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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, discriminatory 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 profitability[13] 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 StoryMap[2] 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 appendix[33] 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 analysis, 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]

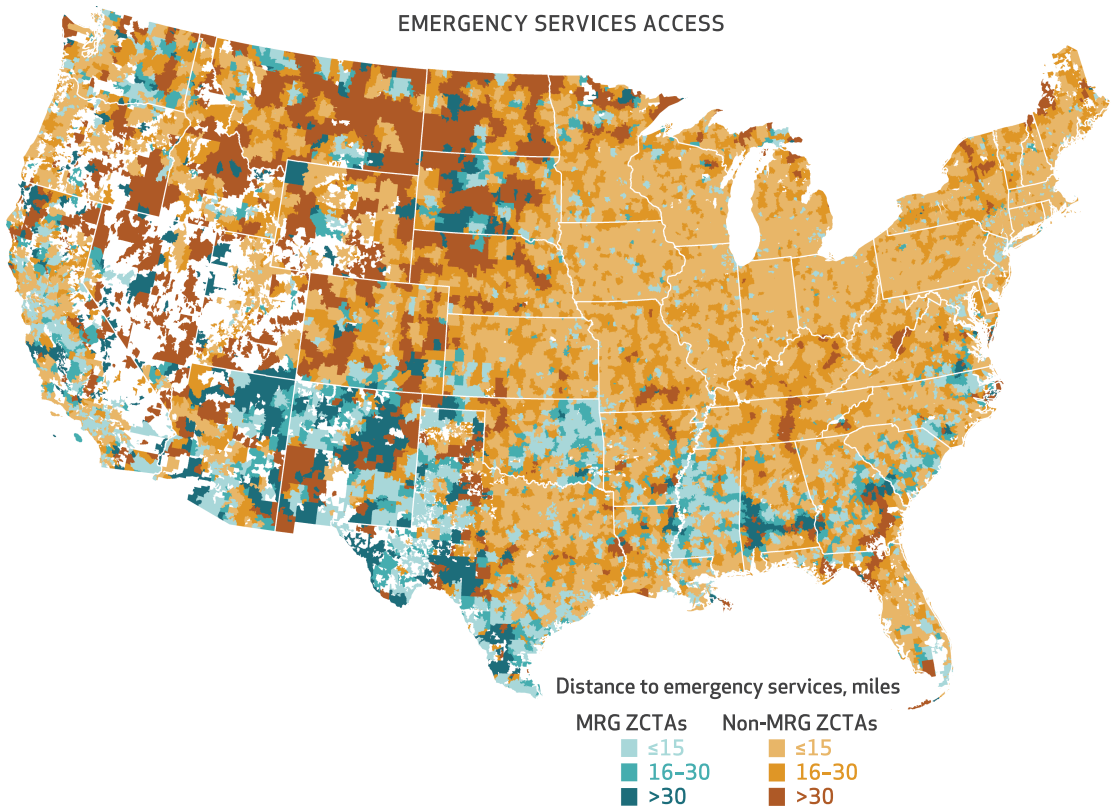
For high minoritized group ZCTAs, those with the longest distances to emergency and ICU care were generally concentrated along the northern border of Arizona; in southwest Alabama; and in parts of South Dakota, New Mexico, and Texas (exhibits 1 and 2). Many of these locations are co-located with designated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

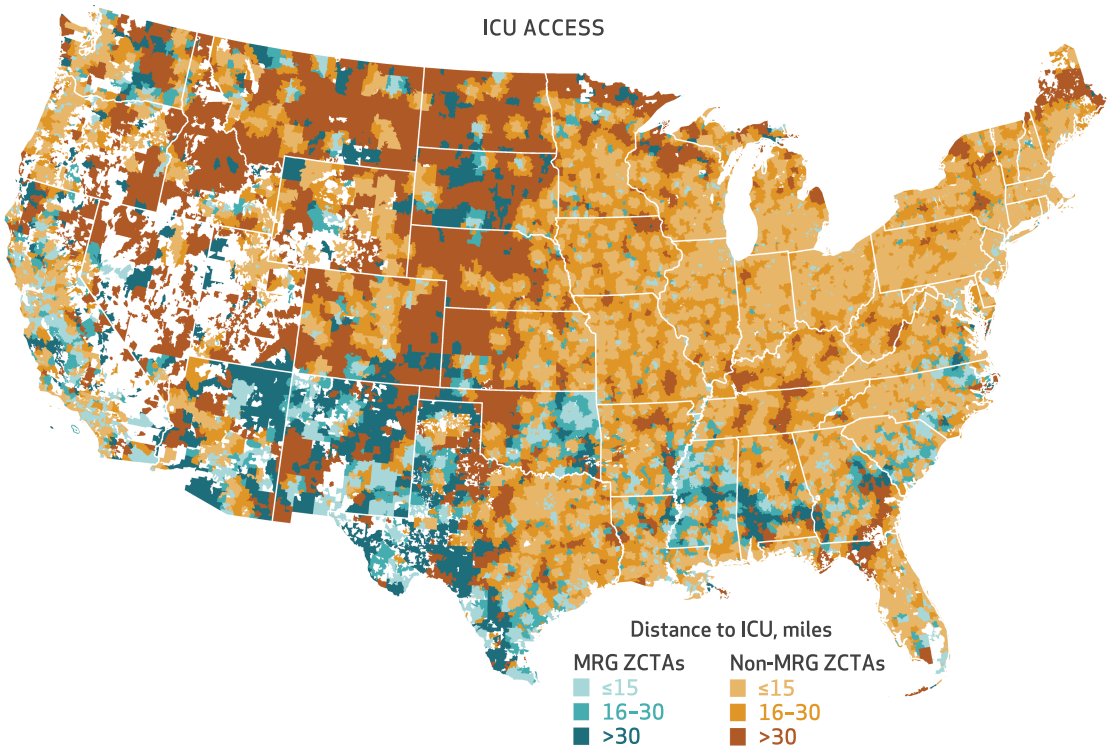
Geographic distribution of distances to hospital-based emergency services by minoritized racial and ethnic group (MRG) classification, 2019



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 that 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

	Emergency services			Trauma care			Obstetric units		
	Rural		Urban	Rural		Urban	Rural		Urban
Groups	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****

	Outpatient surgery			Intensive care units			Cardiac care		
	Rural		Urban	Rural		Urban	Rural		Urban
Groups	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 farther 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

EXHIBIT 4

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. [a]Quantile 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. [b]Odds 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 reflec-

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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