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The Problem Of The Color Line: Spatial Access To Hospital Services For Minoritized Racial And Ethnic Groups

ABSTRACT Examining how spatial access to health care varies across geography is key to documenting structural inequalities in the United States. In this article and the accompanying StoryMap, our team identified ZIP Code Tabulation Areas (ZCTAs) with the largest share of minoritized racial and ethnic populations and measured distances to the nearest hospital offering emergency services, trauma care, obstetrics, outpatient surgery, intensive care, and cardiac care. In rural areas, ZCTAs with high Black or American Indian/Alaska Native representation were significantly farther from services than ZCTAs with high White representation. The opposite was true for urban ZCTAs, with high White ZCTAs being farther from most services. These patterns likely result from a combination of housing policies that restrict housing opportunities and federal health policies that are based on service provision rather than community need. The findings also illustrate the difficulty of using a single metric—distance—to investigate access to care on a national scale.

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In 1903 W. E. B. DuBois, cofounder of the National Association for the Advancement of Colored People, wrote that “the problem of the Twentieth Century is the problem of the color line,” a phrase used earlier by Frederick Douglass to refer to the widespread discrimination and exclusion of Black people throughout the United States.¹ Centuries of racial prejudice have resulted in the sustained patterns of racism observed today. Migration patterns, both voluntary and forced, and territorial acquisitions have resulted in the concentration of minoritized racial and ethnic groups in defined areas (see the StoryMap that accompanies this article online).² We chose to use the word “minoritized” intentionally, rather than “minority” or “minorities,” to highlight the unjust social, economic, and political oppression of non-White people in the US, historically and at present.³ In addition, dis-

crimatory housing policies such as redlining have concentrated minoritized populations within specific spaces.⁴

Racism can be conceptualized into three primary domains: structural racism, cultural racism, and individual-level discrimination.⁵ Structural racism can and does exist in the absence of overtly hostile behavior by individual actors.⁶ It focuses on differential access to material goods, services, and power at the macro level, often manifested as societal norms, practices, and laws.⁷

Communities have distinct histories that affect how structural racism manifests. In the South, many rural communities have a high proportion of Black residents, stemming from the plantation locations where their ancestors were enslaved. In the West and along the US-Mexico border, many rural communities have a high proportion of Hispanic residents, reflecting both

history (these areas were once part of Mexico) and policies such as the Bracero Program (1942–64), which encouraged the temporary immigration of Mexican workers to meet US farm labor needs.⁸ American Indian/Alaska Native communities reflect a combination of proximity to ancestral lands and forced migration onto reservations during the eighteenth and nineteenth centuries.⁹

Structural racism and urbanism contribute to the historical lack of health care access experienced by rural and minoritized people.¹⁰ When the Hospital Survey and Construction Act of 1946, known as the Hill-Burton Act, provided funding to build hospitals throughout the country, it allowed for racial segregation within the hospitals,¹¹ extending overt health care segregation for nearly twenty more years until passage of the Civil Rights Act of 1964 and Medicare legislation in 1965.¹² The Hill-Burton Act also allowed state and local power structures to make hospital placement decisions. Other factors that affect profitability¹³ also play a role in the decision to build, expand, or close hospital services in an area, including the demographic and socioeconomic composition of the surrounding market.¹⁴

At the state level, racist stereotypes (for instance, the “welfare queen” portrayal that began circulating in the 1970s) have been used to restrict eligibility criteria (such as by implementing income caps and work requirements) for safety-net programs.^{15,16} The decision to delegate many details of the Medicaid program to states, including Medicaid expansion under the Affordable Care Act (ACA), has adversely affected minoritized populations, particularly in the South, where nearly 60 percent of all Black Americans reside.^{17,18} Adults in the “coverage gap,” whose income is above their state’s nonexpansion Medicaid eligibility cutoff but below the minimum income eligibility for ACA tax credits,¹⁹ are disproportionately Black and Hispanic.²⁰

Although rural hospital closures are a current policy priority, the impacts of hospital closures on minoritized populations have been studied for decades. An analysis of closures between 1937 and 1980 found that hospitals in areas that serve minoritized populations were more likely than neighboring hospitals to have closed.²¹ A more recent analysis of urban public hospital closures found that segregated and low-income communities were more likely to experience a closure.¹⁴ Legal analysts suggest that the failure of federal authorities and courts to enforce protections against discrimination in hospital placement and closure decisions has contributed to inequities in health services availability.²²

In this article we examine one specific aspect of structural racism: disparities in access to a

range of health care services. Hospital-based services are of particular interest because studies have found a decrease in the supply of physicians (including primary care clinicians) after a hospital closed.^{23,24} In addition, hospitals play a key role in the provision of care for key causes of racial and ethnic disparities in mortality (such as cancer, cardiovascular disease, and injuries),^{25,26} with some disparities being exacerbated by the closure of hospital services.^{27,28} Our companion StoryMap² focuses on access to a variety of non-hospital-based health care services for minoritized communities.

Study Data And Methods

DATA SOURCES AND MEASURES Our geographic unit of analysis was the ZIP Code Tabulation Area (ZCTA). ZCTAs are a geographic representation of ZIP codes. ZCTAs have previously been used to explore spatial access to health care services,^{29–31} are better representations of local access to services than administrative units such as counties, and are designed to exclude large areas without populations (such as large water bodies and national parks).³²

To identify rural ZCTAs with the largest representation of minoritized residents, we examined the population distribution by race and ethnicity in all rural ZCTAs and then flagged those that fell into the ninety-fifth percentile for each racial and ethnic group. We used the same procedure to identify urban ZCTAs with the largest representation of minoritized residents (appendix exhibit 1).³³ All ZCTAs that did not reach any of the ninety-fifth percentiles for minoritized groups were categorized as high White (100 percent of residents were non-Hispanic Whites) or all other ZCTAs. Race and ethnicity data were drawn from the American Community Survey (2015–19 estimates). Rurality was defined using ZIP code–approximated rural-urban commuting area primary codes, with codes 1–3 defined as urban and codes 4–10 defined as rural.³⁴

We calculated separate minoritized racial and ethnic group cutoff levels for rural and urban ZCTAs because their demographic profiles differ substantially (appendix exhibit 4).³³ For instance, ZCTAs classified as high Hispanic ZCTAs had resident populations greater than or equal to 23.81 percent if rural or 34.11 percent if urban. ZCTAs that met the ninety-fifth percentile for more than one minoritized population were placed in a separate category, so each category was mutually exclusive. Our final analysis included the following classifications: American Indian/Alaska Native, Asian, Black, Hispanic, White, multiple minoritized groups, and all other ZCTAs. People who identified as Hispanic are

Policy levers for reducing inequities in access to hospital services are present at both the state and federal levels.

included exclusively in the Hispanic category; all other groups are classified as non-Hispanic.

Finally, a sensitivity analysis was performed to evaluate variability in the distribution of designated minoritized areas and associated model outcomes under different thresholds (namely, the ninetieth percentile for each minoritized group, stratified by urban-rural status, and a fixed 20 percent threshold for each minoritized group) (appendix exhibits 2–4).³³

We used data from the 2019 American Hospital Association (AHA) Annual Survey to identify the addresses of operational acute care hospitals. Six service lines were studied: emergency services, trauma center (all levels), obstetrics, outpatient surgery, intensive care, and cardiac care (appendix exhibit 5).³³ When the AHA survey had missing service indicators, we determined service availability from the 2019 Centers for Medicare and Medicaid Services (CMS) Provider of Services File. Our primary exhibits focus on emergency services and intensive care units (ICUs), given the roles they play in reducing mortality from life-threatening conditions with marked racial and ethnic disparities, including severe COVID-19.^{35,36} Secondary exhibits are in the appendix³³ and the StoryMap.²

We calculated the straight-line distance between each residential ZCTA population-weighted centroid (obtained via the Missouri Census Data Center's Geocorr 2018 application)³⁷ and the address of the nearest acute care hospital by service type, using SAS, version 9.4. We also categorized each ZCTA by whether the nearest hospital was more than thirty miles away for each service.

In addition to racial and ethnic composition, other community characteristics can affect service availability, including sociodemographics (age and poverty), vehicle ownership, employment, health insurance, and population size.^{38,39} Regional designation and residential segregation can also play a role.⁴⁰ In multivariable anal-

ysis, we held these characteristics constant.

STATISTICAL ANALYSIS Using ArcGIS Pro, we created maps to visualize both the distribution of high minoritized group ZCTAs and distance intervals to the nearest hospital by service type. Wilcoxon signed rank tests were used to compare differences in median miles between high minoritized group ZCTAs and reference ZCTAs (that is, high White areas). Pearson's chi-square tests were used to compare the frequency and percentage of ZCTAs without access to a hospital with each service within thirty miles.

Quantile and logistic regression models were used to estimate the associations between minoritized group status and distances to hospital services for continuous (miles) and categorical (thirty miles or less versus more than thirty miles) outcomes, respectively. In the quantile regressions, conducted separately for urban and rural ZCTAs, we compared distances to hospital services at the fiftieth percentile between high minoritized group ZCTAs and high White ZCTAs, with a bootstrap method for handling standard errors. All models adjusted for census region (Northeast, Midwest, West, South); percentage of residents ages sixty-five and older, experiencing poverty, without vehicle ownership, unemployed, and uninsured; and racial residential segregation at the county level where more than half of the residents in a ZCTA reside. We evaluated the potential for multicollinearity but did not find any evidence across covariates.

LIMITATIONS Our study had several limitations. First, we used the ninety-fifth percentile of the distribution by race and ethnicity to classify areas with high minoritized groups. Other authors have used differing cut points.^{41,42} We chose the ninety-fifth percentile to reduce the chance of mischaracterizing ZCTAs, particularly with regard to racial and ethnic groups with small populations. Yet our results on access to hospital services between rural high minoritized group and nonminoritized group ZCTAs (but not between urban minoritized group and nonminoritized group ZCTAs) were similar in the sensitivity analyses we conducted using varied cut points. Second, we used straight-line versus travel distances as our primary outcome. Although travel distances are more accurate representations of travel burden, studies show a high correlation between both measures, and at the national level, differences were inconsequential.⁴³ Third, we derived service availability from the AHA Annual Survey, whose accuracy relies on administrators' responses. However, that survey has been widely used to study hospital-based services.^{39,44} Also, we used the CMS Provider of Services File to help identify missing service indicators from the AHA Annual Survey.

Study Results

High minoritized group ZCTAs are located across the US; however, there is a clear spatial pattern of Black communities in the South; Hispanic communities in Texas and the West; and American Indian/Alaska Native communities in Oklahoma, the upper Midwest, and West (appendix exhibit 1).³³ In sensitivity analyses, Hispanic and Black communities grew more concentrated (appendix exhibits 2 and 3).³³ As expected, many more ZCTAs were classified as meeting more than one minoritized group designation under the ninetieth percentile scenario, and far fewer ZCTAs were classified as high Asian under the fixed 20 percent threshold (appendix exhibit 4).³³

For high minoritized group ZCTAs, those with the longest distances to emergency and ICU care were generally concentrated along the northern border of Arizona; in southwest Alabama; and in parts of South Dakota, New Mexico, and Texas (exhibits 1 and 2). Many of these locations are co-located with designated tribal lands. For non-

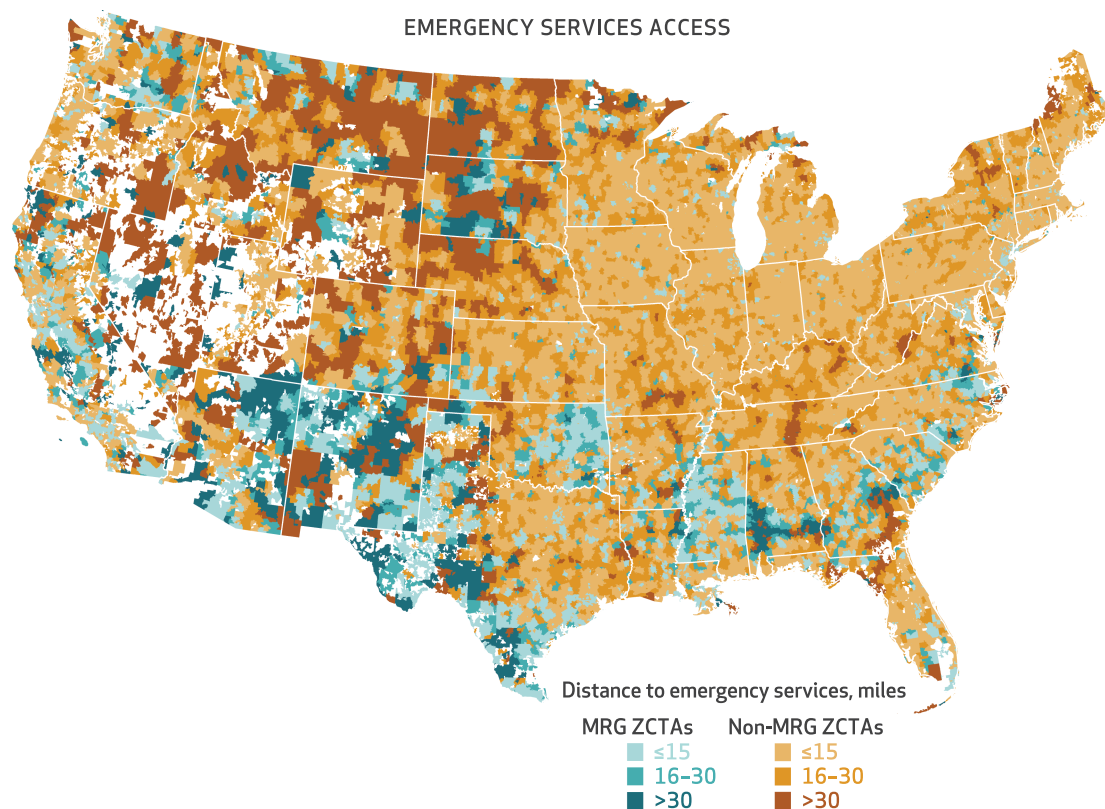
minoritized group ZCTAs, those with the longest distances to emergency and ICU care were located primarily in the West and bordering Midwestern states. There were also pockets of poor access to care in Appalachia, southern Georgia, and other isolated ZCTA clusters, but these areas were mostly adjacent to areas with fewer than thirty miles to care.

Rural minoritized group ZCTAs in the Midwest had consistently longer median distances to all hospital services than rural nonminoritized group ZCTAs (appendix exhibit 6).³³ Rural ZCTAs in the West, regardless of minoritized group status, had the longest median distances to all service types. In urban areas, minoritized group areas had shorter distances to all service types than their nonminoritized group counterparts across all census regions, although median miles were generally less than ten for both types of ZCTAs.

