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Health Policy Challenges Posed By Shifting Demographics And Health Trends Among Immigrants To The United States

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Abstract

Since the 1960s the immigrant population in the United States has increased fourfold, reaching 44.7 million, or 13.7 percent of the US population, in 2018. The shifting immigrant demography presents several challenges for US health policy makers. We examine recent trends in immigrant health and health care after the Great Recession and the nationwide implementation of the Affordable Care Act. Recent immigrants are more likely to have lower incidence of chronic health conditions than other groups in the US, although these differences vary along the citizenship and documentation status continuum. Health care inequities among immigrants and US-born residents increased after the Great Recession and later diminished after the Affordable Care Act took effect. Unremitting inequities remain, however, particularly among noncitizen immigrants. The number of aging immigrants is growing, which will present a challenge to the expansion of coverage to this population. Health care and immigration policy changes are needed to integrate immigrants successfully into the US health care system.

Multiple immigration waves have contributed to the economic transformation and population growth of the US. In 2018, 44.7 million immigrants lived in the US, making up 13.7 percent of the population.[1] Approximately one-fifth of the world's migrants live in the US; no other country hosts as many.[2] The immigrant population, however, has fluctuated over time. Between 1860 and 1910 immigrants represented approximately 13–15 percent of the US population. Restrictive immigration laws in the 1920s, the Great Depression, and

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World War II reduced the flow of immigrants for five decades.[1] By 1970 the immigrant population had reached a record low of 4.7 percent of the US population.[2]

In 1960 approximately 9.7 million immigrants lived in the US;[3] the US immigrant population increased fourfold in the subsequent six decades. The Immigration and Nationality Act of 1965 abolished national origin admission quotas, which quickly changed the countries of origin and the racial and ethnic composition of the immigrant population. The number of immigrants coming from Latin America and Asia increased rapidly.[1] In 1960 only 6 percent of US immigrants were born in Mexico, whereas in 2018 approximately 25 percent were.[3] By 2018 only 17.7 percent of immigrants self-identified as non-Latino White, down from 49.3 percent in 1980.[3] Changes in the demography of immigrants are likely to continue in the upcoming decades. Immigration from Mexico slowed after the Great Recession, and more Asian immigrants than Latinos have immigrated to the US since 2009. If present trends continue, immigrants from Asia are projected to become the largest immigrant group by 2055.[2]

The socioeconomic characteristics of immigrants are also changing. The inflow of low-skill immigrants to the US has been in decline since the Great Recession.[4] At the same time, education levels among immigrants have been rising. For instance, in 1960, 2.5 percent of immigrants had a bachelor's degree and 2.6 percent had a postgraduate degree. By 2018, 18.1 percent of immigrants had a bachelor's degree and 13.9 percent had a postgraduate degree.[3]

The geographic distribution of immigrants across US states has also changed rapidly. Historically, states such as California, Florida, New Jersey, and New York have hosted the majority of immigrants,[1] but since the early 2000s other states have seen an inflow of new immigrants. During 2000–18 immigrants surpassed the threshold of 10 percent of the population in Georgia, Oregon, Maryland, and Virginia.[3] During 2010–18 the immigrant share of the population increased by 115 percent in North Dakota, 58 percent in South Dakota, 28 percent in Minnesota, and 27 percent in Delaware.[1]

The US has also observed demographic shifting in the undocumented immigrant population. This population reached 12.2 million in 2007 but has declined since the Great Recession.[2] In 2017 approximately 10.5 million undocumented immigrants lived in the US—23 percent of all US immigrants.[2] Close to half of all undocumented immigrants live in California (27 percent), Texas (14 percent), and New York (8 percent).[1] The majority (47 percent) of undocumented immigrants were born in Mexico.[5] However, the Mexican undocumented immigrant population has been in decline for almost a decade as a result of restrictive immigration policies and demographic changes in Mexico, which make recent arrivals at the southern border more likely to be from countries other than Mexico.[5]

Research has shown that immigrants are relatively healthier and have better health outcomes, on average, than US-born residents.[6] Immigrants also have higher life expectancy compared with US-born Whites, and the difference is even greater when immigrants are compared with US-born residents in the same racial and ethnic group, with a more pronounced immigrant advantage among Blacks and Latinos.[7]

