Racial and Ethnic Disparities in Access to Health Care Among Adults in the United States:

A 20-Year National Health Interview Survey Analysis, 1999–2018

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Word count: 3713

KEY POINTS

Question: In the last 2 decades, what has been achieved in reducing barriers to access to care and

race/ethnicity-associated disparities?

Findings: Using National Health Interview Survey data from 1999–2018, we found that

insurance coverage increased across all 4 major race/ethnicity groups. However, rates of unmet

medical needs due to cost increased without reducing the respective racial/ethnic disparities, and

little-to-no change occurred in rates of individuals who have no usual source of care.

Meaning: Despite increased coverage, millions of Americans continued to experience barriers to

access to care, which were disproportionately more prevalent among those identifying as Black

or Hispanic.

ABSTRACT

Importance: Racial and ethnic disparities plague the US health care system despite efforts to eliminate them. To understand what has been achieved amid these efforts, a comprehensive study from the population perspective is needed.

Objectives: To determine trends in rates and racial/ethnic disparities of key access to care measures among adults in the US in the last two decades.

Design: Cross-sectional.

Setting: Data from the National Health Interview Survey, 1999–2018.

Participants: Individuals >18 years old.

Exposure: Race and ethnicity: non-Hispanic Black, non-Hispanic Asian, non-Hispanic White, Hispanic.

Main outcome and measures: Rates of lack of insurance coverage, lack of a usual source of care, and foregone/delayed medical care due to cost. We also estimated the gap between non-Hispanic White and the other subgroups for these outcomes.

Results: We included 596,355 adults, of which 69.7% identified as White, 11.8% as Black, 4.7% as Asian, and 13.8% as Hispanic. The proportion uninsured and the rates of lacking a usual source of care remained stable across all 4 race/ethnicity subgroups up to 2009, while rates of foregone/delayed medical care due to cost increased. Between 2010 and 2015, the percentage of uninsured diminished for all, with the steepest reduction among Hispanics (-2.1% per year). In the same period, rates of no usual source of care declined only among Hispanics (-1.2% per year) while rates of foregone/delayed medical care due to cost decreased for all. No substantial changes were observed from 2016–2018 in any outcome across subgroups. Compared with 1999, in 2018 the rates of foregone/delayed medical care due to cost were higher for all (+3.1% among

Whites, +3.1% among Blacks, +0.5% among Asians, and +2.2% among Hispanics) without significant change in gaps; rates of no usual source of care were not significantly different among Whites or Blacks but were lower among Hispanics (-4.9%) and Asians (-6.4%).

Conclusions and Relevance: Insurance coverage increased for all, but millions of individuals remained uninsured or underinsured with increasing rates of unmet medical needs due to cost. Those identifying as non-Hispanic Black and Hispanic continue to experience more barriers to health care services compared with non-Hispanic White individuals.

BACKGROUND

The United States (US) health system has been plagued by racial and ethnic disparities in access to health care.[1-3] Hispanic and Black individuals experience greater barriers to health care services, such as lack of health insurance coverage, lack of a usual source of care, and unmet medical needs due to cost.[4-8] Thirty-five years ago, in 1985, the US Department of Health and Human Services published a landmark report, Black and Minority Health,[9] which highlighted racial and ethnic health disparities. In the report, the Secretary's Task Force recommended increasing minorities' health insurance coverage to facilitate their access to health care. Subsequently, in 2003, the Institute of Medicine's report, Unequal Treatment, highlighted again how minorities continued to experience greater barriers to health care services.[10] Since these reports were published, major national public health policies and programs have been implemented to address racial and ethnic disparities in access to health care, such as the Healthy People Initiative and the Affordable Care Act (ACA).[11-13] Amid these efforts to address disparities in access to care, it is important to assess what has been achieved over the last 20 years.

While a number of studies have reported on the status of racial and ethnic health care disparities in the US,[1-8] they were limited by short study periods—most are single-year studies— or focused on the years surrounding the passage of the ACA. We lack a multi-decade, comprehensive view of the racial and ethnic trends in health care access in the US.

The National Health Interview Survey (NHIS) is the principal federal source of health information on the civilian, non-institutionalized population of the US and provides an ideal platform to evaluate racial and ethnic differences in health care access over the past 2 decades. Accordingly, we used the NHIS to evaluate racial and ethnic differences in the various facets of

access to care barriers, using key indicators of health care accessibility and affordability such as lack of insurance coverage, lack of a usual source of care, and foregone or delayed medical care due to cost—some of the most commonly used metrics in access to health care studies.