In general, hospital services were closer to high minoritized group ZCTAs in urban areas, but the pattern was reversed in rural areas. In

EXHIBIT 1

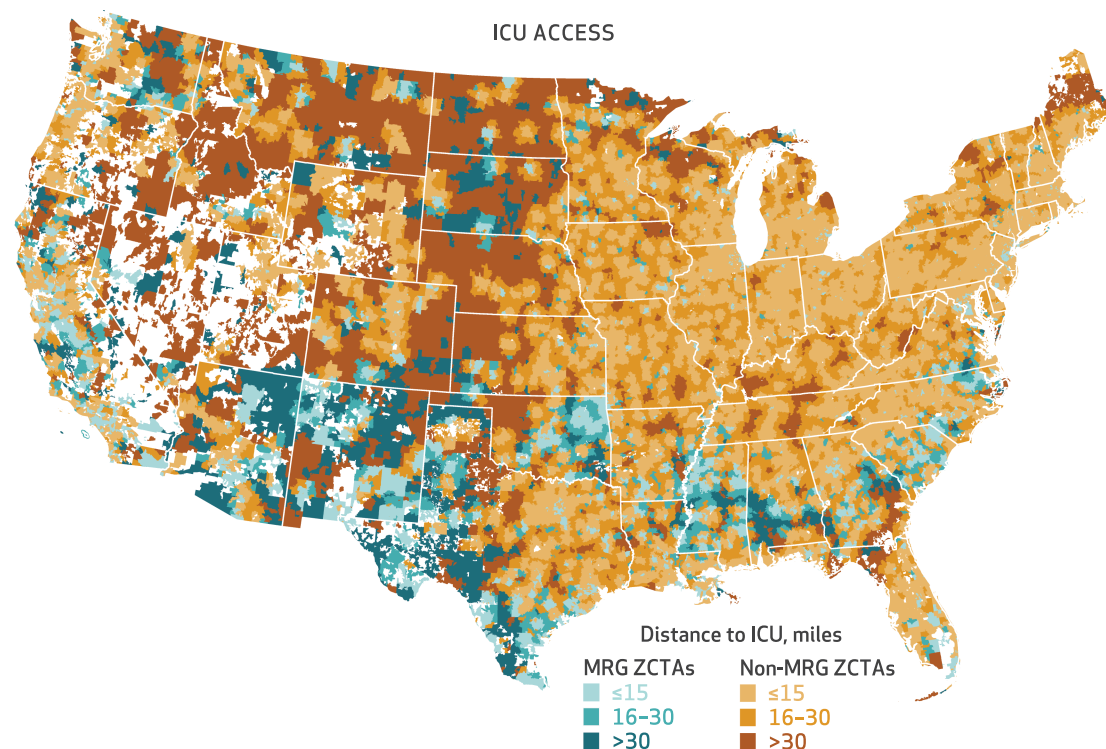
Geographic distribution of distances to hospital-based emergency services by minoritized racial and ethnic group (MRG) classification, 2019



SOURCE Authors' analysis of data from the 2019 American Hospital Association Annual Survey and the 2015–19 ZIP Code Tabulation Area (ZCTA)-level American Community Survey. **NOTES** Analysis was not performed for Alaska or Hawaii, so they are not shown on the map. Also, a number of ZCTAs have null values (white areas in map) because of a lack of residents.

EXHIBIT 2

Geographic distribution of distances to intensive care units (ICUs) by minoritized racial and ethnic group (MRG) classification, 2019



SOURCE Authors' analysis of data from the 2019 American Hospital Association Annual Survey and the 2015–19 ZIP Code Tabulation Area (ZCTA)-level American Community Survey. **NOTES** Analysis was not performed for Alaska or Hawaii, so they are not shown on the map. Also, a number of ZCTAs have null values (white areas in map) because of a lack of residents.

urban high minoritized group ZCTAs, the median distances to hospital-based services ranged from 3.8 to 6.4 miles, whereas the median distances in urban nonminoritized group ZCTAs were between 7.4 and 11.5 miles (trauma care had longest median distance; exhibit 3). In rural high minoritized group ZCTAs, median distances ranged from 16.2 miles for emergency services to 25.6 miles for trauma care, which is significantly farther than for rural nonminoritized group areas (medians of 13.4 and 23.6 miles, respectively).

Distances to hospital services varied on the basis of the specific minoritized group and rurality. Rural American Indian/Alaska Native ZCTAs had significantly longer distances to all hospital-based services than rural high White ZCTAs, whereas urban American Indian/Alaska Native ZCTAs were slightly closer to hospital services than urban high White ZCTAs. High American Indian/Alaska Native ZCTAs consistently experienced the longest median distance from services, with the exception of trauma care in rural areas, where ZCTAs with more than one high minoritized group had the longest median

distance to care. Notably, more than 60 percent of rural ZCTAs with more than one high minoritized group had distances greater than thirty miles to the nearest trauma center. Access to emergency services was better, but still nearly 25 percent of rural ZCTAs with more than one minoritized group could not gain access to emergency care within thirty miles.

Distances to intensive care and cardiac care were frequently longer than thirty miles for rural high minoritized group ZCTAs, especially high American Indian/Alaska Native and high Hispanic areas. More than 55 percent of all rural high American Indian/Alaska Native ZCTAs and about 40 percent of rural high Hispanic ZCTAs had distances greater than thirty miles to these services.

Trauma care was the most difficult service to obtain. Rural ZCTAs with high minoritized groups, on average, were located 22 miles or more from trauma care versus 13.3 miles or less across urban high minoritized group ZCTAs. Similarly, the proportion of rural high minoritized group ZCTAs located more than thirty miles from trauma care ranged from 39.9 percent

EXHIBIT 3

Distances to nearest hospital service in the US, by rurality and minoritized racial and ethnic group classification, 2019

| Groups | Emergency services | | | Trauma care | | | Obstetric units | | |
|-----------------|--------------------|-----------|---------------|---------------|-----------|---------------|-----------------|-----------|---------------|
| | Rural | | Urban | Rural | | Urban | Rural | | Urban |
| | Median, miles | >30 miles | Median, miles | Median, miles | >30 miles | Median, miles | Median, miles | >30 miles | Median, miles |
| Minoritized | 16.2**** | 24.6%**** | 3.9**** | 25.6**** | 45.8%**** | 6.4**** | 19.5**** | 30.7%**** | 4.4**** |
| Black | 16.7 | 13.7** | 3.6**** | 26.9 | 40.3 | 5.5**** | 20.4 | 21.9*** | 4.3**** |
| Asian | 12.3**** | 20.9 | 2.7**** | 22.0**** | 39.9 | 4.6**** | 15.6**** | 26.7 | 2.9**** |
| AI/AN | 18.9**** | 37.7**** | 10.1**** | 27.3** | 56.1**** | 13.3**** | 21.4 | 43.0**** | 11.5**** |
| Hispanic | 18.0 | 22.9*** | 3.7**** | 25.1 | 42.1 | 6.0**** | 20.9 | 29.1 | 4.1**** |
| Multiple | 17.3*** | 38.5**** | 2.8**** | 35.2 | 63.5**** | 5.3**** | 17.9 | 40.4**** | 3.5**** |
| Nonminoritized | 13.4 | 11.4 | 7.5 | 23.6 | 35.7 | 11.5 | 17.6 | 19.8 | 8.7 |
| White (ref) | 15.0 | 17.7 | 12.0 | 26.2 | 42.2 | 17.8 | 19.9 | 27.0 | 14.8 |
| All other ZCTAs | 13.2**** | 10.0 | 7.0**** | 23.2**** | 34.2 | 10.8**** | 17.1**** | 18.2 | 8.1**** |

| Groups | Outpatient surgery | | | Intensive care units | | | Cardiac care | | |
|-----------------|--------------------|-----------|---------------|----------------------|-----------|---------------|---------------|-----------|---------------|
| | Rural | | Urban | Rural | | Urban | Rural | | Urban |
| | Median, miles | >30 miles | Median, miles | Median, miles | >30 miles | Median, miles | Median, miles | >30 miles | Median, miles |
| Minoritized | 16.4**** | 25.8%**** | 3.8**** | 21.0**** | 36.3%**** | 4.0**** | 24.6**** | 43.9%**** | 4.1**** |
| Black | 16.7 | 13.1*** | 3.6**** | 19.1**** | 20.3**** | 3.8**** | 23.6** | 31.5*** | 3.8**** |
| Asian | 12.1**** | 20.9 | 2.6**** | 15.6**** | 28.3 | 2.7**** | 18.1**** | 33.0** | 2.8**** |
| AI/AN | 20.0**** | 43.1**** | 10.1**** | 27.3**** | 55.8**** | 11.3**** | 31.8**** | 62.9**** | 11.5**** |
| Hispanic | 18.0 | 22.7*** | 3.6**** | 25.0**** | 39.7**** | 3.8**** | 28.5**** | 46.3**** | 3.9**** |
| Multiple | 18.4 | 41.0**** | 2.8**** | 19.6 | 44.2**** | 2.8**** | 25.2 | 53.8**** | 3.1**** |
| Nonminoritized | 13.4 | 11.3 | 7.4 | 18.0 | 22.8 | 7.9 | 20.8 | 30.7 | 8.0 |
| White (ref) | 14.9 | 17.7 | 12.0 | 20.3 | 30.0 | 13.4 | 23.6 | 37.3 | 13.7 |
| All other ZCTAs | 13.1**** | 9.9**** | 7.0**** | 17.6**** | 21.2**** | 7.4**** | 20.3**** | 29.2**** | 7.5**** |

SOURCE Authors' analysis of data from the 2019 American Hospital Association Annual Survey, the 2015–19 ZIP Code Tabulation Area (ZCTA)–level American Community Survey, and 2010 rural urban commuting area codes. **NOTES** Wilcoxon signed rank tests were used to compare differences in median miles between each minoritized group and the reference group (high White ZCTAs) and between minoritized and nonminoritized ZCTAs. *p* value levels are based on Pearson's chi-square tests to compare frequency and percentage of areas without access to a hospital with a given service. Because there were few urban ZCTAs with distances more than 30 miles, results on the percent of urban areas with more than 30 miles to hospital services are omitted. AI/AN is American Indian/Alaska Native. ***p* < 0.05 ****p* < 0.01 *****p* < 0.001

(high Asian) to 63.5 percent (multiple minoritized groups) (exhibit 3).

In adjusted analysis, rural high Black and American Indian/Alaska Native ZCTAs generally had longer distances to hospital services (exhibit 4; full models are in appendix exhibits 8–1–8–6).³³ Of all comparisons, the largest difference was found in trauma care among rural ZCTAs with multiple minoritized groups compared with their high White peers (7.2 miles). Rural high Black ZCTAs, all things held equal, were located farther from emergency services, outpatient surgery, ICUs, obstetric care, and cardiac care than rural high White areas. Urban high Black ZCTAs, in contrast, were closer (by 1.7–3.3 miles) to hospital services than high White ZCTAs. Controlling for population characteristics, rural, but not urban, ZCTAs in the high American Indian/Alaska Native category were located farther from most services. Urban ZCTAs with 20 percent or more of their population identifying as American Indian/Alaska Native, however, were located far-

ther from services (appendix exhibit 7).³³ In rural high American Indian/Alaska Native ZCTAs, hospital services were up to 7.1 miles farther (cardiac care), with two times higher odds of having to travel at least thirty miles to reach these services compared with rural high White ZCTAs. For emergency, trauma, outpatient surgery, and cardiac care, rural ZCTAs with multiple minoritized groups also had about two times higher odds of having to travel more than thirty miles for care compared with their high White peers.

Discussion

Our analysis revealed differences in access to care across areas with varied demographics and marked variation in the direction of these differences based on rurality. Rural high Black and high American Indian/Alaska Native ZCTAs were significantly farther from many hospital services than rural high White areas. Rural high Hispanic ZCTAs had more varied results but were

Associations between minoritized racial and ethnic group classification and distance to the nearest hospital service in the US, 2019

| | Emergency services | | | Trauma care | | | Obstetric units | | |
|-----------------|-----------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------|-----------------------------------|-----------------------------------|-----------------|-----------------------------------|
| | Rural | | Urban | Rural | | Urban | Rural | | Urban |
| | Marginal diff, miles ^a | OR ^b | Marginal diff, miles ^a | Marginal diff, miles ^a | OR ^b | Marginal diff, miles ^a | Marginal diff, miles ^a | OR ^b | Marginal diff, miles ^a |
| Minoritized | | | | | | | | | |
| Black | 2.7**** | 1.6*** | -1.7**** | 1.4 | 1.0 | -3.3**** | 1.6** | 1.1 | -2.7**** |
| Asian | -0.2 | 0.9 | -3.2**** | -1.4 | 0.8 | -4.3**** | -0.9 | 0.9 | -4.1**** |
| AI/AN | 3.4**** | 1.4** | -1.1**** | 0.6 | 1.1 | -4.1**** | 2.1** | 1.2 | -1.8**** |
| Hispanic | 1.2 | 1.1 | -2.5**** | -1.0 | 0.9 | -3.7**** | 0.9 | 0.9 | -3.5**** |
| Multiple | 2.8 | 1.9** | -2.1**** | 7.2**** | 1.8**** | -2.8**** | 0.7 | 1.3 | -2.9*** |
| Nonminoritized | | | | | | | | | |
| White (ref) | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| All other ZCTAs | 0.8**** | 0.9 | -2.2**** | 0.0 | 0.9 | -3.3**** | 0.1 | 1.0 | -2.8**** |
| | Outpatient surgery | | | Intensive care units | | | Cardiac care | | |
| | Rural | | Urban | Rural | | Urban | Rural | | Urban |
| | Marginal diff, miles ^a | OR ^b | Marginal diff, miles ^a | Marginal diff, miles ^a | OR ^b | Marginal diff, miles ^a | Marginal diff, miles ^a | OR ^b | Marginal diff, miles ^a |
| Minoritized | | | | | | | | | |
| Black | 2.6**** | 1.6*** | -1.7**** | 2.5**** | 1.2 | -2.5**** | 3.5**** | 1.5**** | -2.6**** |
| Asian | -0.2 | 0.9 | -3.3**** | -0.8 | 0.8 | -3.8**** | -1.2 | 0.8 | -4.1**** |
| AI/AN | 4.3**** | 1.9**** | -1.2**** | 6.6**** | 2.2**** | -1.4**** | 7.1**** | 2.1**** | -1.8**** |
| Hispanic | 1.2 | 1.1 | -2.5**** | 3.5**** | 1.3** | -3.1**** | 1.7 | 1.3** | -3.4**** |
| Multiple | 3.5 | 2.2*** | -2.0**** | 3.2 | 1.4 | -3.0**** | 3.3 | 1.7** | -2.7*** |
| Nonminoritized | | | | | | | | | |
| White (ref) | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| All other ZCTAs | 0.8**** | 0.9 | -2.2**** | 0.6 | 1.0 | -2.7**** | 0.9 | 1.1 | -2.8**** |

SOURCE Authors' analysis of data from the 2019 American Hospital Association Annual Survey, 2015–19 ZIP Code Tabulation Area (ZCTA)-level American Community Survey, and SAS ZIP-code Geodist functions. **NOTES** OR is odds ratio. AI/AN is American Indian/Alaska Native. ^aQuantile regression analyses were conducted separately for urban and rural ZCTAs to estimate the differences in urban- and rural-specific median distances to a hospital with a given service, between minoritized areas and reference nonminoritized areas (high White ZCTAs), controlling for ZCTA-level sociodemographic characteristics, county-level racial residential segregation, and census region. ^bOdds ratios are from logistic regression models conducted for rural ZCTAs to relate the odds of having to travel more than 30 miles to a hospital with a given service for minoritized areas relative to reference nonminoritized areas, controlling for ZCTA-level sociodemographic characteristics, county-level racial residential segregation, and census region. ** $p < 0.05$ *** $p < 0.01$ **** $p < 0.001$

significantly farther from ICUs. In urban areas, the opposite was true: High minoritized group ZCTAs were generally closer to services.