With acculturation, however, the health profiles of immigrants tend to mirror those of the US-born. Several factors contribute to this phenomenon, such as health behaviors and the social determinants of health, including access to care.[8] This is particularly salient for the increasing number of aging undocumented immigrants who have lived and worked in the US for many years but are ineligible for Medicaid and Medicare. Before the 2000s circular migration eased the health care demand from aging immigrants, as many returned to their home countries.[9] More recent immigrants, however, are more likely to settle in the US.[2] The immigrant population is also aging faster than the US-born adult population. Between 2000 and 2018 the median age of immigrants increased from 37 years to 45 years, whereas the share of US-born adults ages 55–64 increased by 69 percent, compared with 121 percent for immigrants.[10,3]

Certain health conditions are of particular concern among immigrants, such as mental health, some infectious diseases, and occupational health. Studies that have observed immigrants from specific countries and compared particular health conditions have found that differences between immigrants and US-born residents narrow or disappear.[11,12] For example, immigrants overall have lower prevalence of mental health conditions compared with US-born residents.[11] However, those from countries experiencing war, violence, and conflict report higher prevalence of mental health conditions,[13] closer to that of US-born residents.

Immigrants are at higher risk for hepatitis B and tuberculosis compared with US-born residents.[14] However, immigrants experience lower mortality from other infectious diseases.[7] Early epidemiological research from the COVID-19 pandemic shows that immigrants working in front-line and low-wage jobs have been at higher risk for infection.[15] In addition, overcrowded housing, poorly treated chronic conditions, and social determinants of health may have contributed to disproportionately higher COVID-19 mortality among Latino immigrants.[16]

Immigrants have higher rates of occupational risks and injuries compared with US-born residents.[17] Among nonagricultural immigrants, the occupational injury rate among immigrants is much higher than the national average, and it is estimated that many workplace exposures and injuries go unreported because of fear of immigration enforcement.[11]

Immigrants are less likely to have health insurance and have worse patterns of access to and use of health care compared with US-born residents; these disparities are incrementally exacerbated by citizenship and documentation status.[18–21] Immigrants contribute more to health care funds in comparison with the cost of the services they receive, which effectively subsidizes the cost of health care received by US-born residents.[22,23] Length of US residence, documentation status, and English language proficiency are key predictors of health insurance coverage and access to and use of health care among immigrants.[20,24] Although the Affordable Care Act (ACA) has contributed to increased eligibility and health insurance coverage among legally authorized immigrants, it has excluded undocumented immigrants.[24–28] In 2018 approximately 23 percent of documented immigrants and 45

percent of undocumented immigrants were uninsured, compared with 9 percent of US citizens.[29]

Lack of insurance and other barriers (such as geographic, cultural, provider, and system-based barriers) contribute to problems accessing and using high-quality health care among immigrants, especially for those living in states that have not expanded Medicaid or in states that were not traditional immigrant destinations.[30] Immigrants receive lower-quality care compared with US-born residents, particularly immigrants who are not fluent in English.[6,28,31]

During the past few years the federal government has enacted policies to curb immigration, increase immigration enforcement, and limit the use of public resources among immigrants. These policies contribute to fears and low enrollment or disenrollment of immigrants eligible for Medicaid and other public programs.[32,33] Studies have shown that adults and youth living in states and localities with restrictive immigration climates tend to have adverse health outcomes.[33,34] Likewise, immigrants living in states with criminalizing policies are less likely to have a usual source of care and experience wider health care inequities.[35,36] The exclusion of immigrants from public insurance creates new challenges for responding to the recent COVID-19 pandemic and to immigrants' overall well-being.

In this article we examine recent trends in immigrant health and health care after the Great Recession and the nationwide implementation of the ACA, along with changes in health insurance coverage and health care access and use. We identify policy options for integrating immigrants into the US health care system.

Study Data And Methods

Data

To describe recent trends in immigrant health and health care, we used a repeated cross-sectional design that pooled data from the 2004–18 National Health Interview Survey (NHIS) and the 2011–18 California Health Interview Survey (CHIS). The NHIS is a nationally representative survey of the civilian, noninstitutionalized US population conducted by the National Center for Health Statistics. The CHIS is a representative survey of the civilian, noninstitutionalized population in California, where 24 percent of immigrants to the US live.[2] Both surveys have information on a broad range of measures, including socioeconomic, demographic, health, and health care.