METHODS

Data Source

We used data from the annual cross-sectional surveys of the NHIS for the years 1999 to 2018. The survey uses a complex multistage area probability design that accounts for non-response and allows for nationally representative estimates, including underrepresented groups.[14] We obtained the data from the Integrated Public Use Microdata Series (IPUMS) Health Surveys, which is a hub that provides harmonized data for extraction and analysis.[15] The code used to analyze these data are available from the corresponding author upon reasonable request. This study received exemption for review from the Institutional Review Board at Yale University as NHIS data are publicly available and deidentified.[16]

Study Population

We included all individuals >18 years old from years 1999 to 2018 from the Sample Adult Core file, which contains the responses from one adult who is randomly selected from each family for a more in-depth questionnaire. We excluded those with unknown race or ethnicity information. Due to limited sample size, we did not include those not from Hispanic ethnicity who identified their primary race as Alaskan Native or American Indian, Other Race, or who did not select a primary race.

Study Outcomes

The main outcomes of the study were: lack of health insurance coverage, foregoing

and/or delaying medical care due to cost, and not having a usual source of care. Individuals were

classified as "uninsured" if at the time of interview they reported not having any private health

insurance, Medicare, Medicaid, military plan, government- or state-sponsored health plan, or if

they had only Indian Health Service coverage.[17] Consistent with Data Briefs from the National

Center for Health Statistics[18] and prior NHIS studies,[19-23] we used survey responses that

indicated foregone or delayed medical care due to cost and not having a usual source of care as

additional indicators of barriers to health care access. Foregone or delayed medical care was

defined as answering "Yes" to any of the following three questions: (during the past 12 months)

"Has medical care been delayed for you because of worry about the cost?"; "Was there any time

when you needed medical care, but did not get it because you couldn't afford it?"; or "Was there

any time when you needed prescription medicines but didn't get it because you couldn't afford

it?." Not having a usual source of care was defined as answering "No" to the question "Is there a

place that you usually go to when you are sick or need advice about your health?" For each of

these 3 outcomes and each study year, we calculated racial/ethnic "disparities" as the absolute

prevalence gap between non-Hispanic White and the other race/ethnicity subgroups defined

below.

Variables of Interest

Race and Ethnicity

Hispanic ethnicity was defined as answering "Yes" to the question, "Do you consider

yourself Hispanic/Latino?" Race was ascertained by the response to the questions, "What race do

you consider yourself to be?" and, if more than one was reported, "Which one of these groups would you say BEST represents your race?" Race was then categorized as White, Black/African-American, or Asian (which included Chinese, Filipino, Asian Indian, and Other Asian). We created 4 mutually exclusive subgroups based on primary race selected and ethnicity combination: non-Hispanic White, non-Hispanic Black, non-Hispanic Asian, and Hispanic. For simplicity, we hereafter refer to these groups as White, Black, Asian, and Hispanic.

Respondent Characteristics

Covariates of interest were age in years, and region (Northeast, North Central/Midwest, South, West). Other descriptive variables were sex, education level (less than high school, high school diploma or GED, some college [including associate degree], Bachelor's degree or higher), US citizenship status, marital status (married/living with partner vs. not), employment status (working, not in labor force, unemployed), comorbidities (hypertension, diabetes, prior stroke or myocardial infarction, cancer, emphysema, or chronic bronchitis), smoking status, obesity, and flu vaccination in the past 12 months. We also included annual family income based on percent of family income relative to the respective year's federal poverty limit from the US Census Bureau[24] using categories consistent with prior NHIS studies: middle/high income (≥200% federal poverty limit) or low income (<200% federal poverty limit).[19,25]

Statistical Analysis

All analyses used methods appropriate for structured survey data, incorporating strata and weights to produce nationally representative estimates. All person weights were pooled and divided by the number of years studied, in accordance with NHIS guidance.[26] We first

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summarized all respondent characteristics by race/ethnicity. We then estimated the annual

outcome rates for each race/ethnicity subgroup using a linear probability model, with the

outcome as the dependent variable, age (discrete), a dummy variable for each region (Northeast,

North Central/Midwest, South, West) as independent variables, and an indicator for each year of

interview. Age and region indicators were centered on their overall mean for the study sample

and the intercept was suppressed; the coefficients for each year then represented age- and region-

adjusted annual outcome rates. Then, from the annual prevalence of each outcome among those

identifying as Black, Asian, or Hispanic, we subtracted the annual prevalence of the same

outcome for the same year among those identifying as White (e.g. proportion of Hispanic people

uninsured in 2010 - proportion of White people uninsured in 2010). We used this gap as our

indicator of racial/ethnic disparities using those identifying as White as the reference group.