Our findings confirm longer travel times to hospital-based services for rural communities,^{45,46} as well as within-rural-community disparities.⁴⁷ Further, rural hospital closures during the past decade have increased distance to services for all rural residents.⁴⁸ Hospital closures have been linked both to political unwillingness to expand Medicaid and to the proportion of minoritized racial and ethnic groups residing within a rural county.^{38,49} Notably, rural patients insured by Medicare and Medicaid are also less likely to bypass their local hospital and thus are more likely to be affected by local closures.⁵⁰

Our findings from urban areas show more favorable spatial access to hospital services among most minoritized group ZCTAs. This corroborates prior work showing that some measures of racial segregation are associated with better

physical access to hospital-based services.⁵¹ Given the age of many urban facilities, however, quality must be considered. The closest hospital serving minoritized racial and ethnic populations may be older, poorer, and less equipped to provide effective care.^{52,53}

In addition, median distances might not reflect travel barriers experienced by urban populations. In urban areas, straight-line distances may be less relevant than travel times, particularly among populations that may have to use public transportation or circumvent an interstate highway routed through one's neighborhood.⁵⁴ Prior research showed that although urban Black respondents were less likely than rural Black respondents to travel more than thirty miles for care, they were equally likely to spend more than thirty minutes in travel.⁵⁵

Our findings regarding the disproportionately longer distances to care among rural high American Indian/Alaska Native ZCTAs warrant reflection.

tion. Distance to the nearest hospital with each service, as measured in our study, can be partially misleading because of the low usage of private-sector providers among this population. Many American Indian/Alaska Native patients do not access these providers because of lack of insurance, feeling discriminated against or “invisible,” transportation barriers, and cost concerns.⁵⁶ Further, nearly 60 percent of American Indian/Alaska Native people rely on the Indian Health Service for their health care.⁵⁷ Although the Indian Health Service does provide direct services for tribal-affiliated American Indian/Alaska Native people, it is not an insurance provider, and most services are provided on or near reservations.⁵⁸ However, only an estimated 22 percent of American Indian/Alaska Native people reside in such areas.¹⁸ In addition, there are only thirty Indian Health Service-funded hospitals in the US, making them inaccessible to many patients. Despite increasing Medicaid enrollment by this population post-ACA, American Indian/Alaska Native Medicaid enrollees report more difficulty obtaining medical care than their White counterparts.⁵⁸

When inequalities in the built environment are as large, immobile, and capital intensive as hospitals, approaches to equity must come from multiple directions: addressing current facility gaps while preventing additional inequities associated with hospital closure or relocation to ensure that future growth reflects community needs.

The COVID-19 pandemic demonstrated that both patients and providers are willing to use telehealth. In the short run, access to selected services associated with hospital presence can perhaps be enhanced through expanded use of telehealth options. Physical therapy for rehabilitation after a cardiac event, for example, could be continued through this modality after an initial visit. Telehealth approaches have the unique advantage of resolving access difficulties both for rural populations and for urban residents facing transportation barriers. However, many conditions (trauma, obstetric crisis, cardiac, and cerebrovascular events) require timely in-person assessment and treatment by clinical professionals.

Policy levers for reducing inequities in access to hospital services are present at both the state and federal levels. States are responsible for licensing health care facilities, including hospitals, which gives them considerable influence over requirements for locations, services, and community benefit activities. The value of Certificate-of-Need laws, designed with a focus on expansion—not downsizing or closure—in terms

of ensuring the quality of care has been challenged.^{59,60} However, research into the effect of these laws on facility location is needed. State-level oversight of hospital system mergers and closures, for example, could require institutions to commit to maintaining or expanding services in underserved areas as part of the approval process. In addition, statewide regional coordination of available hospital services would benefit from proactive collaborations with relevant licensing bodies, professional associations, and community organizations representing minoritized groups.⁶¹

States influence the financial viability of health care institutions through their decisions concerning the Medicaid program. Medicaid expansion has had a protective effect on rural hospitals,⁴⁹ for example, but it has not yet been adopted by all states. Adoption of Medicaid expansion by additional states, encouraged by the American Rescue Plan Act of 2021, could help retain health care resources in underserved communities.⁶² The federal government also has multiple policy avenues to pursue in efforts to enhance equity of access to hospital services. For instance, CMS could ensure that geographic equity in access to care, as measured through network adequacy standards and other metrics, is addressed in state Medicaid waivers. In addition, Medicare, through the Medicare Payment Advisory Commission, should ensure that geographic equity in access to care receives as much attention as efficiency when making recommendations. Because CMS has authority over Medicare Advantage, it should also review network adequacy standards to ensure that distance-to-care requirements do not disadvantage minoritized populations and are set at a sufficient level of granularity to ensure that all residents of a coverage area are included.

Finally, elements of the American Rescue Plan Act and the Infrastructure Investment and Jobs Act of 2021 may reduce existing distance-related disparities through provisions to reconnect underserved communities physically divided by previous infrastructure projects, expand broadband internet access, and take on new capital projects. However, efforts must be made to ensure that resources and funding make it to neglected areas and populations.

Changing a health care infrastructure that has been built within the context of discrimination against minoritized racial and ethnic populations is not a one-and-done effort. Dedicated policy and advocacy, coupled with geographically informed research, are needed to isolate and remedy current service shortfalls. ■

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OVERVIEW

Improving The Measurement Of Structural Racism To Achieve Antiracist Health Policy

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ABSTRACT Antiracist health policy research requires methodological innovation that creates equity-centered and antiracist solutions to health inequities by centering the complexities and insidiousness of structural racism. The development of effective health policy and health equity interventions requires sound empirical characterization of the nature of structural racism and its impact on public health. However, there is a disconnect between the conceptualization and measurement of structural racism in the public health literature. Given that structural racism is a system of interconnected institutions that operates with a set of racialized rules that maintain White supremacy, how can anyone accurately measure its insidiousness? This article highlights methodological approaches that will move the field forward in its ability to validly measure structural racism for the purposes of achieving health equity. We identify three key areas that require scholarly attention to advance antiracist health policy research: historical context, geographical context, and theory-based novel quantitative and qualitative methods that capture the multifaceted and systemic properties of structural racism as well as other systems of oppression.

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More than thirty years ago James Baldwin, one of the most notable voices on civil rights, reflected on the so-called progress of addressing racism in the US with the quote: “What is it you wanted me to reconcile myself to?... You always told me ‘It takes time.’ It’s taken my father’s time, my mother’s time, my uncle’s time, my brothers’ and my sisters’ time. How much time do you want for your progress?”¹

Quite simply, time has run out. Progress toward racial equity has been elusive for more than 400 years, and the world is now in a moment that requires that it invest in a different way of doing things. In 2020 the world watched a Black man, George Floyd, Jr., be brutally murdered beneath the knee of a White police officer in Minnesota, and in the following year 229 more Black people

lost their lives at the hands of police in the US.² Throughout 2020 and 2021 Americans also watched a global pandemic disproportionately ravage Black communities across the country.³

Black communities are bearing the physical burdens of centuries of injustice, toxic exposures, and White supremacist violence. These burdens are wearing and tearing at bodies and cutting some lives short while preventing others from even beginning.^{4,5} At the root of this tragic reality is a legacy of structural racism.⁴ *Structural racism* refers to the “totality of ways in which societies foster racial discrimination through mutually reinforcing systems of housing, education, employment, earnings, benefits, credit, media, health care, and criminal justice. These patterns and practices in turn reinforce discriminatory beliefs, values, and the distribution of resources.”⁵ For example, prior research sug-

gests that the legacies of structural racism—manifested in various historical and contemporary forms discussed in this article—create circumstances in which Black babies are too often born too soon and too small and don't make it to their first birthday.^{6,7}

Growing awareness of structural racism within (and outside of) public health discourse has led to calls for public health researchers, governmental public health practitioners, medical care providers, and policy makers to explicitly identify structural racism as a root cause of racial health inequity.^{5,8,9} Yet empirical research has been slow to quantify structural racism and its impact on public health.¹⁰ What isn't measured cannot be managed, nor can it be valued.

During the late nineteenth and early twentieth centuries, Black-White disparities in mortality and morbidity were erroneously attributed to notions of biological racial inferiority.¹¹ W. E. B. Du Bois, one of the first people to challenge this predominant notion, pushed for the systematic empirical investigation of social factors contributing to racialized health risk and health inequities.^{12,13} More than one hundred years after Du Bois's scholarship, racial health inequities remain a central challenge for public health, and measurement of the primary contributing factor remains elusive. To date, researchers have primarily relied on self-reported exposures of racism, which are useful but have limitations.¹⁴ A 2018 study found just twenty articles published between 2007 and 2017 that measured structural racism.¹⁰ Further, in 2021 Nancy Krieger and colleagues found that although the top four medical journals saw a dramatic increase in the number of articles that included the word *racism* in 2020, fewer than 10 percent of the sixty-four articles in their study contained any measures of structural (or other forms of) racism.¹⁵

The development of sound measures of structural racism is an urgent public health issue. Research must go beyond documenting racial inequities in health, beyond exclusively focusing on the roles of individual-level health risks and resources, and beyond merely conceptualizing racism as a fundamental cause to quantifying structural racism and its insidious effects on health.⁹

In this article we extend prior research calling for rigorous empirical studies on the links between racism and health⁹ by outlining specific methodological approaches that will move the field forward. First, we highlight how the history of racism in the US affects the ways the nation should approach measurement of structural racism and its effects on health. Second, we highlight the role that geographical context plays in

shaping the measurement of structural racism and the importance of aligning theories and proposed mechanisms with the geographic locations and units examined. Finally, we propose promising directions for future research that incorporate innovative methodological approaches for quantitative and qualitative measurement of the multifaceted nature of structural racism, its intersections with other systems of oppression, and its impact on public health.

Historical Context

Historical context is critical for accurately measuring structural racism for rigorous antiracist health policy research. Structural racism has been a core strand in the fabric of US society since its inception, beginning with the genocide and colonization of American Indians and constitutional protections for the institution of slavery.¹⁶ Throughout history, the US has been a racialized society, characterized by the formation and reformation of socially constructed hierarchies of racial groups as well as by structural racism in political, social, economic, judicial, residential, and health care contexts, which undergird racial inequalities in nearly every facet of life.^{12,17,18} Despite popular narratives about racial progress and a "postracial" America, data suggest that structural racism is alive and well in the US.^{19,20} Theoretical and empirical research show that there has been a qualitative shift in the nature of structural racism from predominant overt, de jure forms (such as colonization, slavery, lynchings, and Jim Crow laws) to more covert, de facto forms of racism (such as racialized mass incarceration, disenfranchisement, and residential segregation).^{20,21}

The history of structural racism in the US has important implications for how the nation should approach measuring it and its effects on health. A burgeoning body of research has shown links between Black Americans' contemporary health and historical forms of racism. For example, studies have shown that historical state and county variation in the enforcement (and abolition) of Jim Crow are predictive of Black mortality rates.^{6,22} However, there are major gaps in understanding of the pathways through which contemporary health outcomes are shaped by historical structural racism.

We have identified several promising avenues for future research to investigate how the historical context of structural racism affects present-day public health. First, to understand the broader impact of historical structural racism, future studies should examine how modern health is shaped by a wider array of past forms of structural racism, such as slavery, lynching,

The development of sound measures of structural racism is an urgent public health issue.

unequal treatment in the criminal-legal system, forced sterilization, and other manifestations of racialized violence.

Second, more empirical research is needed on the connections between historical and contemporary forms of structural racism. Theory suggests inextricable links, with historical forms directing, constructing, and molding contemporary structural racism.^{21,23–25} One empirical study showed that counties and states that had larger enslaved proportions of the population in 1860 have greater present-day inequalities in poverty and economic mobility and higher levels of pro-White bias.²⁵ Another study showed that higher concentrations of slavery in 1860 at the county level are associated with slower declines in heart disease mortality among Blacks in recent decades, an association partially explained by intervening socioeconomic factors.²⁶ Research has also shown that New Deal policies expanded the White middle class and are directly implicated in modern Black-White inequalities in wealth²⁷ and that historical redlining practices underlie contemporary residential segregation patterns and health inequities.^{28,29}

Third, future research should test how historical structural racism affects modern health outcomes either directly or indirectly via contemporary structural racism. Finally, further research is needed to identify the specific biopsychosocial mechanisms linking historical structural racism to health outcomes. There are important questions to be addressed: Does historical structural racism trigger a cascade of racialized social, political, and economic disadvantages that accumulate across the life course?³⁰ Have social traumas of historical structural racism transmitted across generations via biological and psychosocial processes, and if so, how?³¹ What role do stress processes play in the embodiment of historical structural racism leading to health inequities?^{4,32}

Geographic Context

Structural racism manifests in different ways across geographic contexts. Researchers thus must determine how space and place and administrative, cultural, and physical boundaries operate and interact to produce and maintain these structures. Most important, researchers should ensure that the geographic units studied align with theory and research questions.

MEASUREMENT OF STRUCTURAL RACISM AT

THE STATE LEVEL A large body of research has documented the important role of US state-level social, economic, and policy context in shaping the distribution of health and illness.^{33,34} This is because federalism, as defined in the Tenth Amendment of the United States Constitution, delegates to the states all powers not explicitly outlined or outlawed by the Constitution. Assertions of these state-level powers have ranged from the enslavement of Africans in the earliest points of US history to how education, housing, and infrastructure are financed and implemented. Since the 1980s the devolution of federal authority and preemption of local policy have increasingly consolidated power at the state level, making the states especially powerful influences on the social determinants of health in the US.³³ State policies and practices shape employment, education, incarceration, real estate, taxes, health care, and many other factors affecting people's lives. Many of these policies and practices are not race-neutral in their intentions, implementation, or effects.^{35,36} In fact, US states have a long history of contributing to racial oppression, from the *de jure* racism of the Jim Crow era to the contemporary *de facto* racism evident in policies and practices such as voter disenfranchisement and mandatory minimum sentencing.^{23,24} Thus, US states are best understood as racializing institutional actors shaping population health.³⁷

An emerging line of research finds that state-level structural racism is associated with higher rates of infant mortality, myocardial infarction, functional limitations, depression, higher body mass index, and worse self-rated health among Black people.^{37–39} To date this research has focused on economic, social, and political contexts. More attention is needed in future research to examine specific policies and practices that create and exacerbate structural racism across a variety of domains. For example, many state and local jurisdictions rely on fines and fees to balance their budgets, effectively turning police into revenue generators through excessive traffic stops.⁴⁰ This often has a disproportionate impact on Black communities, leading to negative social, economic, and health consequences. Philando Castile was pulled over

by police forty-six times in Minnesota for minor violations and was issued more than \$6,000 in fines. It was during the forty-seventh stop that a police officer took his life.⁴¹ This and other directions for future research are especially important given the increasing policy-making authority of states.

MEASUREMENT OF STRUCTURAL RACISM IN NEIGHBORHOODS The predominant geographic level used to theorize and conceptualize structural racism has been the neighborhood. This is in part a result of racial residential segregation and the institutional and individual practices and policies that create and maintain physical separation from White communities. Racial segregation is a fundamental cause of health disparities because it has been such an effective conduit of resources by state, federal, and even local governments.⁴² A recent systematic review found that segregation is the primary operationalization of structural racism in epidemiologic work,¹⁰ with a particular focus on existing patterns of segregation, historic redlining, or the development of contemporary discrimination indices. Although segregation alone, in addition to measures of redlining, has been shown to be predictive of racial health disparities, scholars have called for more nuanced measures of structural racism.^{43,44}

Another reason the neighborhood has been a key geographic level for the measurement of structural racism is that existing neighborhood effects research provides both a theoretical and methodological framework that aligns well with the study of structural racism.⁴⁴ Underlying neighborhood effects research is the theory that observed clustering of health behaviors and outcomes in hyperlocal settings is in part a result of the neighborhood context itself, rather than the individuals who live there. In the study of structural racism, the context is the specific political or institutional forces maintaining White supremacy. How the neighborhood is operationalized in research has varied greatly, including census tracts, ZIP codes, census-derived ZIP Code Tabulation Areas (ZCTAs), or even local administrative neighborhoods. Decisions on what constitutes a neighborhood are often determined by the availability of data rather than by how communities define themselves or what may be most relevant to answer the research question.