These two surveys are useful in focusing on two important predictors of health and health care outcomes among immigrants: length of US residence and documentation status. The NHIS gathers national-level information on US immigrants that is useful in comparing trends in health and health care outcomes by citizenship status (that is, naturalized versus noncitizen immigrants) and length of US residence. However, it lacks measures of immigrants' documentation status. The CHIS is the largest household survey with reliable measures of documentation status among immigrants in California.

Outcomes

The analyses included adult immigrants ages eighteen and older. We first describe the socioeconomic characteristics of immigrants and the main health and health care outcomes available in the two surveys' data. We describe the socioeconomic characteristics of immigrants by race and ethnicity, age, sex, marital and employment status, education, income, language of interview, and census region. For health and health care outcomes, we describe self-reported health status, health conditions, health insurance status, and access to care.

Using data from the NHIS, we analyzed four mutually exclusive measures of citizenship and length of US residence based on immigrant eligibility. Legally authorized noncitizen immigrants are subject to a five-year waiting period before they become eligible for Medicaid in most states. Thus, we distinguished among the following categories: US-born citizen (reference group), naturalized US citizen, noncitizen immigrant with five years or less of US residence, and noncitizen immigrant with more than five years of US residence.

Using data from the CHIS, we analyzed four mutually exclusive measures of citizenship and documentation status: US-born citizen (reference group), naturalized US citizen, documented immigrants, and undocumented immigrants. To parse out non–US citizen immigrants by documentation status, we followed previous studies in classifying immigrants as legal permanent residents if they answered the question, "Are you a permanent resident with a green card?," in the affirmative. Studies have estimated that approximately 95 percent of CHIS respondents who are noncitizens without green cards are undocumented.[37] Thus, immigrants who are not US citizens or permanent residents are classified as undocumented. This approach has been used in other peer-reviewed studies.[24,25]

Analysis

The analyses using data from the NHIS compared means for socioeconomic, health, and health care outcomes for each immigrant population category relative to US-born adults. To examine changes between 2004 and 2018 in health insurance coverage, usual source of care, physician visits, and emergency department (ED) use among immigrants, we created three periods using survey years as main explanatory variables: before the Great Recession (2004–07), from the Great Recession to the ACA (2008–13), and after the implementation of the ACA health insurance mandate (2014–18). We summarized the main outcomes using marginal effects to ease interpretation of the main findings.[38] Marginal effects used US-born adults as a reference group. All models controlled for differences in race and ethnicity, age, sex, marital status, employment status, income, education, health conditions, language of interview, and census region. Models for physician visits and ED use had two additional control variables: type of health insurance coverage and having a usual source of care.

The analyses with CHIS data compared means for socioeconomic, health, and health care outcomes for naturalized, documented, and undocumented immigrants in California relative to US-born adults. The statistical analyses included sampling weights to estimate nationally representative results in the NHIS and California representation in the CHIS. We used Stata 16 and performed -svy- commands for all statistical analyses.

Study Results

National Health Interview Survey

The share of naturalized and noncitizen immigrants who were Latino and Asian was consistently higher compared with the share among US-born adults during 2004–18 (exhibit 1). The age distribution of noncitizen immigrants was skewed toward younger age cohorts. Employment rates were not statistically different for naturalized and noncitizen immigrants who had been in the US for five years or less compared with US-born adults, but they were significantly higher among noncitizen immigrants who had been in the US for more than five years.

In terms of education, the share of naturalized immigrants with a college or postgraduate degree was higher compared with US-born adults. The share of both groups of noncitizen immigrants who had no high school diploma was also higher compared with US-born adults. Differences in income between immigrants and US-born adults were present in all categories, with a higher share of naturalized and noncitizen immigrants earning less than 200 percent of the federal poverty level. Immigrant participants were less likely than US-born adults to answer the survey in English. However, a higher share of naturalized and noncitizen immigrants who had been in the US for five years or less responded in English. Interestingly, the share of Spanish-speaking respondents was lower among noncitizen immigrants who had been in the US for five years or less than among noncitizen immigrants who had been in the US for more than five years.

Self-reported health status among naturalized immigrants was similar to that of US-born adults (exhibit 2). In contrast, a higher share of noncitizen immigrants who had been in the US for more than five years (30.1 percent) and who had been in the US for five years or less (41.6 percent) had “excellent” health compared with US-born adults (27.1 percent). The share of noncitizen immigrants with “fair” or “poor” health was consistently lower compared with US-born adults. For specific health conditions, naturalized and noncitizen immigrant participants had lower rates of hypertension, heart disease, arthritis, asthma, functional limitations, and mental conditions as measured by the Kessler index compared with US-born adults. Naturalized immigrants, however, were more likely than US-born adults to have type 2 diabetes.