Using these annual rates, we then estimated trends in outcomes rates and disparities by fitting

regression models for each race/ethnicity subgroup. The dependent variable was the age- and

region-adjusted annual prevalence of each outcome or disparity (calculated as described earlier),

and the independent variable was time in years. Rather than assume a monotone relationship

between time and outcome rates, we graphically assessed the relationship first; based on this

assessment, we modelled time as a linear spline with knots at 2010 and 2016 to reflect observed

inflection points. To account for serial correlation of annual outcome rates, we incorporated an

autoregressive error term with 1-year correlation. We then used the coefficient of the time

variables to evaluate the slope of each outcome's prevalence during each period. In a separate

analysis, we estimated the absolute difference in prevalence of each outcome and disparity

between 1999 and 2018 by incorporating the standard error of each estimate to account for its

precision. "Don't know," "Refused," or no response values were set to missing for each

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outcome. For all analyses, two-sided P-value <0.05 was used to determine statistical significance. All analyses were performed using Stata SE version 16.1 (StataCorp, College Station, TX).

RESULTS

Of 603,140 adults interviewed from 1999 to 2018, we excluded 112 with missing race/ethnicity information and 6,673 who identified as non-Hispanic Other Race (which included non-Hispanic Alaskan Native or American Indian, Other Race, or no primary race selected) from our analysis. Thus, our study sample included 596,355 adults (**Supplementary Figure S1**). Of these, 69.7% (weighted proportion; 95% CI: 69.3%, 70.2%) identified as White, 11.8% (95% CI: 11.5%, 12.1%) identified as Black, 4.7% (95% CI: 4.6%, 4.8%) identified as Asian, and 13.8% (95% CI: 13.5%, 14.2%) identified as Hispanic. In addition, to illustrate how the subgroups may have changed during the study period, general characteristics of the study population by race/ethnicity in the first 2 years (1999 and 2000) and last 2 years (2017 and 2018) of interview are shown in **Supplementary Table S1** and the annual distribution of race/ethnicity over the 20-year study period is shown in **Supplementary Figure S2**.

Health Insurance Coverage

The age- and region-adjusted annual percentages of uninsured individuals by race/ethnicity are shown in **Figure 1**, and the annualized trends by study periods are shown in **Table 1**. The overall missing rate of insurance status was 0.44%. Before 2010, prevalence trends were stable for all 4 race/ethnicity subgroups and were without significant changes in disparities except for those identifying as Asian, for whom the gap with those identifying as White had a

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slightly negative trend (-0.3% per year, 95% CI: -0.7%, -0.1%). Between 2010 and 2015, the

percentage of uninsured diminished at an annual rate of -0.89% (95% CI: -1.25%, -0.05%) for

those identifying as White, -1.34% (95% CI: -2.20%, -0.48%) for those identifying as Black, -

1.23% (95% CI: -2.0%, -0.45%) for those identifying as Asian, and -2.12% (95% CI: -3.05%, -

1.21%) for those identifying as Hispanic. During this period, the gap in uninsured rates narrowed

between those identifying as White and those identifying as Hispanic (-1.2% per year, 95% CI: -

1.8%, -0.6%). No significant trends in overall prevalence or disparities were observed between

2016 and 2018 across subgroups. The absolute change in percentage of uninsured between 1999

and 2018 was -2.9% (95% CI: -3.6%, -2.2%) for those identifying as White, -6.4% (95% CI: -

8.7%, -4.1%) for those identifying as Black, -9.5% (95% CI: -13.3%, -5.7%) for those

identifying as Asian, and -9.0% (95% CI: -12.1%, -6.0%) for those identifying as Hispanic.

Between 1999 and 2018, the uninsured prevalence gap between those identifying as White and

those identifying as Black was reduced by 3.5% (95% CI: -5.8%, -1.1%), by 6.6% for those

identifying as Asian (95% CI: -10.5%, -2.7%), and by 6.1% for those identifying as Hispanic

(95% CI: -9.2%, -3.0%).