What areal unit is the most appropriate for structural racism measurement is an unsettled debate among scholars. Measuring structural racism at different geographic scales (that is, census tract, county, or state) causes the modifiable area unit problem,⁴⁵ contributing to inconsistent findings concerning the health effect of

New measurement approaches are being developed that capture the multifaceted nature of structural racism as a system.

structural racism. This problem arises because the boundaries designed to group populations are arbitrary—mere approximations of the demographics of the underlying population. As boundaries change, both the denominator and the numerators of what has been measured also change. A real-life example of the modifiable area unit problem is also another source of structural racism: Redistricting and gerrymandering are used to change political landscapes by physically changing which residents are within which boundaries.

For the impact of the modifiable area unit problem in structural racism and health research to be minimized, the areal unit for measurement must “make sense.”⁴⁴ For example, to study the impact of racist policies and practices designed to keep Black people out of the so-called White neighborhood, scholars have used census block groups⁴⁶ and ZCTAs⁴⁷ as units of measurement. To examine the role of states as racialized agents, measurement at the state level is appropriate.⁴⁸ For structural racism that operates at the labor market with no rigid boundaries, measurement using commuting zones has been proposed.⁴⁹ To capture structural racism in densely populated counties that are urban and rural, measurement of structural racism using the Centers for Disease Control and Prevention’s Public Use Microdata Area, which account for geographic boundaries and population density, may allow scholars to capture the heterogeneity in structural racism across different pockets.⁵⁰

Examples provided here are by no means a comprehensive list or suggestions of the “right” way to measure structural racism, nor are they an indication that the modifiable area unit problem can be completely avoided in structural racism research. Rather, we encourage the use of a theory-driven approach in which appropriate geographic units are selected on the basis of

Effective policy and authentic antiracist research must be born from within the affected community.

the proposed underlying mechanisms of structural racism, suggested by prior research and theory.

Approaches To Capturing The Multifaceted Nature Of Structural Racism

Grounded in foundational scholarship on residential segregation as a driving force for health inequities,¹ population health scholars use the ecological framework to guide how structural racism in other domains beyond housing access is measured. Of the many indices used, the index of concentration at the extremes⁵¹ and iterations of the index of disproportionality³⁹ are most common. These indices operationalize structural racism as inequitable restriction of economic and sociopolitical resources (such as income, education, or the ability to vote) or disproportionate burden (such as police surveillance) experienced by members of racial and ethnic minority groups relative to White people.¹⁰ Measuring inequities ecologically instead of asking individuals to report their experiences with structural racism allows scholars to capture opaque aspects of structural racism to which minority people are exposed.⁵¹

DATA SOURCES One approach to expanding the measurement of structural racism is to seek out new data sources that capture understudied aspects of structural racism.⁴⁴ To date, data used to measure structural racism often use population estimates from the Census Bureau's decennial census and the intercensal American Community Survey. However, these publicly available data primarily focus on the composition of the geographic unit being analyzed rather than the context believed to be affecting residents.

One underused data source that can provide critical information for the study of structural racism is the Census Bureau's Census of Governments. The Census of Governments collects financial information, including revenue, expenditures, debts, and assets, from all county,

subcounty, and state governments in the US every five years, as required by federal law.⁵³ These data provide information on how public money is spent and its flow across levels of government, providing insight on financial decision making by governmental entities. Patterns in education funding, police expenditures, cash assistance, and other pecuniary choices related to structural forces influencing the health and well-being of constituents can be abstracted from these data.

MULTIFACETED NATURE OF STRUCTURAL RACISM Gilbert Gee and Margaret Hicken posit that "racial inequities in...health will persist until we redirect our gaze away from specific institutions (and specific individuals), and instead focus on the resilient connections among institutions and their racialized rules."⁵⁴ Functioning similar to a system, various forms of structural racism share the same pathway (for example, education inequity leads to employment inequity) or interact with one another and exert both their independent and joint effects to cause poor health among members of racial and ethnic minority groups. As such, measures of structural racism should reflect this multidimensionality.

Measuring structural racism as a multifaceted determinant of health can be done in two ways. First, the approach taken by a majority of population health scholars is to measure various forms of structural racism as a set of exposures. In other words, a system is just the sum of its parts. For example, the pioneering work of Alicia Lukachko and colleagues measured inequities in political participation, employment, education, and judicial treatment and linked each form of structural racism to the risk for myocardial infarction.³⁹ Yet the extent to which these forms of structural racism reinforce one another was not examined. Although findings from studies that use this approach to focus on one or a few forms of structural racism may provide focused policy recommendations, those recommendations may be incomplete or have unintended consequences because they do not consider how other dimensions of structural racism work behind the scenes to alter the effectiveness of policy changes.

Instead of examining forms of structural racism separately, new measurement approaches are being developed that capture the multifaceted nature of structural racism as a system. For example, three recent studies have proposed measuring structural racism as a multifaceted exposure using latent variable models.^{37,50,55} These latent variable approaches avoid measurement errors associated with observed variables, and they are well suited for measuring complex properties of structural racism. The approaches assume shared variance between structural rac-

ism indicators, allowing researchers to estimate an unbiased effect of a multifaceted system of structural racism on health.⁵⁶ Although these methods are innovative, each has its pros and cons and may be applicable for different study designs and research questions.

INTERSECTIONALITY Another promising methodological consideration is incorporating intersectionality. The core insight of intersectionality is that individual life chances are shaped not by a single status hierarchy but by multiple overlapping systems of oppression such as racism, sexism, and classism.^{48,49} During the past decade intersectional studies have greatly advanced knowledge of health disparities, but little research has applied an intersectional lens to the study of structural racism and health. A straightforward intersectional approach to structural racism and health research would involve investigating how structural racism exposure interacts with individual-level characteristics to shape health—for example, if gender or socioeconomic status moderates the impact of structural racism among Black people. In addition, scholars are beginning to develop novel structural intersectionality approaches.^{48,50} A structural intersectionality approach involves measuring structural racism and structural sexism⁵⁴ and other systems of oppression in a particular social context to explore how they relate to one another to jointly shape population health, defined by specific constellations of individual-level statuses (for instance, middle-class Black women).⁵⁰ Other approaches have created new intersectional measures such as structural gendered racism.⁵⁵

QUALITATIVE AND COMMUNITY-BASED PARTICIPATORY RESEARCH Qualitative research also plays a critical role in the understanding of structural racism and its impact on health. Indeed, qualitative data provide rich information about the lived experience of structural racism by allowing people closest to the reality of structural racism to describe how racism affects their lives.^{57–59}

Effective policy and authentic antiracist research must be born from within the affected community and subsequently cultivated by the community. Efforts to create measures of structural racism should be informed by community input, including community-based participatory research⁶⁰ and public health critical race praxis principles.⁶¹ In Minnesota, for example, community conversations were held in virtual settings to hear from people about how structural racism affects their lives, how it should be measured, and whether the right measures are being

used currently.⁶² This community research also helped identify domains of structural racism that have not yet been captured quantitatively. In addition, Brittany Chambers and colleagues conducted qualitative work with Black women in California to conceptualize structural racism from the perspectives of Black women across the reproductive lifespan.⁶³ Themes that emerged from this study both confirm and introduce new domains of structural racism that can inform measurement and policy recommendations to improve health outcomes.⁶³ Incorporating community voices has the potential to deeply inform the development of sound structural racism measures.^{64,65}

Conclusion

The world must dismantle structural racism to achieve health equity. Valid, replicable, and theoretically derived measures of structural racism are urgently needed to build evidence of its harms to population health and to identify pathways for intervention to advance racial health equity. Measuring structural racism for antiracist health policy research is both critical and urgently needed. In February 2021 Rep. Ayanna Pressley (D-MA) introduced the Anti-Racism in Public Health Act, highlighting the need for “robust, comprehensive research on the public health impacts of structural racism and policy solutions to bring an end to these disparities once and for all.”⁶⁶

In this article we have offered a few considerations that are critical for moving the measurement of structural racism forward. The principles and approaches we identified here should also be applied to parallel areas of struggle and activism, such as emerging efforts to measure structural xenophobia in the form of immigration policy.⁶⁷ It is also important to examine structural racism on a global scale and scrutinize how the colonization of countries in the Global South by imperialist majority-White countries functions as an international form of structural racism that undermines the health of existing populations.⁶⁸

More than thirty years ago James Baldwin asserted that the nation had run out of time to address racism. Now Americans are faced with even more urgency. We have highlighted methodological considerations that will move the field forward in its ability to validly measure structural racism for the purposes of achieving health equity. This work is urgently needed—we have run out of time. ■

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By Ruth Enid Zambrana and David R. Williams

OVERVIEW

The Intellectual Roots Of Current Knowledge On Racism And Health: Relevance To Policy And The National Equity Discourse

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ABSTRACT Research related to racism and health has evolved in recent decades, with a growing appreciation of the centrality of the social determinants of health, life-course approaches and structural racism, and other upstream factors as drivers of health inequities. Examining how race, class, and structural racism relate to each other and combine over the life course to affect health can facilitate a clearer understanding of the determinants of health. Yet there is ongoing discomfort in many public health and medical circles about research on racism, including opposition to the use of racial terminology. Similarly, most major national reports on racial and ethnic inequities in health have given limited attention to the role of racism. We conclude that there is a need to acknowledge the central role of racism in the national discourse on racial inequities in health, and paradigmatic shifts are needed to inform equity-driven policy and practice innovations that would tackle the roots of the problem of racism and dismantle health inequities.

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There is a current wave of increasing scientific interest in the presence and persistence of racism in contemporary societies, with health scientists paying increased attention to the measurement and conceptualization of racism as part of a concerted effort to understand how racism can adversely affect health and to identify the optimal strategies for mitigating and eliminating its pathogenic effects. Use of the term *racism* in research is relatively recent, and we have seen a bubbling up of a new lexicon around racism and its manifestations (exhibit 1). While acknowledgment of racism as a determinant of health dates back at least to the nineteenth century, it was an unwelcomed idea because it was at odds with the then dominant scientific paradigm. Traditional paradigms of science that study group differences in health have historically privileged risk factors mea-

sured at the individual level that capture biological, psychological, behavioral, or other exposures that can trigger adverse changes in health status. In the case of racial and ethnic inequities, these categories were viewed as capturing biological distinctiveness in human populations, with any observed racial disparities viewed as reflecting either innate biological differences or deeply embedded differences in values, habits, and culture.^{1,2}

The purpose of this article is to provide a brief but cogent and chronological rendering of the alternative scholarly efforts of researchers that were foundational to the emergence of paradigmatic shifts and new constructions of knowledge. These scholarly efforts place greater emphasis on the ways in which the health of populations is deeply affected by larger institutional and policy contexts. We describe the growing attention, over time, to the centrality of so-

EXHIBIT 1

Defining The Constructs Of Racism

| Constructs | Definitions |
|-----------------------------------|---|
| Racism ^a | An organized social system, in which the dominant racial group, based on an ideology of inferiority, categorizes and ranks people into social groups called “races” and uses its power to devalue, disempower, and differentially allocate valued societal resources and opportunities to groups defined as inferior. The structure and ideology of racism can persist in governmental and institutional policies in the absence of individual actors who are explicitly racially prejudiced. |
| Structural racism ^b | Historical and contemporary policies, practices, and norms that create and maintain White supremacy by segregating racial and ethnic communities from access to opportunity and upward mobility by making it more difficult to secure high-quality education, jobs, housing, health care, and equal treatment in the criminal justice system. |
| Systemic racism ^c | Racism characterized by a dominant racial hierarchy, comprehensive White racial framing, individual and collective discrimination, social reproduction of racial-material inequalities, and racist institutions integral to White domination of Americans of color. |
| Institutional racism ^d | Racially adverse discriminatory policies and practices carried out within and between individual state or nonstate institutions on the basis of racialized group membership. Sometimes used synonymously with <i>structural</i> and <i>systemic racism</i> . |
| Internalized racism ^e | Acceptance by members of stigmatized races of negative messages about their own abilities and intrinsic worth. |

SOURCE Authors’ review of the literature, as specified below. ^aWilliams DR, Lawrence JA, Davis BA. Racism and health: evidence and needed research. *Annu Rev Public Health*. 2019;40:105–25. ^bUrban Institute. Structural racism in America [Internet]. Washington (DC): Urban Institute; [cited 2021 Dec 20]. Available from: <https://www.urban.org/features/structural-racism-america>. ^cFeagin J, Bennefield Z. Systemic racism and U.S. health care (note 20 in text). ^dBailey ZD, Krieger N, Agénor M, Graves J, Linos N, Bassett MT. Structural racism and health inequities in the USA: evidence and interventions. *Lancet*. 2017; 389(10077):1453–63. ^ePallak K, De Maio F, Ansell DA. Structural racism—a 60-year-old Black woman with breast cancer. *N Engl J Med*. 2019;380(16):1489–93.

cial determinants, with an increasing recognition that structural racism is a fundamental but neglected upstream driver of health inequities.³ Relatedly, there has been growing appreciation of the intersections of race, socioeconomic status, and structural racism. We also provide an overview of the contested domain of research on racism, including opposition to the use of racial terminology and efforts to dilute the evidence linking racism to health. We review major scientific reports on racial and ethnic inequities, giving attention to the explanations provided and the extent to which racism is named as a determinant of racial disparities in health. We argue that the influx of racial and ethnic scholars in institutions of higher learning in the 1980s and the simultaneous attention of the US federal government to the existence of large disparities in health opened new avenues of thinking about the intersections of race, ethnicity, class, and health. Finally, we describe the critical need for paradigmatic shifts that incorporate racism as a driver of inequities and that recognize that dismantling racism is an indispensable component of policies and interventions to achieve racial equity in health.

Early Scholarship: Social Class, Race, Ethnicity, And Health

Current research on social factors that affect health builds on a long history of scientific interest in the unequal distribution of health and wealth in society. Social and behavioral scientists have long focused on how social structure

and social stratification are key determinants of health. Social class, usually operationalized as socioeconomic status in the US, is a central determinant of variations in health.^{4,5} However, as far back as the 1840s, a seminal study by Friedrich Engels showed how life expectancy in Liverpool, England, varied by the occupation (a marker of social class) of the residents.⁶ Moreover, he described how specific exposures (social determinants) in both occupational and residential environments were related to the elevated risk for particular diseases. He concluded that the larger society was guilty of “social murder” by creating conditions that markedly reduced the life expectancy of the socially disadvantaged.

In his classic 1899 volume, *The Philadelphia Negro*, W. E. B. Du Bois, an influential Black (or African American, terms used interchangeably) social scientist of that era, included a chapter on Negro health that painstakingly described the ways in which the living and working conditions of African Americans shaped their exposure to factors that determined their risk for disease.⁷ Although the term *racism* does not appear in the chapter, Du Bois saw racial differences in health as reflecting differences in “social advancements” and the “vastly different conditions” under which Black and White people lived, indicating that the causes of racial differences in health were multifactorial, but primarily social. His list of contributing factors included poor heredity, neglect of infants, bad dwellings, poor food, and unsanitary living conditions. In the case of consumption (tuberculosis), he indicated that factors at the individual and neighborhood

levels increased exposure to health risks. For example, death rates were higher in the Fifth Ward, “the worst Negro slum in the city and the worst part of the city in respect to sanitation,” than in the Thirtieth Ward, which had “good houses and clean streets.”