Lack of health insurance increased along the immigration and citizenship continuum. Compared with 11.4 percent of US-born adults who lacked health insurance, uninsurance rates were 12.3 percent among naturalized immigrants, 43.0 percent among noncitizen immigrants who had been in the US for more than five years, and 36.4 percent among noncitizen immigrants who had been in the US for five years or less. For Medicaid coverage, noncitizen immigrants who had been in the US for more than five years had a higher rate (12.3 percent) and noncitizen immigrants who had been in the US for five years or less had a lower rate (7.5 percent) compared with US-born adults (9.0 percent). Private insurance was the main source of health insurance coverage across all immigrant groups, although coverage rates were lower than among US-born adults.

In terms of access and use, both groups of noncitizen immigrants were less likely than US-born adults to have a usual source of care. Noncitizen immigrants who had been in the US for more than five years (50.5 percent) and noncitizen immigrants who had been in the US for five years or less (44.2 percent) were less likely to have a physician visit compared with US-born adults (71.1 percent). Naturalized immigrants and both groups of noncitizen immigrants were less likely than US-born adults to use the ED.

After we controlled for socioeconomic and demographic differences between US-born and immigrant adults, between 2004 and 2007 naturalized immigrants were 1.7 percent more likely, noncitizen immigrants who had been in the US for more than five years were 9.5 percent more likely, and noncitizen immigrants who had been in the US for five years or less were 11.2 percent more likely to be uninsured compared with US-born participants (exhibit 3). From 2008 to 2013 the likelihood of being uninsured compared to US-born adults increased from 9.5 percent to 10.3 percent for noncitizen immigrants who had been in the US more than five years.

After the ACA was implemented in 2014, both groups of noncitizen immigrants were less likely to have a usual source of care, although differences with US-born adults were narrower than they were in the years before the ACA. Across all periods studied, naturalized immigrants and both groups of noncitizen immigrants were less likely to have used the ED compared with US-born adults.

California Health Interview Survey

Undocumented immigrants in California were more likely to be of Latino (85.9 percent) or Asian (10.0 percent) heritage (exhibit 4). The majority of California's undocumented immigrants were low income, with 46.1 percent having incomes of 0–99 percent of poverty and 30.4 percent having incomes of 100–199 percent of poverty. Another important source of vulnerability was English language proficiency, with 73.1 percent speaking English "not well" or "not at all."

Undocumented immigrants in California were more likely to have reported "fair/poor" health status (33.0 percent) compared with US-born citizens (16.5 percent). Likewise, undocumented immigrants in California were less likely to have reported "very good/excellent" health status compared with US-born citizens. Lack of health insurance increased along the citizenship and documentation status continuum. Compared with 9.2 percent of US-born citizens in California who lacked health insurance, 10.5 percent of naturalized, 21.8 percent of documented, and 44.6 percent of undocumented immigrants were uninsured. Thirty-four percent of undocumented immigrants in California had public health insurance, and 21.3 percent had private health insurance.

Health care access and use differed by immigration status. Naturalized, documented, and undocumented immigrants in California were less likely than US-born citizens to have had a physician visit in the previous year and to have used the ED. Documented and undocumented immigrants were less likely than US-born citizens to have had a usual source of care.

Discussion

Our findings reveal important socioeconomic and demographic differences between immigrants and US-born residents. During the period we studied, immigrants were more likely to be Latino and Asian and to have lower incomes compared with US-born residents. Noncitizen immigrants were more likely to be young compared with US-born residents. However, 57.1 percent of noncitizen immigrants who had been in the US for more than five years were ages 35–64. If present trends continue, longer lengths of US residence and a declining number of new immigrants could contribute significantly to patterns of immigrant aging.

