Initial approval granted 11/21/17; amendment to include the Asian American sub-study granted 11/05/20.

Consent to Participate Informed consent was obtained from all research assistants who called physician offices in the study.

Competing Interests Brigham Walker is employed by McKesson Corporation, where he conducts retrospective cancer care research using electronic medical records data. The research in this article is unrelated to his work at McKesson. The other authors have no competing interests to disclose.

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