Kellee White indicates that the intellectual roots of constructs such as social determinants and structural and institutional racism can be traced back to the seminal work of scholars such as Engels and Du Bois.⁸ In striking contrast to this conceptualization, the dominant US medical paradigm in the late nineteenth and early twentieth centuries attributed any observed racial difference in health to innate biological differences between racial groups.^{1,9} At the same time, historically underrepresented scholars and others studying race and ethnicity produced additional observations on the social, political, and economic determinants of health. Of note, African Americans have a larger historical record of the documentation of disparity and unequal treatment as a result of the work of individuals such as Du Bois. American Indians and Alaska Natives, people of Mexican origin, and Puerto Rican peoples have a less robust collection of historical observations of disparities and abuses of their populations, in part because of the historically smaller size of these populations, limited access to educational opportunities, and the exclusion of their scholarly voices.

By the middle of the twentieth century (the 1960s to the 1980s), there was increasing attention to the ways in which laws, policies, and the medical establishment had historically supported abuse, exploitation, and unethical health experiments for multiple racial and ethnic groups from the late 1800s through the 1970s.^{10–13} There are several examples. In the 1950s birth control trials were conducted on Massachusetts psychiatric patients and in a Puerto Rican public housing project.¹¹ In addition, Black, American Indian, Puerto Rican, Mexican American, and other poor women were unknowingly sterilized, coerced to sign consent forms, or given inadequate information about sterilization.^{10,13} In the well-known Tuskegee Experiment (1932–72), Black men with syphilis were denied medical treatment so that researchers could study the course of untreated syphilis.¹² In 1951 Henrietta Lacks, a Black woman, was treated for cervical cancer, and some of her cancer cells were preserved for use in scientific research without the consent of Lacks or her family.¹⁴

Awareness of these critical race-related abuses triggered advocacy and scholarship by race and ethnicity scholars and other investigators that emphasized the need to shift the dominant sci-

entific paradigms to avert future mistreatment of disadvantaged racialized groups. Community, medical, and public health advocates also expressed concerns about exclusionary practices and policies that created socioeconomic and health inequities in disadvantaged racial and ethnic communities.^{15–17}

It was a watershed moment in American history as the Civil Rights movement made visible to the American public the systematic exclusion of racially stigmatized groups, striking differences in access to basic goods, and the strident demands for equality in fundamental social and human services including health. The Kerner Report, a landmark study of racism, inequality, and police violence, continues to offer important lessons today.¹⁸ Critical scholarship, visible evidence of medical abuse, and grassroots and professional social mobilization to end inequitable practices contributed to the strength of the Civil Rights movement and new health coverage legislation. The passage of the 1964 Civil Rights Act, the 1965 Social Security Amendments that established Medicaid and Medicare, and the 1963 Community Mental Health Act increased equity in access to health and mental health care for racial and ethnic communities who had previously been denied access. In the 1960s and 1970s affirmative action policies also expanded access to higher education and afforded new professional opportunities to educate an intellectual class of scholars with African American, American Indian, Mexican American, and Puerto Rican ancestry.

The influential book *Black Power: The Politics of Liberation in America* by activist Stokely Carmichael and political scientist Charles Hamilton also emerged out of the Civil Rights movement and advanced understanding of the nature of racism.¹⁹ This volume provided an insightful conceptualization of the nature and consequences of racism. It also coined the term *institutional racism* to refer to the dimensions of racism that were less perceptible than individual racism because they were systemic and deeply embedded in the laws, practices, and societal forces, creating pervasive restrictions in access to political, social, and economic resources in society. Carmichael and Hamilton argued that racism had historically operated through routine and respected forces and institutions of society that were discriminatory in their impact on stigmatized groups. This conceptualization of institutional racism includes what many contemporary scholars call *structural racism* and *systemic racism*.²⁰ In a 1972 book, African American social psychologist James Jones identified three aspects of racism—personally mediated, internalized, and institutionalized—using *institutional-*

ized in a way that incorporates current notions of structural and systemic racism.²¹ During this time, a modest body of knowledge was produced that described the suffering and excess morbidity and premature mortality of poor and racial and ethnic groups and the growth of a medical care system of privilege.²² Several scholars observed the toll of inequality and exclusion due to the disadvantages and extreme social inequality faced by poor African American, American Indian, Mexican American, and Puerto Rican communities.^{23,24}

In spite of these significant social movements in the US during the latter part of the twentieth century, systematic examination of race, ethnicity, racism, and class was not a mainstream issue addressed in either academic or policy circles. Scientific commentary regarding historic socially disadvantaged racial and ethnic groups continued to be laden with stereotypic attributes, and centers of science and health policy exhibited strong resistance to including varying perspectives. The voices and lived experiences of those most deeply affected by racism and inequity were often absent or overlooked. Scientific explanations of the impact of social and material conditions on the health status of low-income racial and ethnic communities continued to reinforce negative individual attributes as causal factors for adverse community and individual outcomes.

Social Science And Public Health Research Extends The Paradigm

A major historical debate has centered on what race is and what racial categories capture. In the 1980s and 1990s important work was produced, predominantly by social scientists, on the social determinants of health, including institutional or structural racism, building on prior empirical work. This research focused on examining the conditions under which marginalized racial and ethnic people lived.^{25–28} Constructs such as racism and social class and its association with adverse health outcomes and institutional deficiencies, such as inadequate living and working conditions and poor nutrition, were key factors in a robust body of knowledge about poor racial and ethnic communities.²⁹

Research from physical anthropology and the Human Genome Project indicated that human genetic variation does not map onto traditional racial categories, with “race” being more of a social category than a biological one.^{30,31} That is, given that racial categories do not capture genetic distinctiveness in human populations, gene frequency differences are not major determinants of racial differences in health. This does

not mean that biology is irrelevant. Given the adaptive capacity of humans to alter biology in response to the environment, the distinctive residential and occupational environments created by racism can lead members of racial and ethnic minority groups to be exposed to risk factors and resources in the social environment. These exposures can trigger changes in biology, including in gene expression, that can contribute to racial inequities in health.^{32,33}

During the 1990s researchers increasingly recognized racism as a neglected pathogenic factor.³⁴ Nancy Kreiger and colleagues published an influential paper in 1993 that laid out a research agenda to better understand the intersections among racism, sexism, and social class.³⁵ The journal *Ethnicity and Disease* published a special double issue in 1996 on racism and health consisting of fifteen papers prepared by scholars from multiple disciplines that provided a unique glimpse of the complexity of racism and the myriad pathways by which it could initiate and sustain health inequities across the life course.³⁶ This corpus of research explicitly drew on the larger literature in the social sciences on racism, conceptualizing it as a multilevel construct, encompassing institutional, structural, and individual discrimination; racial prejudice and stereotypes; and internalized racism.^{37,38}

In an influential paper targeted to a public health audience, Camara Jones illustrated the multiple ways in which racism, including institutional racism, could affect health.³⁹ Douglas Massey and Nancy Denton’s path-breaking sociological work, *American Apartheid*, underscored the role of residential racial segregation as a primary institutional mechanism of racism and the key to understanding racial inequality in the US.²⁷ Other social scientists documented how segregation was a fundamental cause of racial disparities in health because it concentrates poverty, social disorder, and social isolation, triggering pathogenic conditions in residential environments that could adversely affect health.^{40,41}

Research had long documented that socioeconomic status is inversely associated with multiple risk factors for disease (such as stress, poor living conditions, exposure to toxins, and unhealthy behaviors) and one of the strongest known determinants of variations in health status globally.⁴² Emerging research also demonstrated that race was strongly intertwined with socioeconomic status and that socioeconomic differences between the races accounted for a substantial part of the racial and ethnic differences in health.^{4,5} At the same time, race and socioeconomic status are two related but not interchangeable systems of social ordering that

jointly contribute to health risks.^{5,43} Residual racial differences are present at every level of education and income, and attention should be given to the intersection of race- and class-based factors that undergird racial and ethnic health disparities.⁴⁴

Drawing on prior scholarship, an important theoretical innovation in the 1980s and 1990s was the development of an intersectional critical analytic lens that aimed to contest existing approaches to structures of inequality by centering the lived experiences of historically disadvantaged groups in institutional contexts. This perspective integrates the role of historical events as determinants of layered identities associated with social status, and it unveils the interconnected structures of inequality that are strongly associated with power, wealth, and life-course outcomes.⁴⁵ The intersectional lens uprooted implicit scientific assumptions and offered explicit new insights: The impact of historical racial and ethnic disadvantage accrues over the life course; historical policies and practices provide greater benefit to some social groups than to others; and structural racism is foundational in determining access to opportunity and outcomes in society.^{46,47}

Intersectionality was also uniquely designed as a tool for social change and social justice. Lisa Bowleg affirms that the practical application of intersectionality can facilitate equitable health policy and practice for marginalized groups and is essential to addressing health equity effectively.⁴⁸ For example, the impact of COVID-19 was uneven across racial and ethnic and socioeconomic groups in terms of exposure to risk, the severity of disease, access to optimal medical treatment, and the risk of mortality, with racial disparities persisting at every level of education.⁴⁹ Thus, engagement with members of communities that have been most affected is essential to assuring equitable responsiveness.

The early twenty-first century has benefited from multiple strands of intersectional scholarship that clearly delineated social determinants, wealth and assets, and structural racism as critical factors in health disparities. This body of knowledge on racial and ethnic health disparities unveiled interdependent systems of inequality that are deeply rooted in our society's intellectual and political ways of thinking and doing.^{50,51}

Yet despite the growth in research on racism and health in more recent decades, there remains a tenacious resistance in many scientific circles to research on racism and health. This resistance is especially unyielding to the explicit use of the term *racism*. For example, in 2015 the *Journal of the American Medical Association* invit-

ed one of the authors of this article to submit a paper on racism in medical care, which was submitted with the title "Racism in Health and Healthcare: Challenges and Opportunities." Fearing that using the word "racism" could lead to the loss of readers, the editor substituted "racial bias" for "racism" in the title of the published article.⁵² Similarly, an anonymous reviewer of a different paper once told one of the authors of this article that "the term racism does not belong in a scientific paper. Racism is an ideological concept that cannot be measured." In this case, the journal editor told the author to disregard the reviewer's comment.

A recent study that examined the use of *institutionalized racism* in the titles or abstracts of papers published in the fifty highest-impact public health journals between 2002 and 2015 found only twenty-five articles that used the term.⁵³ Another study examined the use of the word *racism* between 1990 and 2020 in the four highest-impact medical journals and found that papers in the medical literature use the term *racism* far less often than papers in the public health literature.⁵⁴ In 2002 scientists within the National Institutes of Health (NIH) opted not to use the term *racism* when the NIH convened its first meeting of about 100 scientists to consider emerging research on racism and health in 2002. The organizers used the term *racial/ethnic bias* to describe the focus of the meeting because the terms *racism* and *racial discrimination* were regarded at that time as too controversial.⁵⁵

Treatment Of Racism In Major Reports On Health Disparities

In the late twentieth and early twenty-first centuries, several influential reports that addressed racial and ethnic inequities in health were issued by federal health agencies, the National Academy of Sciences, and the World Health Organization (WHO). These reports are important because they reflected and drove intellectual currents and health policy. As we illustrate below, these major reports were slow to embrace the emerging scientific research on racism as a social determinant of health and as a contributor to racial inequities in health.

In 1985 the landmark *Report of the Secretary's Task Force on Black and Minority Health* marked the first federal report exclusively focused on the health of racial and ethnic minority groups.² The report documented a higher burden of disease among Black and other minority populations compared with the White population, and it identified six causes of death that accounted for more than 80 percent of the elevated mortality risk for Black Americans. The report

indicated that the primary risk factors for these diseases were behavioral, and it did not situate these behaviors within the larger social context of the living and working conditions of disadvantaged racial populations. While the report led to the establishment of the Office of Minority Health at the Department of Health and Human Services in 1986 to coordinate efforts to reduce racial and ethnic disparities in health, it made no mention of racism.

A *Common Destiny*, a 1989 National Research Council/National Academy of Sciences report, focused on the progress of Black Americans in multiple societal domains since 1940.⁵⁶ In describing health disparities among the Black population, chapter 8 of the report acknowledged the persistence of poverty, segregation, and social fragmentation for Black Americans and indicated that poverty and sociocultural factors that influence access to health services were the central drivers of racial disparities in health. It noted, without any elaboration, that “racial discrimination in treatment” and an inadequate number of minority providers were other factors that probably played a role.^{56(p429)}

In 1998 the National Center for Health Statistics published national data on health status by race and socioeconomic status simultaneously.⁵⁷ Strikingly, the data showed that racial differences persisted at every level of socioeconomic status for most outcomes—but the report did not mention racism or identify factors linked to racial status that could account for this pattern.

In 2001 the National Academy of Sciences published *America Becoming*, a major report in support of President Bill Clinton’s initiative on race. Four chapters in the report’s second volume focused on racial disparities in health.⁵⁸ Some chapters in the report mentioned racism as a determinant of racial inequities in health, while others did not. Of note, in contrast to a somewhat cursory treatment of the subject in other chapters that did name racism, chapter 14 of the report described how racism, embedded in societal policies, had contributed to racial differences in socioeconomic status and described how racism can influence racial disparities in health through residential segregation, differential access to high-quality medical care, and the stress generated by the subjective experience of discrimination.

In 2003 the Institute of Medicine (now the National Academy of Medicine) released *Unequal Treatment*, a groundbreaking report that found that across virtually every medical intervention, Black people and members of other minority groups received poorer-quality care than White people—differences that persisted after socioeconomic status and insurance status were

taken into account.⁵⁹ The report strongly suggested that racism in health care delivery was a likely contributor. Since 2003 there has been an annual report, the *National Healthcare Disparities Report* (combined with the *National Healthcare Quality Report* since 2014), on racial and socioeconomic disparities in access to and quality of care in the US.⁶⁰ Largely descriptive, it does not focus on the factors that drive the underlying patterns, including racism.

A 2008 WHO report documented how socioeconomic status and other social determinants shape health and identified needed policy interventions.⁴² The report acknowledged that race and ethnicity is a social position that affects health and called for its inclusion in the collection of surveillance data. However, although the report mentioned gender, disability, and age discrimination, racism and racial discrimination were never referenced. *Healthy People 2010*, which had the overarching goals of improving health and eliminating health disparities (including racial health disparities), discussed the importance of the social determinants of health, but the terms *racism*, *racial bias*, and *racial discrimination* were never mentioned.⁶¹

In contrast to the 2008 WHO report, a 2019 report from the Pan American Health Organization, a regional arm of the WHO, on health inequities within and between countries in the Americas identified “structural racism” as a key driver of health inequity.⁶² This shift in research and policy circles to acknowledge and address racism is also evident across federal agencies in recent months. For example, the Centers for Disease Control and Prevention declared racism a public health threat in 2021, and the NIH launched an “Ending Structural Racism” initiative and offered several new funding opportunities in 2020 and 2021 to address structural racism.