Our study supports and confirms the findings of other studies that have shown a clustering in the extremes of educational attainment among immigrants, as they were more likely to have college and postgraduate degrees, but they were also more likely to lack a high school diploma compared with US-born residents.[2]

Consistent with other studies of immigrant health and health care,[8,19] we observed that immigrants were more likely to have better self-reported health status and lower incidence of chronic health conditions, although these differences narrowed along the citizenship and documentation status continuum. These results, however, should be interpreted with caution: Chronic conditions are likely to be underdiagnosed among underserved immigrants because of poor access to health care.[6] Importantly, this healthy immigrant effect is not shared with undocumented immigrants, whom we found to still be more likely to report fair or poor health compared with US-born adults, which is consistent with recent studies on undocumented Latino immigrants.[25,37]

Another important finding is that adult immigrants remained underserved in the US health care system regardless of immigration and citizenship status. Disparities in health insurance coverage and access to and use of health care between immigrants and US-born survey participants increased after the Great Recession and subsequently narrowed once the ACA health insurance mandate was implemented. Adult immigrants, however, were still less likely than US-born adults to have health insurance coverage, a physician visit, or a usual source of care. The widest health care disparities in our analyses were between undocumented immigrants and US-born adults.

Policy Implications

Policy makers tasked with immigration reform should close the coverage gaps left by the ACA among US immigrants, particularly in states that have not expanded Medicaid. As of mid-2021 thirty-eight states and Washington, D.C., had expanded Medicaid.[29] Declining federal support for immigrant health coverage has shifted the burden of covering this population to state and local safety-net providers. The recent expansion of Medicaid coverage to undocumented immigrants up to age twenty-five in California is an example of a policy enactment at the state level that can partly address health care inequities between immigrants and US-born residents.[40]

The US health care system is largely unprepared to deal with aging immigrants—particularly uninsured immigrants who live in states where they are ineligible for Medicaid—and undocumented immigrants who are ineligible for Medicare. Aging documented immigrants may even find it challenging to qualify for Medicare because they need to account for at least ten years of Social Security earnings to be eligible.[39] For these immigrants, poor access to care is likely to exacerbate health inequities. Future policy efforts to expand health coverage to aging undocumented immigrants should look at the experience of California, whose legislature is currently debating expanding Medi-Cal (California Medicaid) coverage to low-income undocumented immigrants ages sixty-five and older.[40]

Even though emergency treatment is available to all immigrants—regardless of their documentation status—under the Emergency Medical Treatment and Labor Act, this type of coverage discourages primary care in favor of ED care, which is more costly for users and taxpayers. End-stage kidney disease is growing rapidly among undocumented immigrants, in part because of limited access to preventive care and emergency use of dialysis services.[39] Funding transplants for uninsured undocumented immigrants would be the most cost-effective solution; however, only Illinois covers this procedure.[41]

Federal policy makers are debating different models of immigration reform. Policy options range from limited approaches that would create a path to citizenship via the Development, Relief, and Education for Alien Minors (DREAM) Act to comprehensive approaches that would more broadly provide a path to citizenship for the approximately 10.5 million undocumented immigrants.[42] The prospects of comprehensive immigration reform, however, are not encouraging in the short term, given the composition of the US Congress. More incremental approaches that increase coverage to underserved immigrants based on age, specific health conditions, income, or place of residence could be a first step toward addressing the health and health care inequities described in this article.

The use of executive actions such as Deferred Action for Childhood Arrivals (DACA) that protect young immigrants from deportation would continue to be temporary solutions that allow some undocumented immigrants to work in the US, receive employer-provided health insurance coverage, and pay into Social Security. Regulatory changes are another mechanism that could be used to improve access to and use of health care among underserved immigrants; an example of such changes is the abandonment of recent changes to the “public charge” rule that penalized immigrants for using public health benefits, including Medicaid.[43,44] From a budgetary perspective, preserving and strengthening the funding of federally qualified health centers, other safety-net health care providers, and language-competent services for immigrant populations with limited English proficiency would support a basic health care infrastructure for low-income and uninsured immigrants.

Further, the criminalization of immigration through stringent laws and immigration enforcement has contributed to overcrowding in detention facilities. Outbreaks of infectious diseases have increased in Immigration and Customs Enforcement (ICE) detention centers because of overcrowding, poor health conditions, and limited access to health care.[45] During the COVID-19 pandemic, cases have been increasing among detainees.[46] Immigration

policy and enforcement should include public health considerations in immigration enforcement to respect the human rights of repatriated immigrants.