Foregone or Delayed Medical Care Due to Cost

      The age- and region-adjusted annual percentages of people who reported foregoing or

delaying medical care due to cost by race/ethnicity are shown in **Figure 2**, and the annualized

trends by study periods are shown in **Table 2**. The overall missing rate of foregone/delayed

medical care due to cost status was 0.84%. From 1999 to 2009, overall rates increased for all 4

race/ethnicity groups. The slope was the steepest among those identifying as Hispanic (+1.1%

per year, 95% CI: 0.75%, 1.4%), followed by those identifying as Black (+0.9% per year, 95%

CI: 0.6%, 1.2%), those identifying as White (+0.7%, 95% CI: 0.5%, 0.8%), and those identifying

as Asian (+0.3% per year, 95% CI: 0.01%, 0.6%). During this period, the gap between those

identifying as White and those identifying as Hispanic and Black increased by 0.4% per year

(95% CI: 0.3%, 0.5%) and 0.2% per year (95% CI: 0.1%, 0.4%), respectively. Between 2010 and

2015, a statistically significant decrease was observed for those identifying as White, Black, or

Hispanic but not for those identifying as Asian. No significant trend was observed after 2016.

Overall, between 1999 and 2018, the absolute difference in prevalence of foregone or delayed

care due to cost was +3.1% for those identifying as White (95% CI: 2.3%, 3.9%), +3.1% for

those identifying as Black (95% CI: 0.9%, 5.3%), +2.2% among those identifying as Hispanic

(95% CI: 0.4%, 4.0%), and +0.5% among those identifying as Asian (95% CI: -2.0%, 2.9%),

without any significant difference in disparities.

No Usual Source of Care

The age- and region-adjusted annual percentages of people who did not have a usual

source of care by race/ethnicity are shown in **Figure 3** and the annualized trends by study

periods are shown in **Table 3**. The overall missing rate of having a usual source of care status

was 0.76%. From 1999 to 2009, overall prevalence of this outcome increased slightly among

those identifying as White (+0.2% per year, 95% CI: 0.1%, 0.3%) but remained stable for the

other 3 subgroups. Between 2010 and 2015, the prevalence of this outcome decreased by 1.2%

per year among those identifying as Hispanic (95% CI: -1.7%, -0.06%), and there were no

significant trends among the other subgroups. No significant trend was identified in prevalence

for any race/ethnicity subgroup between 2016–2018. Overall, between 1999 and 2018, the

absolute change in prevalence of this outcome was -0.9% among those identifying as White

(95% CI: -1.7%, 0.0%), -0.8% among those identifying as black (95% CI: -3.3%, 1.7%), -6.4% among those identifying as Asian (95% CI: -10.5%, -2.2%), and -4.9% among those identifying as Hispanic (95% CI: -7.6%, -2.2%). Similarly, during the study period, the gap between those identifying as White and Hispanic was reduced by 4 percentage points (95% CI: -6.8%, -1.2%).

DISCUSSION

In this study, we report that over the past 20 years there have been modest improvements in insurance coverage, mostly during the last decade. However, in parallel there have been only slight reductions in the percentage of people without a usual source of care and no substantive reductions in the percentage of people forgoing or delaying care due to cost. Importantly, there have also been no substantial reductions in access to care disparities for Black and Hispanic individuals compared with White individuals. Particularly, the gap in foregone or delayed medical care has persisted despite the recent improvements in insurance coverage due to the ACA, indicating longstanding underinsurance. Of note, during this period total and per capita health care costs have nearly doubled.[27,28]

Our study expands the literature in two major ways. First, we report a comprehensive 20-year perspective of insurance coverage and access to care in the US by race and ethnicity. Several other studies have studied trends by race or ethnicity, but for shorter time frames that may limit the interpretation of change relative to historical levels. For example, Chen and colleagues[1] found that in 2014, after the ACA was implemented, the rates of foregoing or delaying medical care due to cost was reduced for all races, narrowing the gaps between them. However, we found that, relative to 1999, rates of this outcome have actually increased, and disparities remained in 2018. The rate of foregoing care due to cost increased after 2008,

coinciding with the economic recession,[20,22] and decreased after 2011, but not to its 1999 level. This shows that even after the ACA was implemented, which reduced the rates of foregoing care due to cost in the states that implemented it,[29] access to care has not substantially changed from what it was at the beginning of the century. Second, we found that after 2016, no significant gains were achieved in access to health care or its associated racial and ethnic disparities. Although data from only 3 years were available for analysis, which may limit our ability to draw conclusions on general trends during this period, we show that under the current US administration, access to health care services has plateaued or worsened for all race and ethnic groups. This could be explained by the continuous efforts to undermine the provisions of the ACA since 2017 which, although still limited, have already succeeded in decreasing Medicaid coverage in some states with increased barriers to access to care.[30-32]