Science Guides The Path To Policy Implementation

The US is at a crossroads. Until recently, the language and terminology of racism has been contested, often ignored, and viewed as not relevant to, or acceptable for, accounting for and intervening on racial and ethnic inequities in health. Because scientific language has the power to encourage normative standards, new and sustained paradigmatic shifts are necessary in the scientific community to strengthen the commitment to addressing health inequities and to enhance the depth and richness of traditional research and intervention approaches. This is a critical moment, socially and intellectually, as tensions rise in some quarters regarding

new social constructs and language around history, race, class, racism, health, poverty, and place. While the “new” terminology and framing of racism—which as we have noted in this article is indeed not new at all—can be unsettling to some, it offers the opportunity to interrogate traditional frameworks that center on the characteristics or behavior of individuals or their presumed cultures to explain health disparities and to move science and policy toward an enhanced understanding of the critical role played by larger social, economic, historical, and insti-

tutional factors. A growing body of scientific research indicates that a greater emphasis on these “upstream” factors holds much promise for policy decisions and interventions that are likely to be effective in improving population health and in reducing, and ultimately eliminating, large racial and ethnic gaps in health.⁶³ The past four decades of scholarship combined with insights from major reports provide a solid groundwork for policy to address racism as a key social determinant of health and to initiate new directions in the equitable allocation of resources. ■

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OVERVIEW

Structural Racism In Historical And Modern US Health Care Policy

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ABSTRACT The COVID-19 pandemic has illuminated and amplified the harsh reality of health inequities experienced by racial and ethnic minority groups in the United States. Members of these groups have disproportionately been infected and died from COVID-19, yet they still lack equitable access to treatment and vaccines. Lack of equitable access to high-quality health care is in large part a result of structural racism in US health care policy, which structures the health care system to advantage the White population and disadvantage racial and ethnic minority populations. This article provides historical context and a detailed account of modern structural racism in health care policy, highlighting its role in health care coverage, financing, and quality.

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Members of racial and ethnic minority groups have long suffered from health inequities in the United States, and the COVID-19 pandemic has mercilessly worsened many of these inequities. As of November 2021, American Indian and Alaska Native, Black, and Latino people all had suffered from higher rates of hospitalizations and deaths related to COVID-19 compared with White people.¹ These inequities result, in large part, from racial and ethnic minority populations' inequitable access to health care, which persists because of structural racism in health care policy.

Racism includes a complex array of social structures, interpersonal interactions, and beliefs by which the group in power categorizes people into socially constructed “races” and creates a racial hierarchy in which racial and ethnic minority groups are disempowered, devalued, and denied equal access to resources.² Racism is often tied to the actions of an individual perpetrator, such as a health care professional denying equitable care to minority people. However, this narrow perspective ignores structural racism in health care, which shapes the many

ways in which the US health care system is structured to advantage the White population—and disadvantage racial and ethnic minority populations.³ A “characteristic of racism is that its structure and ideology can persist in governmental and institutional policies in the absence of individual actors who are explicitly racially prejudiced. ...[R]acism is [also] adaptive over time, maintaining its pervasive adverse effects through multiple mechanisms that arise to replace forms that have been diminished.”²

Structural racism operates through laws and policies that allocate resources in ways that disempower and devalue members of racial and ethnic minority groups, resulting in inequitable access to high-quality care.³ One of the most visible examples of this is health insurance inequities. The federal government has acknowledged that “inadequate health insurance coverage is one of the largest barriers to health care access, and the unequal distribution of coverage contributes to disparities in health.”⁴ A recent study that considered income, race, and self-perceived health status found not only that racial identity is independently associated with lack of health insurance but also that “low-

income [minority people] with bad health had 68% less odds of being insured than high-income [White people] with good health.”⁵

Although there are other aspects of US health care policy that contribute to an inequitable system of care, in this article we provide a comprehensive review of how structural racism, embedded in health care policy, results in inequitable access to high-quality care. We first examine how racism shaped early policy decisions that allowed local governments and private employers to provide inequitable access to health care and health insurance. We then discuss structural racism’s continued impact on modern health care policy in the areas of health care coverage, finance, and quality.

Structural Racism In Early US Health Care Policy

Since the Jim Crow era (1875–1968), racism has implicitly and explicitly been an integral part of the US government’s structuring and financing of the health care system. For example, in 1946 the federal government enacted the Hospital Survey and Construction Act, commonly known as the Hill-Burton Act, to provide for the construction of public hospitals and long-term care facilities.³ Although the act mandated that health care facilities be made available to all without consideration of race, it allowed states to construct racially separate and unequal facilities.³ In addition, federal programs such as the Medical Assistance for the Aged program (also known as Kerr-Mills), which provided health care to the poor, “were underfunded and few states participated, especially states with large populations of Black Americans.”⁶

Even if a health care facility was accessible to racial and ethnic minority populations, they often did not have the money or health insurance to pay for the care available. The federal government enacted a number of laws that not only supported the occupational segregation of racial and ethnic minority workers in low-wage jobs in the service, domestic, and agricultural industries but also excluded racial and ethnic minority workers from laws that increased wages and offered protections for collective bargaining that resulted in paid sick leave and health insurance for other workers.^{3,6} These laws primarily benefited White workers because either racial and ethnic minority workers were explicitly excluded from the benefits or employers and unions were allowed to discriminate against such workers.^{3,7} For example, the National Labor Relations Act of 1935 expanded union rights for workers, which resulted in higher wages and benefits such as health insurance for those rep-

resented by unions. However, the act did not apply to the service, domestic, and agricultural industries, and it allowed unions to discriminate against racial and ethnic minority workers employed in other industries such as manufacturing.⁷ Thus, in comparison with White workers, racial and ethnic minority workers were more likely to be relegated to low-wage jobs that failed to provide health insurance.

During the Civil Rights era the federal government enacted two of the largest public safety-net programs: Medicare and Medicaid. They were both created to cover people deemed to be deserving of help who did not have health insurance. Medicare is a federal health care program that primarily covers the elderly and the disabled,⁸ whereas Medicaid is a joint federal and state health care program for certain categories of the very poor, such as pregnant women, children, the elderly, and people with disabilities.⁹

The Medicare and Medicaid programs played an important role in beginning to address racial and ethnic minority populations’ limited health care access. Medicare funding, in particular, provided powerful financial leverage for the early and proactive efforts of the Department of Health and Human Services Office for Civil Rights to secure the racial integration of hospitals.¹⁰ These programs also provided funding to encourage physicians, hospitals, and other providers to serve underserved communities, in which racial and ethnic minority populations disproportionately lived. Thus, these programs reflect the racial paradox of the safety net: It is a product of a structurally racist health system in which racial and ethnic minority groups were disproportionately excluded from employer-sponsored health insurance, yet it is also an important, if limited, tool for helping fill this gap.

Notwithstanding the benefits that racial and ethnic minority populations received from Medicare and Medicaid, early funding and policy decisions shaped by racism helped embed inequity in these safety-net programs. For instance, as long as nursing homes made a good-faith effort to use nondiscriminatory language in marketing materials, the government certified the homes to participate in Medicare and Medicaid even if they continued to use discriminatory practices to deny admission to members of racial and ethnic minority groups.¹⁰ Moreover, to overcome opposition by southern states resistant to civil rights gains, the federal government gave states tremendous flexibility that allowed them to underfund Medicaid or limit Medicaid eligibility in a manner that disproportionately kept racial and ethnic minority populations from qualifying for Medicaid coverage.⁶

Although recent coverage, financing, and

Early funding and policy decisions shaped by racism helped embed inequity in Medicare and Medicaid.

quality reforms have been partially aimed at rectifying these problems, structural racism continues to shape modern health policy, limiting racial and ethnic minority populations' equitable access to health care.

Structural Racism In Modern US Health Care Policy

There are four main payers or sources of health care financing: employers, insurance companies, the federal government, and the states. Laws and policies across the various payers have created a two-tier health care system that limits racial and ethnic minority populations' equitable access to high-quality care. The Affordable Care Act (ACA) was expected to help reduce these inequities, yet they persist in the areas of health care coverage, financing, and quality.

COVERAGE Under the ACA, individual insurance market reforms have banned insurers from denying coverage based on risk, abolished individualized risk rating and preexisting condition exclusions, and offered federal subsidies for people between certain income levels. This made individual insurance more affordable, yet inequities remain for low-wage racial and ethnic minority workers and those seeking Medicaid coverage.

Most Americans continue to obtain health care through employer-sponsored insurance. However, as during the Jim Crow era, many racial and ethnic minority workers are employed in low-wage jobs that do not provide adequate health insurance. As of 2019, 58 percent of Americans were covered by employer-sponsored health insurance, with 66 percent of White workers covered by this insurance compared with 47 percent of Black, 43 percent of Latino, and 37 percent of American Indian and Alaska Native workers.¹¹ Those without employer-sponsored health insurance are often uninsured, with Black and Latino people approximately 1.5 and 2.5 times

more likely, respectively, to be uninsured than White people.¹²

If low-income racial and ethnic minority workers are insured, they are disproportionately covered by employer-sponsored plans that provide poorer coverage, leaving them with higher out-of-pocket expenses (as a result of higher premiums and cost sharing) than ACA Marketplace plans.¹³ Unfortunately, such workers are not eligible to switch to Medicaid and also do not qualify for federal subsidies offered through the ACA Marketplaces. Referred to as the ACA "firewall," this limit was originally instituted to minimize disruption to employer-sponsored insurance markets and risk pools.¹⁴ However, the firewall has effectively limited many low-wage minority workers' options, locking them into plans offered through their employers that provide less protection.

The ACA also expanded Medicaid to cover all adults younger than age sixty-five with incomes below 138 percent of the federal poverty level.¹⁵ Data show that the uninsurance rate for Black and Latino people in Medicaid expansion states has decreased.¹⁶ In Louisiana, for example, the uninsurance rate among eligible Black people dropped by 14.7 percentage points after expansion.¹⁷ Early evidence also shows that since the implementation of the ACA, Black and Latino people have reported fewer cost-related access problems,¹⁶ Black people have reported disproportionately larger improvements in having a usual care provider,¹⁸ and Black people in Michigan's Medicaid expansion have reported the largest reduction in days of poor physical health.¹⁹ Nonetheless, inequities in Medicaid coverage persist.

The Supreme Court's decision in *National Federation of Independent Business v. Sebelius* made Medicaid expansion optional for the states, leading to a policy debate among certain states—primarily located in the South—about whether or not to expand Medicaid access. As with early resistance to the creation of Medicaid, there is evidence that current opposition to Medicaid expansion is driven by assumptions about whether or to what extent racial and ethnic minority groups or "foreigners" will benefit from expansion.^{20,21} Predictably, this reinforces racial hierarchy and results in inequities in coverage. This is especially evident in southern states with large numbers of Black and Latino residents.

Among those who fall into the Medicaid coverage gap—people too poor to afford private insurance but who do not meet the narrow eligibility categories of traditional Medicaid—about 60 percent are people of color, who disproportionately live in Southern states that chose not to expand Medicaid.¹⁶ Black people are more than

twice as likely as White people and Latino people to fall into the coverage gap.¹⁶ Research shows that state Medicaid expansion decisions are not correlated with the level of support among racial and ethnic minority populations.²¹ Instead, “White [people’s] opinion is significantly associated with expansion decisions.”²¹ When White people’s support of expansion is low, which is highly correlated with measures of state-level racial resentment, “the state is less likely to expand Medicaid.”²¹

Structural racism is also evident in some states’ attempts to impose additional eligibility restrictions on Medicaid expansion populations, especially recent work-reporting requirements. These requirements have been defended as necessary to encourage work among the “able-bodied” poor, reflecting assumptions that the poor must be coerced to work as a condition of insurance. These assumptions have historical roots in racist beliefs that Black people are lazy and have a poor work ethic, heard today with lawmakers emphasizing the “urban poor” (which some understand as code for inner-city Black people) as the primary targets of these requirements.²²

Indeed, Michigan lawmakers proposed a work requirement carve-out that would have exempted residents of a county with a high unemployment rate (over 8.5 percent), but not city residents with similarly high unemployment rates if the city is located within a county with an unemployment rate that fell below the 8.5 percent threshold.²³ Because of racial and ethnic residential patterns, most White people located in rural counties would be exempt from the work requirement, whereas Black people in urban areas with comparable unemployment rates would not be.²³ The proposal was ultimately abandoned amid public outcries of racism.²⁴

Even without discriminatory carve-outs, Medicaid work requirements threaten coverage and risk exacerbating inequities.²⁵ For example, work requirements in Arkansas caused huge coverage losses among working people who encountered reporting challenges and others who should have been exempted.²⁵ Moreover, an analysis of five states’ proposed work requirements found that the percentage of Black people who would be affected by these requirements greatly exceeded the percentage of the Black population in all five states, and in three states it would represent the largest percentage of the affected population.^{26–30} Judging from its actions and stated priorities during its first year, the Biden administration seems unlikely to approve Medicaid work requirements. Nonetheless, extreme coverage losses and predictable inequities have not deterred states from continuing to push

Structural racism is evident in some states’ attempts to impose work-reporting requirements.

for such restrictions.

FINANCING Structural racism also shapes the financing and payment system. Despite some ACA coverage gains, the government’s inattention to equity has reinforced existing inequities, and some payment reforms have exacerbated inequities. This is apparent in the government’s hands-off regulatory approach—specifically, its failure to ensure that federal incentives and funding provided to employers, insurers, and states do not cause or exacerbate racial and ethnic minority populations’ inequitable access to health care. For example, although the ACA expanded coverage, it did not change the financing and payer system that still relies heavily on private insurance, leaving significant coverage gaps that affect minority populations.¹⁷ Employer-paid premiums for employees’ health insurance remain exempt from federal income and payroll taxes, lowering employers’ taxes,^{31,32} and the government pays insurers to offset losses from participating in the ACA.^{33,34} Yet these incentives are not linked to measures ensuring racial and ethnic minority populations’ equitable access to coverage. There is also little to no oversight of tax-exempt, nonprofit health care organizations despite federal and state laws creating charitable obligations. This allows some organizations to use their tax savings to improve their employee and administrator benefits instead of providing better access to high-quality care at lower costs to the communities in which they reside, which tend to be predominantly minority.³⁵

A similar lack of oversight plagues Medicaid provider reimbursement and disproportionate share hospital (DSH) payments, which are intended to subsidize uncompensated care provided by hospitals that serve a large number of low-income people, including patients with Medicaid and the uninsured.³⁶ Despite federal laws requiring reimbursement to be sufficient to ensure equitable access to high-quality health care for Medicaid beneficiaries, Medicaid payments are notoriously low and have been cited as a reason for low provider participation.³⁷ The fed-

Structural racism in coverage and financing has created a two-tier system of racially segregated care.

eral government has repeatedly rubber-stamped state rates even when states make cuts solely in response to budget shortfalls and without any consideration of access or quality. Numerous lawsuits have challenged low rates as violations of federal Medicaid requirements. In 2017 Medicaid beneficiaries and providers in California also challenged rates on antidiscrimination grounds, alleging that the low Medicaid rates were discriminatory against the growing Latino population, creating “a separate and unequal system of health care.”³⁸

States also have broad discretion over the distribution of DSH payments to different hospitals, but this is often discordant with the amount of uncompensated care being delivered to low-income, underserved racial and ethnic minority populations. In 1981 Congress passed legislation requiring better state accountability for DSH payments, but oversight gaps remained. In some states larger portions of DSH funds were directed to state- or local-run hospitals, which effectively allowed some of the funds to be transferred back to the state to fund other measures instead of funding care for underserved minority people served by these hospitals.³⁹ Despite follow-up legislation addressing this funds-transfer problem, it remains unclear whether DSH payments are actually benefiting the low-income racial and ethnic minority people who need the most aid.³⁶

When the federal government does take an active role in trying to increase the accountability of health care systems and physicians, its focus and methods can have the perverse effect of exacerbating inequities. For example, the government has incorporated value-based payment reform through numerous Medicare pay-for-performance programs (targeting hospitals, skilled nursing facilities, dialysis centers, and others) and alternative payment models such as accountable care organizations, bundled payment for episodes of care, and patient-centered medical homes. The objective of these programs

is to improve health care quality and reduce costs. However, almost none of the programs account for how the social determinants of health—including unequal social structures—shape health status and need when determining provider performance, ranking, and payment. These “colorblind policies” can have a disparate effect on racial and ethnic minority groups and the providers that serve them when they fail to account for underlying issues of structural racism and unequal social structures.⁴⁰ For safety-net providers disproportionately caring for low-income minority people with poorer health status, the result has been devastating because they are more likely to be penalized and to receive lower Medicare reimbursement under value-based payment programs.⁴¹ In contrast, pay-for-performance programs tend to financially reward providers that care for more affluent and White populations. This effectively creates a regressive tax for providers disproportionately serving racial and ethnic minority populations, leaving them with fewer resources than non-safety-net providers as a result of payment reform.