Conclusion

Immigrants continue to be underserved in the US health care system, particularly those who are uninsured and undocumented. Immigrant health care disparities have narrowed since the implementation of the ACA, but challenges remain. If present trends continue, the health system will face an increasing population of aging immigrants, of whom many are ineligible for either Medicare or Medicaid. Access to affordable health insurance would help protect immigrant household incomes and encourage optimal access to and use of health care. In the absence of comprehensive immigration reform, incremental reform at the federal, state, and local levels can be implemented to partially expand health care to underserved immigrants.

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Exhibit 1

Socioeconomic characteristics of US-born adult residents and immigrants, by citizen status and length of US residence, 2004–18

			Noncitizen immigrants	
Variables	**US-born adults (%)**	**Naturalized immigrants (%)**	**>5 years[a] (%)**	**≤5 years[b] (%)**
Race/ethnicity				
White	77.9	28.9****	14.3****	20.5****
Black	12.7	9.1****	6.9****	9.6****
Latino	6.0	36.8****	61.6****	32.2****
Asian	2.8	25.1****	17.0****	37.3****
Other	0.6	0.2****	0.2****	0.3****
Age, years				
18–24	10.4	4.8****	7.1****	26.1****
25–34	16.4	12.8****	27.3****	42.5****
35–44	15.7	19.4****	29.3****	18.4****
45–54	17.4	20.0****	18.4***	7.3****
55–64	17.5	17.6	9.4****	3.0
65–74	12.4	14.5****	5.3****	1.9****
75+	10.2	10.8**	3.0****	0.8**
Female	54.4	55.5****	49.9****	46.3****
Married	46.0	55.9****	60.2****	51.8****
Employed	64.0	64.4	72.9****	64.5
Education				
No high school	10.7	18.5****	40.1****	20.1****
High school	25.9	20.3****	21.5****	15.8****
Some college	21.2	14.6****	9.9****	12.8****
College degree	31.3	32.0****	18.1****	30.5
Advanced degree	10.9	14.5****	10.4**	20.8****
Income as percent of federal poverty level				

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Variables	US-born adults (%)	Naturalized immigrants (%)	Noncitizen immigrants	
			>5 years[a] (%)	≤5 years[b] (%)
<100%	13.8	15.9****	26.5****	33.6****
100%–200%	17.2	19.8****	28.9****	23.5****
>200%	69.0	64.3****	44.6****	42.9****
Language of interview				
English	99.8	87.2****	70.7**	78.9****
Spanish	0.2	9.7****	26.7****	16.9****
Other	0.0	3.2****	2.5****	4.1****
Census region				
Northeast	16.4	25.2****	17.5	19.9***
Midwest	26.1	12.2****	11.6****	17.5****
South	37.6	31.6****	34.7**	36.4
West	19.9	31.0****	36.2****	26.1****

Source Authors' analysis of data from the National Health Interview Survey (NHIS), 2004–18. **Note** Significance denotes comparison to US-born adults. Survey weights from the NHIS were used, as described in the text.

[a]More than five years of US residence.

[b]Five years or less of US residence.

** $p < 0.05$

*** $p < 0.01$

**** $p < 0.001$

Exhibit 2

Health status and health care access and use among US-born adult residents and immigrants, by citizen status and length of US residence, 2004–18

			Noncitizen immigrants	
Variables	**US-born adults (%)**	**Naturalized immigrants (%)**	**>5 years[a] (%)**	**≤5 years[b] (%)**
Self-reported health status				
Excellent	27.1	27.9**	30.1****	41.6****
Very good	33.3	29.5****	28.7****	32.1
Good	26.2	27.7****	29.3****	21.7****
Fair	10.2	11.5****	9.7**	4.1****
Poor	3.2	3.5**	2.1****	0.5****
Health conditions				
Diabetes	9.6	11.8****	7.3****	2.5****
Hypertension	32.7	31.1****	17.7****	8.0****
Heart disease	15.1	11.4****	5.8****	2.4****
Arthritis	26.4	20.2****	8.3****	2.5****
Asthma	13.5	9.4****	5.7****	4.9****
Any functional limitation, all conditions	38.7	31.8****	20.0****	11.4****
Mental health (Kessler index)	3.5	3.2**	2.8****	1.5****
Insurance				
Uninsured	11.4	12.3****	43.0****	36.4****
Medicare	25.8	26.6*	7.1****	0.7****
Medicaid	9.0	13.9****	12.3****	7.5****
Private	66.2	58.2****	38.2****	51.9****
Other insurance	3.2	3.3	2.9	3.9**
Access and use				
Usual source of care	87.4	87.5	68.9****	55.8****
Physician visits	71.1	70.7	50.5****	44.2****
ED use	21.5	17.8****	14.5****	12.6****

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Source Authors' analysis of data from the National Health Interview Survey (NHIS), 2004–18. **Notes** Significance denotes comparison to US-born adults. Survey weights from the NHIS were used, as described in the text. ED is emergency department.