Our study has important public health implications. The lack of improvement has occurred despite massive increases in health care spending. Also, the improvements in insurance coverage have not been accompanied by commensurate improvements in access to health care. Reducing the proportion of people who cannot get care when needed, and reducing racial/ethnic and income disparities, were objectives of Healthy People 2010 and 2020, and were included again in Healthy People 2030.[11,12,33] Despite this, we found that no advancement was achieved in the past 2 decades among all 4 major race/ethnicity groups. Similarly, a series of Gallup surveys[34] report that since 2001, there has been an increase in the proportion of families in the US with members who delay care due to cost, particularly among low-income families. They also report that in 2019, nearly 1 in 3 families in the US delayed any care due to cost and nearly 1 in 4 delayed care for a serious condition for the same reason.[34] Together, these findings

underscore the urgent need to increase not only insurance coverage but also the adequacy of the insurance that is being gained.

These findings do not imply that implementation of the ACA was not helpful. Previously uninsured individuals who enroll in Medicaid report lower out-of-pocket payments and lower prevalence of unmet medical needs due to cost, and are more likely to have a usual source of care and to have less psychological distress than those who remain uninsured.[35] However, our findings also suggest that coverage alone may not be sufficient to completely protect individuals from experiencing barriers to access and to eliminate racial/ethnic disparities in access to health care. Despite increased coverage, little change was achieved in rates of unmet medical needs due to cost and lack of usual source of care. In fact, the proportion of inadequately insured adults (i.e., those with out-of-pocket expenditures >10% of their household income, or >5% if they are part of a low-income family) increased after the ACA,[36] which could explain our findings. People with unmet medical needs due to cost or without a usual source of care experience higher health costs and worse health outcomes,[37-42] and our findings indicate that these barriers are disproportionately more prevalent among racial and ethnic minorities.

In our analysis, Black and Hispanic respondents had the worst access to care and no substantive improvement over the 20-year timespan. It is not possible to fully address this issue without attending to the structural racism in our society. Although we used data up to 2018, the disproportionate burden of the COVID-19 pandemic on minority communities has likely worsened what we have observed.[43-46]

This study has several limitations. First, the data are self-reported. However, the outcomes and variables in our study reflect the actual experience of individuals with the health care system. Second, because of small numbers, we did not analyze race groups with smaller

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representation such as Alaskan Native, American Indian, or those not identifying with a single

primary race. Third, although we used 3 of the major barriers to access to the health care system

(insurance coverage, cost of care, and usual source of care), we did not include other structural

barriers within the system such as language, transportation, or waiting times, which are also

worth exploring. Fourth, although the association of the outcomes in our study and clinical

outcomes has been described, we cannot directly make such an association.

In summary, 35 years after the Heckler Report, marked disparities in access to health care

in the US persist, with individuals identifying as non-Hispanic Black and Hispanic continuing to

experience more barriers to health care services compared with non-Hispanic White individuals.

We failed to identify any major progress in reducing disparities and report substantial

percentages of individuals in all groups who experience barriers to access to health care.

ACKNOWLEDGEMENTS

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FIGURE LEGENDS

Figure 1. Annual age- and region-adjusted percentage of uninsured adults in the US by race/ethnicity, 1999 to 2018.

Figure 2. Annual age- and region-adjusted percentage of adults in the US who reported foregoing or delaying medical care due to cost in the past 12 months by race/ethnicity, 1999 to 2018.

Figure 3. Age- and region-adjusted annual percentage of adults in the US without a usual source of care by race/ethnicity, 1999 to 2018.

Table 1. Trends in Lack of Health Insurance by Race/Ethnicity and Study Periods.