QUALITY Structural racism in coverage and financing has created a two-tier system of racially segregated care in which minority people receive poorer-quality care. Ample evidence suggests that Black and Latino people receive lower-quality care compared with White people, even after insurance coverage and income are adjusted for.⁴² For example, compared with White patients, racial and ethnic minority patients are less likely to receive evidence-based cardiovascular care, kidney transplants when indicated, age-appropriate diagnostic screening for breast and colon cancer, timely treatment related to cancer and stroke, appropriate mental health treatment, and adequate treatment when presenting suffering from pain.⁴³

Inequities in nursing home care provide a particularly vivid example.^{44–46} For instance, a study of several states, including New York, Kansas, Mississippi, and Ohio, found that when White and Black patients reside in the same facility, Black patients traditionally receive poorer-quality care.⁴⁴ Furthermore, there are significant inequities when White and Black patients reside in different nursing homes. A recent study found that Black patients in nursing homes were at higher risk of developing pressure sores compared with White patients, which was linked to the fact that nursing homes that serve a high concentration of Black patients tend to “have lower staffing levels of registered nurse and certified nurse assistance, and to be larger, for-profit, and urban facilities.”⁴⁷ Stark racial segregation in nursing homes persists today.⁴⁸ Ac-

cording to data from 2013, just 28 percent of nursing homes accounted for 80 percent of all nursing home admissions of Black patients, and these nursing homes performed worse on the quality measures of rehospitalization and successful discharge to the community.⁴⁸

Beyond nursing home care, members of racial and ethnic minority groups are more likely to reside in areas that suffer from physician shortages, including shortages of primary care doctors, surgeons, and mental health providers, which is also a product of structural racism.⁴⁹ One reason racial and ethnic minority communities are underserved is that they have been drained of vital health resources through public hospital closures and the flight of nonprofit hospitals from minority communities to predominantly White communities.⁵⁰ In the most comprehensive study of hospital restructuring, which focused on cities in the Northeast and Midwest from 1937 to 1980, the authors documented significant correlations between race and the location of hospital closings or removal of services.⁵¹ This conclusion was supported by another study of hospital restructuring that documented an even stronger racial correlation between the likelihood of closures and the racial makeup of the inpatient population of the hospital.⁵²

This has implications for access and quality. The most obvious effect of closure is a disruption of hospital services to residents in the affected community, such as inpatient acute care, outpatient services, obstetric and gynecologic care, and emergency department or trauma services. A less obvious effect of hospital closures is the disruption in primary care services, in part as a result of “physician flight” after hospital closures, because these hospitals are a critical base for physicians’ practice.⁵⁰ These effects are evident through the increasing dependence of ra-

cial and ethnic minority communities on hospital emergency departments and public hospitals for routine and other nonemergency care, increasing the risk that patients will be sicker by the time they do seek care.

In addition, although safety-net providers play a valuable role in reducing health inequities because of their commitment to and experiences with underserved communities, the safety-net hospitals and clinics on which racial and ethnic minority populations depend are often underresourced and financially constrained, and they provide a disproportionate amount of uncompensated and low-reimbursed care.⁵⁰ These hospitals and clinics tend to score lower on patient satisfaction surveys, underperform on evidence-based metrics, and report higher rates of adverse safety events and complications.⁴⁹ Lower-quality institutions are considered a major source of inequities in health care quality.^{49,53}

As long as structural racism continues to shape health care policy, racial and ethnic minority populations will suffer from inequitable access to high-quality health care. Existing reforms have not remedied this problem because the eradication of structural racism in health care policy has not been a primary goal.

Conclusion

The time has come to eradicate the structural racism in health care policy that perpetuates inequitable access to high-quality health care. If not, the racial and ethnic inequities that have occurred throughout the COVID-19 pandemic, which not only devastate minority communities but also harm the entire country, will continue. Yet this change will only come from intentional and sustained focus on addressing inequities in system reform so that health equity becomes the norm. ■

Ruqaiyah Yearby received an honorarium from VirginPulse to give a keynote about structural racism and employer wellness programs. This is an open access article distributed in accordance

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OVERVIEW

Systemic And Structural Racism: Definitions, Examples, Health Damages, And Approaches To Dismantling

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ABSTRACT Racism is not always conscious, explicit, or readily visible—often it is systemic and structural. Systemic and structural racism are forms of racism that are pervasively and deeply embedded in systems, laws, written or unwritten policies, and entrenched practices and beliefs that produce, condone, and perpetuate widespread unfair treatment and oppression of people of color, with adverse health consequences. Examples include residential segregation, unfair lending practices and other barriers to home ownership and accumulating wealth, schools' dependence on local property taxes, environmental injustice, biased policing and sentencing of men and boys of color, and voter suppression policies. This article defines *systemic* and *structural racism*, using examples; explains how they damage health through many causal pathways; and suggests approaches to dismantling them. Because systemic and structural racism permeate all sectors and areas, addressing them will require mutually reinforcing actions in multiple sectors and places; acknowledging their existence is a crucial first step.

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When most people think about racism, they probably think of racial slurs, hate crimes, or other overtly racist actions. There are, however, other less obvious yet ultimately even more destructive forms of racism. Structural and systemic racism are often invisible—at least to those who are not its victims. This article defines *structural* and *systemic racism*, explains how they damage health, and provides illustrative examples. Although we focus on how structural and systemic racism can harm the health of people of color, they also may damage the health and well-being of a society overall^{1,2}—including the health and well-being of White people.³

Definitions

People of color is a term used to refer to African Americans, American Indians/Alaska Natives, Asian Americans, Latinos/Hispanics, and Native Hawaiians/other Pacific Islanders. *Racism* is the relegation of people of color to inferior status and treatment based on unfounded beliefs about innate inferiority, as well as unjust treatment and oppression of people of color, whether intended or not. Racism is not always conscious, intentional, or explicit—often it is systemic and structural.⁴ Systemic and structural racism are forms of racism that are pervasively and deeply embedded in and throughout systems, laws, written or unwritten policies, entrenched practices, and established beliefs and attitudes that produce, condone, and perpetuate widespread unfair treatment of people of color.⁵ They reflect

both ongoing and historical injustices. Although *systemic racism* and *structural racism* are often used interchangeably, they have somewhat different emphases. *Systemic racism* emphasizes the involvement of whole systems, and often all systems—for example, political, legal, economic, health care, school, and criminal justice systems—including the structures that uphold the systems.⁶ *Structural racism* emphasizes the role of the structures (laws, policies, institutional practices, and entrenched norms) that are the systems' scaffolding.⁵ Because systemic racism includes structural racism, for brevity we often use *systemic racism* to refer to both; at times we use both for emphasis. *Institutional racism* is sometimes used as a synonym for *systemic* or *structural racism*, as it captures the involvement of institutional systems and structures in race-based discrimination and oppression;^{4,7,8} it may also refer specifically to racism within a particular institution.⁹

Gilbert Gee and Annie Ro depict systemic racism as the hidden base of an iceberg¹⁰ (see illustration in online appendix exhibit 1).¹¹ The iceberg's visible part represents the overt racism that manifests in blatant discrimination and hate crimes—explicitly racist treatment that may be relatively easy to recognize. The iceberg's base—the much larger, usually unseen part—represents systemic and structural racism. It consists of the societal systems and structures that expose people of color to health-harming conditions and that impose and sustain barriers to opportunities that promote good health and well-being. The opportunities denied include access to good jobs with benefits; safe, unpolluted neighborhoods with good schools; high-quality health care; and fair treatment by the criminal justice system. Systemic racism is the iceberg's more dangerous part: It places people of color at a disadvantage in multiple domains affecting health in ways often more difficult to recognize than explicit interpersonal racism.

Systemic racism is so embedded in systems that it often is assumed to reflect the natural, inevitable order of things. Slavery—explicitly supported by laws—endured for 250 years in the United States and was followed by almost 100 years of Jim Crow laws—often enforced by terror—that were deliberately designed to restrict the rights of African Americans, including the rights to vote, work, and get an education. Although civil rights legislation in the 1960s made it illegal to discriminate, enforcement of these antidiscrimination laws has been inadequate.¹² Racial inequities, and their ensuing socioeconomic and health consequences, persist because of deeply rooted, unfair systems that sustain the legacy of former overtly discrimina-

tory practices, policies, laws, and beliefs. At times, these systems and structures, which are rooted in beliefs in White supremacy, operate unconsciously or unintentionally, but nevertheless effectively, to produce and sustain racial discrimination. Systemic racism systematically and pervasively puts Black people, Indigenous people, and other people of color at compounded disadvantage within society. It often can be traced to deliberate acts of discrimination in the past, such as laws mandating residential segregation by race. Once in place, however, systemic racism is often self-perpetuating, with persistently damaging effects on health even after the explicitly discriminatory measures are no longer in effect.

The terms *systemic*, *structural*, and *institutional racism*, or closely related concepts, were first used by social scientists. Sociologist David Williams¹³ and others^{6,14} have traced the key concepts back to the distinguished social scientist W. E. B. Du Bois, who wrote (around 1900) about how racial discrimination was institutionalized within multiple sectors of society and was self-perpetuating.⁸ Douglas Massey and Nancy Denton noted the institutionalization of racial discrimination “within large sectors of the American society, including the labor market, the educational system, and the welfare bureaucracy... and racial segregation.”^{7(p8)}

Joe Feagin and Kimberley Ducey wrote: “Systemic racism includes the complex array of anti-black practices, the unjustly-gained political-economic power of whites, the continuing economic and other resource inequalities along racial lines, and the white racist attitudes created to maintain and rationalize white privilege and power. Systemic here means that the core racist realities are manifested in each of society's major parts...—the economy, politics, education, religion, the family—[reflecting] the fundamental reality of systemic racism.”^{6(p6)}

Eduardo Bonilla-Silva discussed how persistent racial inequality reflects the “continued existence of a racial structure” in society.^{5(p476)} He noted that, in contrast with the Jim Crow period, the structures maintaining contemporary racial oppression “are increasingly covert, are embedded in normal operations of institutions, avoid direct racial terminology, and are invisible to most Whites.”

Examples Of Structural And Systemic Racism

Several examples of systemic racism are presented here. They have been selected on the basis of their importance in perpetuating racial injustice with health implications and for diversity of

Systemic racism is so embedded in systems that it often is assumed to reflect the natural, inevitable order of things.

the sectors and systems involved. Health implications are generally discussed later.

POLITICAL DISEMPOWERMENT Political disenfranchisement and disempowerment through voter suppression and gerrymandering are an important historical and contemporary manifestation of systemic racism. The legal right for all men to vote was secured in 1870. During the nearly 100-year era of Jim Crow laws, however, voter suppression of Black people was maintained in many states through violent intimidation and selectively applied laws. The Civil Rights Act of 1964 did not eliminate requirements that continue to differentially affect people of color. Even in 2021 many states recently passed or were considering legislation disproportionately restricting the voting rights of people of color,¹⁵ including by gerrymandering, the deliberate redrawing of electoral district boundaries to favor the political party in power. Gerrymandering makes some people's votes count less than others' do, depriving them of full representation.¹⁶

SEGREGATION Another historical and current example of systemic racism is racial residential segregation, initially created by the deliberate and explicit racism codified in Jim Crow laws. Although segregation has declined since the Fair Housing Act of 1968 outlawed racial discrimination in housing, the United States remains highly segregated. Racial segregation is almost always accompanied by concentrated economic disadvantage and limited opportunities for upward mobility, such as good employment options and good schools.¹⁷ Because of segregation, African American and Latino people are more likely than White people with similar household incomes to live in neighborhoods with concentrated disadvantage, whose adverse health effects have repeatedly been demonstrated, yet most health and medical studies do not include variables representing neighborhood conditions.

FINANCIAL PRACTICES Widespread discriminatory public and private lending policies and practices are another salient instance of systemic racism and have created major obstacles to home ownership and wealth for people of color. Home ownership is the principal form of wealth for most Americans of modest means. Beginning in the 1930s bank lending guidelines from the federal Home Owners' Loan Corporation were later adopted by private banks. The guidelines explicitly used neighborhood racial and ethnic composition and income data in assessing mortgage lending risks.¹⁸ During decades when federal loan programs greatly expanded Whites' homeownership (and thus, wealth), non-White and low-income areas were disproportionately "redlined"—a practice whose name refers to the red shading on Home Owners' Loan Corporation maps of neighborhoods that were deemed hazardous for lending. Racial and ethnic differences in homeownership, home values, and credit scores in formerly redlined areas persist.¹⁹ Predatory financial services disproportionately target communities of color, adding to the obstacles to their accumulating wealth.²⁰ These include payday lenders and check cashing services, which typically charge excessive fees and usurious interest rates.²⁰ Even when mainstream banking services are available in a segregated community, people of color are often subjected to higher service costs.²⁰ Similar to redlining, these practices create obstacles to home ownership, starting or expanding businesses, accumulating wealth, financing college education, and generating property tax revenues to fund schools.

In addition, the dependence of public schools on local property taxes results in schools in segregated areas often being poorly resourced,²¹ making it difficult for children to escape from poverty and, as a consequence, ill health as adults. Property tax revenue is lower in segregated areas because of the obstacles to home ownership and wealth mentioned above. Although this example of systemic racism also affects poor White people, it disproportionately affects Black people because systemic racism has produced higher rates of household poverty, lack of wealth, and concentrated community poverty among them.

ENVIRONMENTAL INJUSTICE Environmental injustice is systemic racism with direct health consequences. Racially segregated communities have often experienced the damaging health effects of environmental injustice. Examples include well-documented patterns of selectively locating coal-fired power plants and hazardous waste disposal in or near communities of color, with adverse effects on the population's health.²²

In largely Black Flint, Michigan, in 2014, officials changed the city's water source to cut costs, inducing the erosion of old lead pipes—with resulting widespread lead poisoning among children. City officials then repeatedly ignored residents' concerns. The Flint water crisis reflects a long history of segregation, disinvestment in infrastructure, and officials' ignoring Black residents' concerns, with devastating long-term health impacts.

CRIMINAL JUSTICE SYSTEM The stark racial patterning of incarceration also reflects pervasive discriminatory policing and sentencing practices. Although people of color represent 39 percent of the US population,²³ they make up over 60 percent of incarcerated people.²⁴ A 2017 review noted that “nearly one in three black men will ever be imprisoned, and nearly half of black women currently have a family member or extended family member who is in prison.”²⁵ It also described studies linking incarceration to adverse health consequences for both ex-prisoners and their families.²⁵ Mass incarceration permanently stigmatizes people postrelease, blocking employment opportunities. This stigmatization restricts economic opportunities for ex-prisoners and their families and communities throughout their lives, and in some states it also denies them the right to vote.