[a] More than five years of US residence.

[b] Five years or less of US residence.

* $p < 0.10$

** $p < 0.05$

**** $p < 0.001$

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Exhibit 3

Changes in immigrants' health care access and use in the US compared with US-born adults, by period, citizen status, and length of US residence, 2004–18

	Uninsured (%)	Usual source of care (%)	Physician visits (%)	ED use (%)
2004–07				
US-born	Ref	Ref	Ref	Ref
Naturalized	1.7***	−0.7	1.6*	−1.9**
Noncitizen >5 years[a]	9.5****	−6.1****	0.5	−3.8****
Noncitizen ≤5 years[b]	11.2****	−12.6****	−2.9	−5.1***
2008–13				
US-born	Ref	Ref	Ref	Ref
Naturalized	1.0***	−0.6	1.5***	−0.8*
Noncitizen >5 years[a]	10.3****	−6.2****	−0.5	−4.7****
Noncitizen ≤5 years[b]	9.8****	−11.4****	−0.7	−6.4****
2014–18				
US-born	Ref	Ref	Ref	Ref
Naturalized	0.5	−0.5	1.7***	−1.3***
Noncitizen >5 years[a]	7.8****	−5.4****	−1.0	−3.9****
Noncitizen ≤5 years[b]	6.6****	−11.0****	−0.5	−2.1*

Source Authors' analysis of data from the National Health Interview Survey (NHIS), 2004–18. **Notes** Marginal effects models control for differences in race and ethnicity, age, sex, marital status, employment status, education, income, health conditions, language of interview, and census region. Results for physician visits and emergency department (ED) use control for type of health insurance coverage and having a usual source of care. Periods correspond to the years before the Great Recession (2004–07), from the Great Recession to the implementation of the Affordable Care Act (ACA) (2008–13), and after the ACA insurance mandate was implemented (2014–18). Survey weights from the NHIS were used, as described in the text.

[a]More than five years of US residence.

[b]Five years or less of US residence.

*$p < 0.10$

**$p < 0.05$

***$p < 0.01$

****$p < 0.001$

Exhibit 4

Characteristics of US-born citizens and immigrants in California, by citizenship and documentation status, 2011–18

Variables	US-born citizens (%)	Naturalized citizens (%)	Documented immigrants (%)	Undocumented immigrants (%)
Race/ethnicity				
Latino	24.3	41.3****	62.9****	85.9****
Asian	6.3	39.5****	25.1****	10.0****
Black	7.6	1.8****	1.4****	0.8****
White	57.7	16.4****	10.3****	3.2****
Other	3.9	1.0****	0.4****	0.1****
Income as percent of federal poverty level				
0%–99%	11.9	16.7****	26.6****	46.1****
100%–199%	15.3	23.1****	31.1****	30.4****
200%–299%	14.0	14.8	14.1	9.5****
300% and above	58.8	45.4****	28.2****	14.0****
English proficiency				
Very well/well	99.4	70.7****	46.0****	26.9****
Not well/not at all	0.6	29.3****	54.0****	73.1****
Self-reported health status				
Fair/poor	16.5	26.0****	31.9****	33.0****
Good	29.4	31.6***	33.6****	37.7****
Very good/excellent	54.2	42.5****	34.5****	29.3****
Insurance				
Uninsured	9.2	10.5****	21.8****	44.6****
Public	36.5	37.7**	36.8	34.1**
Private	54.3	51.8***	41.4****	21.3****
Access and use				
Usual source of care	85.9	86.0	75.7****	60.1****
Physician visits	83.5	81.9***	72.9****	60.5****

Variables	US-born citizens (%)	Naturalized citizens (%)	Documented immigrants (%)	Undocumented immigrants (%)
ED use	22.7	16.8****	16.1****	15.6****

Source California Health Interview Survey (CHIS), 2011–18. **Notes** Significance denotes comparison to US-born citizens. Survey weights from the CHIS were used, as described in the text. ED is emergency department.

** $p < 0.05$

*** $p < 0.01$

**** $p < 0.001$