Race/Ethnicity	1999-2009		2010-2015		2016-2018		Delta 1999-2018
	Annualized Rate of Change, % (95% CI)	P Value	Annualized Rate of Change, % (95% CI)	P Value	Annualized Rate of Change, % (95% CI)	P Value	Absolute Difference, % (95% CI)
White							
Prevalence	0.3% (0.0%, 0.6%)	0.05	-0.9% (-1.3%, -0.5%)	<0.001	-0.2% (-1.2%, 0.8%)	0.72	-2.9% (-3.6%, -2.2%)
Black							
Prevalence	0.4% (-0.3%, 1.1%)	0.294	-1.3% (-2.2%, -0.5%)	0.002	-0.6% (-4.7%, 3.5%)	0.769	-6.4% (-8.7%, -4.1%)
Gap w/ White	0.1% (-0.3%, 0.4%)	0.684	-0.4% (-0.9%, 0%)	0.052	-0.5% (-3.0%, 2.0%)	0.699	-3.5% (-5.8%, -1.1%)
Asian							
Prevalence	0% (-0.8%, 0.8%)	0.936	-1.2% (-2.0%, -0.5%)	0.002	-0.7% (-3.2%, 1.8%)	0.586	-9.5% (-13.3%, -5.7%)
Gap w/ White	-0.4% (-0.7%, -0.1%)	0.008	-0.3% (-0.6%, 0.1%)	0.136	-0.7% (-2.3%, 0.9%)	0.373	-6.6% (-10.5%, -2.7%)
Hispanic							
Prevalence	0.6% (-0.2%, 1.3%)	0.121	-2.1% (-3.1%, -1.2%)	<0.001	-1.2% (-5.3%, 2.9%	0.559	-9.0% (-12.1%, -6.0%)
Gap w/ White	0.2% (-0.2%, 0.6%)	0.269	-1.2% (-1.9%, -0.6%)	<0.001	-1.1% (-4.5%, 2.2%)	0.508	-6.1% (-9.2%, -3.0%)

Table 2. Trends in Foregone or Delayed Medical Care Due to Cost by Race/Ethnicity and Study Periods.

Race/Ethnicity	1999-2009		2010-2015		2016-2018		Delta 1999-2018
	Annualized Rate of Change, % (95% CI)	P Value	Annualized Rate of Change, % (95% CI)	P Value	Annualized Rate of Change, % (95% CI)	P Value	Absolute Difference, % (95% CI)
White							
Prevalence	0.7% (0.5%, 0.95)	<0.001	-0.8% (-1.2%, -0.4%)	<0.001	0.4% (-0.4%, 1.3%)	0.291	3.1% (2.3%, 3.9%
Black							
Prevalence	0.9% (0.6%, 1.2%)	<0.001	-0.8% (-1.3%, -0.3%)	0.001	-0.4% (-1.8%, 1.0%)	0.55	3.1% (0.9%, 5.3%)
Gap w/ White	0.2% (0.1%, 0.4%)	0.002	0.0% (-0.3%, 0.2%)	0.781	-0.8% (-1.6%, -0.04%)	0.04	0.1% (-2.3%, 2.4%)
Asian							
Prevalence	0.3% (0.01%, 0.6%)	0.04	-0.3% (-0.7%, -0.1%)	0.199	-0.4% (-1.4%, 0.6%)	0.453	0.5% (-1.9%, 2.9%)
Gap w/ White	-0.4% (-0.5%, -0.2%)	<0.001	0.5% (0.3%, 0.7%)	<0.001	-0.7% (-2.0%, 0.6%)	0.283	-2.5% (-5.1%, 0.0%)
Hispanic							
Prevalence	1.1% (0.8%, 1.4%)	<0.001	-1.1% (-1.6%, -0.7%)	<0.001	-0.5% (-1.7%, 0.7%)	0.393	2.2% (0.4%, 4.0%)
Gap w/ White	0.4% (0.3%, 0.5%)	<0.001	-0.4% (-0.6%, -0.1%)	0.005	-0.7% (-1.2%, -0.2%)	0.004	-0.9% (-2.8%, 1.1%)

Table 3. Trends in Lack of a Usual Source of Care by Race/Ethnicity and Study Periods.