In addition, police violence is a leading cause of death for young Black men in the United States. Approximately 1 in every 1,000 Black men is killed by police.^{26,27} Also, Black victims killed by police are more likely than White victims to have been unarmed, suggesting disparate treatment.²⁷ Police killings of Black men have been associated with worse health of entire state-wide Black populations.²⁸ Systemic racism includes not only laws and written policies but also unwritten policies and prevailing norms that guide entrenched routine practices. These norms and policies reflect the lives of people of color, particularly Black men, being valued less than the lives of others.

The “school-to-prison pipeline” refers to the phenomenon in which children—mainly, but not exclusively, boys—of color are systematically disciplined more harshly (including suspension and expulsion from school) than other children for behavioral problems warranting counseling and support rather than punishment. Police are more likely to be called into schools to deal with misbehavior by students of color, and suspensions, expulsions, and police involvement greatly raise the risk for incarceration.^{29,30} This practice is not based on written policies but on pervasive, entrenched discriminatory beliefs and attitudes in the educational system that reflect systemic racism.

HISTORICAL EXAMPLES Important historical examples of structural racism include the forcible internment of Japanese Americans in concentration camps that took place during World War II³¹ and the removal of American Indian children to boarding schools far from their families from throughout the nineteenth century until 1978.³² Serious adverse health consequences of both have been documented.^{31,32}

DATA AGGREGATION A final example: the Office of Management and Budget mandates the collection and reporting, at a minimum, of five “racial” groups and one “ethnic” group for all federal data: Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or other Pacific Islander, and White (for race), and Hispanic or Latino (for ethnicity).³³ Failure to disaggregate race or ethnicity data at least at those federally mandated levels, or failure to reflect substantial diversity within various groupings, can mask critical between- and within-group differences that policies and programs should address.³⁴ Lack of adequately disaggregated data can contribute to the unmet needs of underrepresented populations by rendering them invisible when policies are made, resources are allocated, and programs are designed and implemented; it reflects systemic inequities and, when oppressed or excluded racial or ethnic groups are involved, systemic racism.

Causal Pathways For Health Damages

Decades, even generations, may pass between exposure to systemic racism and evidence of its health damages, obscuring the connection. Research indicates how diverse experiences of racism contribute to racial or ethnic disparities in health by setting in motion various sequential causal pathways. The pathways' complexity and length often makes it difficult to detect their origins—the underlying but unseen causes.

Appendix exhibit 2 depicts in simplified form a series of sequential general steps (represented by boxes) through which systemic racism is thought to produce racial disparities in health, listing examples of factors often involved at each step.¹¹ Although some factors could be listed in more than one step, we have avoided that for the sake of readability; also not displayed are the many potential interactions among the listed factors (or between listed and unlisted factors) that can aggravate the health damages. Most people of color are affected by multiple factors and pathways. Below we highlight four causal pathways that are examples of how systemic racism can damage health. A more extensive exploration of causal pathways can be found in a

Strategies to dismantle systemic racism must give high priority to addressing inequities in the key determinants of health.

Robert Wood Johnson Foundation report on systemic racism.³⁵

Systemic racism can harm health, for example, by disenfranchising people—depriving them of the right to vote or decreasing the weight of their votes. Despite legal emancipation, gerrymandering and voter suppression continue to deprive people of political power, which can lead to or exacerbate all the other health-damaging pathways. Lack of political power produces lack of access to key resources and opportunities needed to be healthy, such as clean water, pollution-free neighborhoods, well-resourced schools, affordable housing, and access to medical care. When people are prevented from voting or when their votes count less, they cannot get elected representatives to act on their behalf.

Systemic racism also can harm health by placing people of color at economic disadvantage. Given the strong and well-documented influence of economic advantage and disadvantage on health,³⁶ racially discriminatory obstacles to economic resources and opportunities are a major pathway through which systemic racism can harm health.^{37,38} People of color face numerous racism-based obstacles to economic opportunity. As noted earlier, segregation systematically limits their incomes and wealth—for example, through lack of access to good jobs and by facilitating unfair lending practices such as redlining, which have been major obstacles to home ownership and accumulating wealth. Segregation also constrains the next generation's employment, and hence their economic opportunities—for example, through poorly resourced schools. Lower levels of income, wealth, and education among people of color have repeatedly been shown to be major contributors to racial or ethnic disparities in health.^{39–42}

Systemic racism can also lead to poorer health by increasing exposure to health-harming con-

ditions and limiting access to health-promoting resources and opportunities. Economic disadvantage and racial segregation lead to poorer health in part by increasing exposures to health-harming conditions (for example, air pollution, toxic waste, mold in substandard housing, or other environmental hazards). Access to healthy residential conditions can be blocked for economic reasons or by discrimination in housing. Health is also damaged by limited access to health-promoting resources and opportunities (for example, access to educational opportunities and medical care) and by chronic financial strain—the health-damaging chronic stress associated with having to face daily challenges with inadequate financial resources.⁴³ Biased policing and sentencing produce mass incarceration of men of color, resulting both in harmful exposures (for example, violence) while incarcerated and, because of stigmatization, lifelong lack of access to key resources and opportunities needed for health after incarceration.

Finally, systemic racism can lead to poorer health among people of color at all economic levels by exposing them chronically to race-based unfair interpersonal treatment (or the threat thereof); this can produce chronic stress, which has been shown to lead to increased risks for chronic disease.⁴⁴ Awareness of race-based unfair treatment of others in one's group could be stressful even if a given individual has not personally experienced an overtly discriminatory incident. It could lead to chronic anxiety and worry about whether personal incidents will occur⁴⁵ and, potentially, because it reflects social exclusion, hatred or lack of respect for one's racial or ethnic group. Interpersonal racism could undermine one's self-esteem—an important indirect influence on health.⁴⁶

Dismantling Systemic Racism: Examples Of Approaches

Systems, laws, and policies have created racial inequities in health and its determinants; systems, laws, and policies can eliminate those inequities. Strategies to dismantle systemic racism must give high priority to addressing inequities in the key determinants of health—for example, economic security, housing security, educational opportunity, and treatment by the criminal justice system. Appendix exhibit 3 lists a few powerful historical examples of addressing systemic racism.¹¹ Below we present several other examples of approaches to addressing systemic racism, selected on the basis of the literature and judgments about the general kinds of actions that appear to hold promise for reducing racial injustice and thereby advancing health equity.

ENFORCEMENT Enforcing existing antidiscrimination laws is crucial for addressing systemic racism. Although enacting more just new laws and policies and eliminating unjust laws and policies are essential, history has shown that such actions are inadequate without enforcement. This is because widespread and deeply rooted unwritten policies, practices, beliefs, and attitudes allow discriminatory practices to continue even after written laws and policies have changed.⁵

NEW LEGISLATION New legislation is also needed to address systemic racism on multiple fronts. One of the most crucial areas for new legislation, as well as enforcing prior laws, is preventing voter suppression. Preventing voter suppression may require litigation, placing trained personnel at poll sites to witness or deter acts of suppression, assisting people with transportation to polling sites, and providing water and food to prospective voters enduring long lines to cast their ballots.

ADVOCACY Advocacy is crucial in any strategy to dismantle systemic racism. Advocacy is needed to build public support for policies pursuing fairness, justice, and equal opportunities for all to achieve health and well-being. Civil society (for example, civil rights, faith-based, health and health care, academic, business, and philanthropic organizations) can play a crucial role in keeping equity on the agenda, advocating for changes in policies and laws, supporting enforcement, and helping identify what is and is not working and changes needed in strategy.

AFFIRMATIVE ACTION Affirmative action and “diversity, equity, inclusion” efforts aim to address centuries of exclusion of people of color from employment, job promotion, and admission to schools and universities. Affirmative action involves fairly considering qualified candidates who previously would have been rejected on the basis of their racial or ethnic group—for example, by considering the obstacles faced by candidates when assessing their strengths and potential to succeed. In response to challenges to affirmative action initiatives, which sometimes have been accused of discriminating against White or Asian people, many institutions have reframed their efforts under the banner of diversity, equity, and inclusion.

REDUCING THE DAMAGE Some interventions would repair or reduce the damage that systemic racism has caused. Sometimes called “healing-centered” approaches,⁴⁷ they include “truth and reconciliation” interventions such as those pioneered in postapartheid South Africa.⁴⁸ There can be no reconciliation or healing without truth. The horrifying truth about slavery, White supremacy, and historical and ongoing viola-

Opportunities to address systemic racism must be sought wherever public attention is focusing.

tions of rights must be told in public and private schools, houses of worship, and other public fora, despite the discomfort that it generates. Resistance to antiracism initiatives, including to teaching about racism, must be overcome.

Providing reparations is another approach to addressing systemic racism by reducing the damage it has caused. Reparations for African Americans are a fair and just response to the incalculable harm and suffering caused by centuries of slavery and ongoing violations of rights.⁴⁹ Reparations could take many forms—for example, investments in kindergarten through college education for all African American children and improvements in communities. Although repairing and reducing the damage caused by systemic racism will not eliminate it, reparations are an important aspect of pursuing justice.

CHANGING WHITE ATTITUDES One widely encountered approach to addressing racism attempts to change the discriminatory attitudes of White people toward people of color, typically through workshops or organizational retreats. Because widely prevalent, entrenched beliefs and attitudes underpin systemic racism, making White people more aware of biases and the harms they inflict may be helpful; furthermore, awareness building may be important for building broad public support for antiracism initiatives. However, because this approach typically focuses on interpersonal racism (overt incidents between individuals) without directly addressing underlying systems or structures, it may most appropriately be an adjunct to rather than a substitute for efforts explicitly targeting systems and structures. Awareness should include understanding by White people of how they have benefited from systemic racism and what they have to gain from living in a more just society.

Addressing Systemic Racism: General Considerations

Addressing systemic racism will require changing systems, laws, policies, and practices in ways

that will be effective, endure long-term, and affect many people, instead of implementing piecemeal, time-limited programs that fail to produce sustained or fundamental change. It is far easier to mitigate the harmful effects of systemic racism while leaving in place the unfair systems and structures that produce those effects. Structures whose effects place people of color at a disadvantage must be dismantled.

Because systemic racism permeates all sectors and geographic areas, effective strategies will require mutually reinforcing actions in multiple sectors and places, from local to national. No single strategy alone is likely to be effective. Effective approaches will activate and support people to vote; learn; speak out to their children, families, friends, and coworkers; organize in their neighborhoods, towns, states, and nation; and support, join, and lead organizations push-

ing for change. Opportunities to address systemic racism must be sought wherever public attention is focusing—for example, the COVID-19 pandemic and climate change. Vigilance over time will be crucial to detect and oppose actions that would exacerbate systemic racism.

Addressing systemic racism will require continuing and deepening studies of it, revealing the profound and enduring harms it has caused and continues to cause. Ongoing research is essential both to guide action and to build and maintain the political will needed to change unfair systems and structures. To build political will, research findings must be used to educate the public and policy makers about what systemic racism is, the damage it has inflicted and continues to inflict, why dismantling it must be a priority, and how living in a more equitable society can enhance everyone's lives. ■

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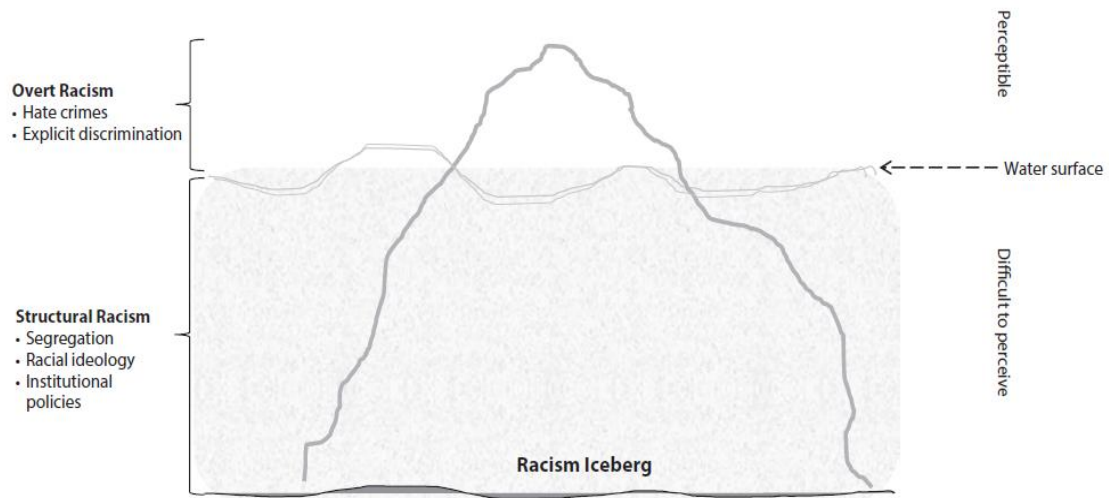
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APPENDIX

APPENDIX EXHIBIT 1. The racism iceberg, with systemic racism as the hidden base



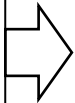
Source: Gee GC, Ro A. Racism and discrimination. In: Trinh-Shevrin C, Islam NS, Rey MJ, eds. *Asian American Communities and Health: Context, Research, Policy and Action*. San Francisco, CA: Jossey Bass; 2009. Adapted with permission from Wiley. Copyright © 2009 by John Wiley & Sons, Inc. All rights reserved.

APPENDIX EXHIBIT 2. How systemic racism is thought to damage health: key steps

Systemic racism

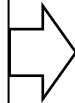
Systems/structures with discriminatory effects, e.g.:

- Racial residential segregation
- Unfair financial systems & structures
- Gerrymandering & voter suppression
- Biased policing & sentencing
- Environmental injustice
- Pervasive discrimination in employment, housing, education
- Beliefs in White supremacy



Differential access to resources and opportunities

- Economic disadvantage, including lack of access to wealth, home ownership, & educational opportunity
- Disenfranchisement
- Mass incarceration



Health-harming (or lack of health-promoting) experiences, e.g.:

- Chronic stress
- Environmental hazards
- Inferior schools
- Inadequate housing
- Unhealthy food & exercise environments
- Exposure to violence
- Unhealthy behaviors
- Obesity
- Inadequate medical care



Biological mechanisms, e.g.:

- Neuroendocrine processes
- Inflammation
- Immune system dysfunction
- Infection
- Vascular mechanisms
- Premature aging
- Epigenetic effects (gene-environment interactions)



Worse health among people of color (health inequities)

APPENDIX EXHIBIT 3. Examples of historical and existing laws or policies that address systemic racism

The following examples of historical and existing laws or policies address systemic racism in ways likely to influence health. These legislative achievements resulted from decades of efforts led by people of color mobilizing people in peaceful demonstration, which were often met by violence and arrests.

- **The Civil Rights Act of 1964** prohibited race-based discrimination in schools, employment, and public places.^a The consequent desegregation of public hospitals was followed by a dramatic decline in Black infant mortality.^a Economic opportunities for Black women led to economic and social gains, with declines in life expectancy disparities between White and Black women.^b
- **The Voting Rights Act of 1965** prohibited discrimination in voting. Enfranchisement is essential to ensure that one's interests, e.g., in education and living conditions, are represented in policy making.
- **The Fair Housing Act (also called the Civil Rights Act) of 1968** strengthened the 1964 Act with regard to discrimination in housing.^c Housing is a well-documented important determinant of health.

^aAlmond DV, Chay KY, Greenstone M. Civil rights, the war on poverty, and black-white convergence in infant mortality in the rural South and Mississippi. Cambridge (MA): Massachusetts Institute of Technology; 2006.

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^cMorris AD. The origins of the civil rights movement: black communities organizing for change. New York (NY): The Free Press; 1984.