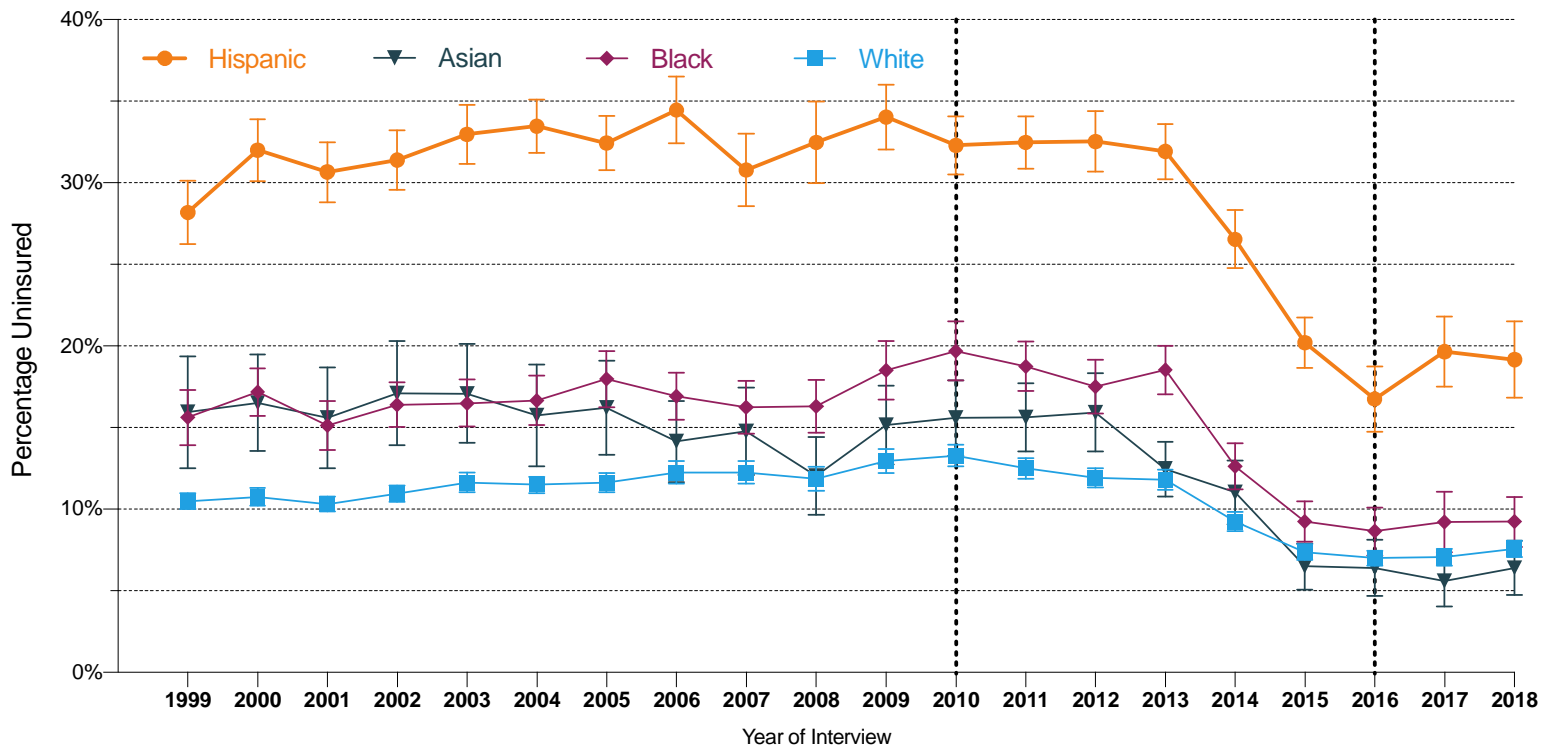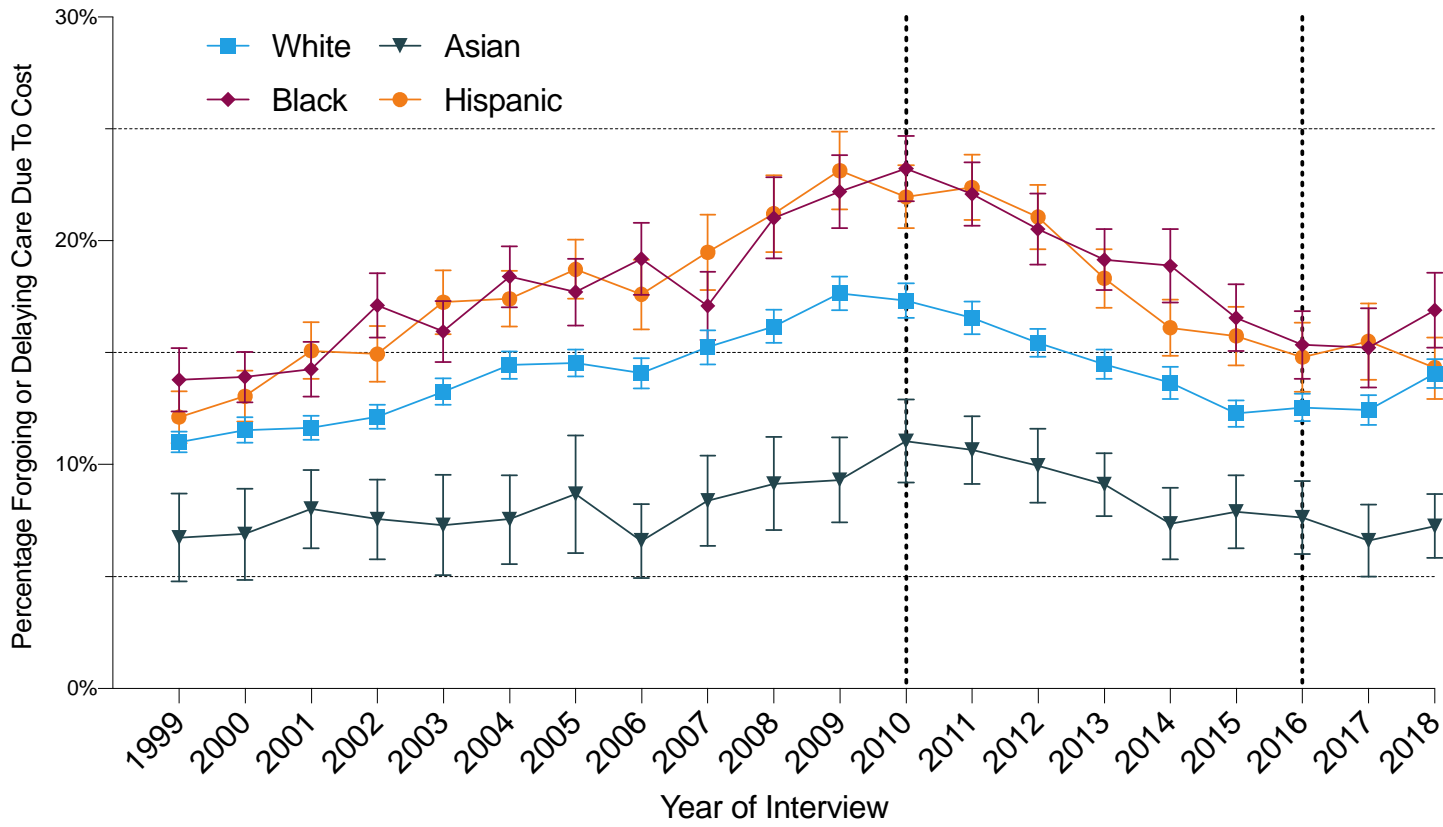| Race/Ethnicity	1999-2018		2010-2015		2016-2018		Delta 1999-2018
	Annualized Rate of Change, % (95% CI)	P Value	Annualized Rate of Change, % (95% CI)	P Value	Annualized Rate of Change, % (95% CI)	P Value	Absolute Difference, % (95% CI)
White							
Prevalence	0.2% (0.02%, 0.3%)	0.007	-0.1% (-0.5%, 0.2%)	0.437	0.0% (-1.3%, 1.1%)	0.905	-0.9% (-1.7%, 0.0%)
Black							
Prevalence	0.3% (0.0%, 0.5%)	0.083	-0.4% (-1.2%, 0.5%)	0.397	0.2% (-1.6%, 2.0%)	0.848	-0.8% (-3.3%, 1.7%)
Gap w/ White	0.1% (0.0%, 0.2%)	0.105	-0.2% (-0.5%, 0.0%)	0.157	0.1% (-0.6%, 0.8%)	0.798	0.1% (-2.6%, 2.7%)
Asian							
Prevalence	-0.1% (-0.4%, 0.1%)	0.289	-0.1% (-0.9%, 0.8%)	0.85	-0.8% (-3.1%, 1.5%)	0.515	-6.4% (-10.5%, -2.3%)
Gap w/ White	-0.3% (-0.6%, -0.02%)	0.035	0.1% (-0.7%, 0.8%)	0.892	-0.7% (-2.9%, 1.5%)	0.542	-5.5% (-9.7%, -1.3%)
Hispanic							
Prevalence	0.3% (-0.2%, 0.7%)	0.228	-1.2% (-1.7%, -0.6%)	<0.001	-0.4% (-2.5%, 1.7%	0.72	-4.9% (-7.6%, -2.2%)
Gap w/ White	0.1% (-0.1%, 0.4%)	0.326	-1.0% (-1.6%, -0.5%)	<0.001	-0.3% (-2.9%, 1.5%)	0.542	-4.0% (-6.8%, -1.2%)

Figure 1.

Figure 2.

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Figure 3.