FINDINGS BRIEF

RURAL &
MINORITY
Health Research Center

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Access to Health Services Across Rural and Urban Minoritized Racial/Ethnic Group Areas

Key Points

- Purpose: The current brief summarizes selected results from a series of reports documenting disparities in geographic access to health services for rural and urban places that have a relatively high proportion of residents from minoritized racial and ethnic groups (MRG). "Areas" were examined at the ZIP Code Tabulation Area level (ZCTA).

- Minoritized Racial-Ethnic Group areas: We use the term "minoritized" to refer to groups that have historically been marginalized by society and government institutions. ZCTAs were classified as a top minoritized place if the proportion of persons in the ZCTA who identified as a specific MRG met or exceeded the 95th percentile for the proportion of those residents in all rural or all urban ZCTAs, respectively. Top MRG ZCTAs are not necessarily "majority" populations for each group. For comparative purposes, information for top non-Hispanic (NH) White areas plus all other remaining ZTCAs is also provided.

- Links to the seven individual briefs and journal articles resulting from this project, developed by multiple researchers, are available at the Rural Health Research Gateway. Each brief contains detailed information about the need for the specific service studied and findings regarding service availability, including multiple maps. The current document is limited to highlights and graphics showing the types of ZCTA that are most likely to exceed selected distance cutoffs.

INTRODUCTION

Geographic availability of care is a social determinant of health with the capacity to affect overall health outcomes. Disparities in health outcomes between rural and urban populations, and between minoritized and other populations in both areas, have been amply documented, both through a series of reports developed by the Centers for Disease Control and Prevention [1] and by research conducted by analysts at the Rural & Minority Health Research Center. [2, 3]

Geographic availability of care influences patient use of services. [4] "Availability" is commonly measured through distance or travel time between the patient and the service needed. [5] Assuring the availability of needed care within acceptable distances is the purpose of network adequacy standards, promoted by the Centers for Medicare & Medicaid Services (CMS) and implemented by the states, to ensure that persons buying health insurance through the Federally-facilitated Exchanges and State-based Exchanges are adequately served by local in-network providers. [6] Specific distance standards are set at the state level; approximately half of states have done so. [7]

In the report that follows, we summarize distance to care from the population center of rural and urban ZIP Code Tabulation Areas (ZCTAs) to the nearest provider, across three categories of health care service:

- "First line" services: These are facilities or services that individuals might access for routine primary care or to address an immediate health problem, including primary care safety net providers (Federally Qualified Health Centers and Rural Health Clinics), pharmacies, and a hospital emergency room. For these services, a distance cutoff of 15 miles is used.
  We include providers of substance use disorder (SUD) care in the "first line" category due to the necessity for frequent, even daily, visits for certain types of SUD treatment. [8, 9]
- "Higher acuity" services: These are more forms of care to which an individual might be referred after a "first line" provider has determined need. The services studied include hospital-based trauma, cardiac, intensive care (ICU) and obstetric services, plus nursing home care. A cutoff of 30 miles is used to indicate "high distance" for these services.
- Home-based services: Because home-based services, by definition, do not involve travel on the part of the patient, a different metric is used for home health and hospice care. For these services, we used provider reports of the ZIP Codes for which they provide services, submitted to CMS, to determine presence or absence of the service in a specific location.
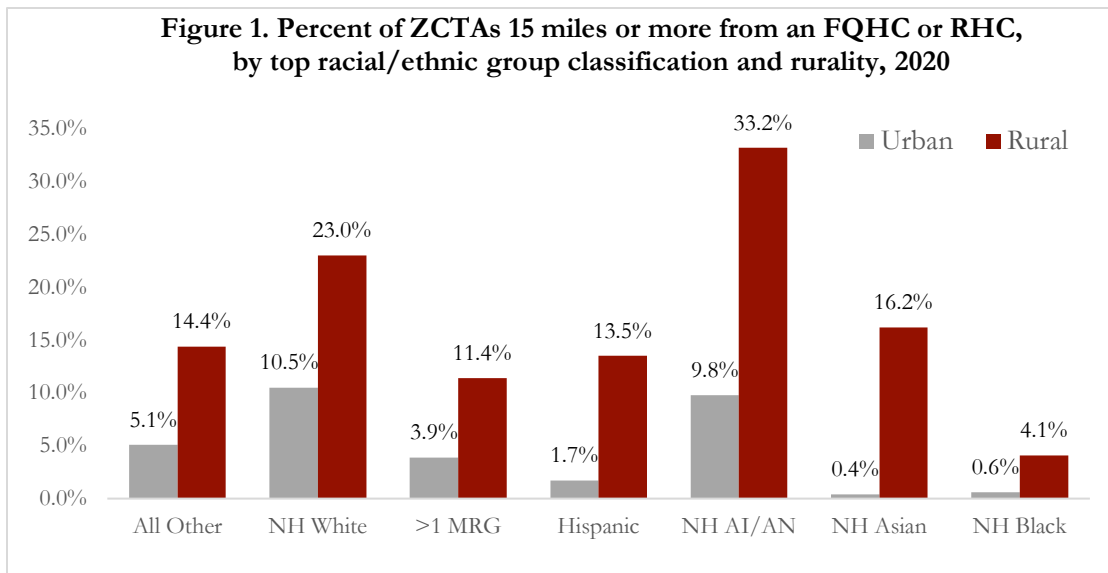
METHODS

Data sources used for identifying locations of providers are detailed in each of the individual reports in the series of briefs. While the most recent available data were used when each report was developed, the actual years vary by type of service, from 2018 to 2021. Distance calculations are restricted to the contiguous 48 states, excluding Alaska and Hawaii. The unusual geography of these two states, with gaps in the road network due to distance and islands, distorts distance values for these states. There is one exception: because home-based service availability is based on reported coverage areas, it can be equally assessed across all 50 states. Thus, all 50 states are included in the analyses for home-based services, as patient travel distance is not an issue for this type of care.

"Areas" are defined at the ZIP Code Tabulation Area (ZCTA) level. For the 48 contiguous states plus the District of Columbia, we calculated the straight-line distance from the population-weighted centroid of the ZCTA, a point marking the center of the ZCTA based on where people live, to the nearest facility. Actual driving distances will be longer, so the information provided here is a conservative estimate of travel distances.

Rurality and the race/ethnicity of residents are measured at the ZCTA level. Rurality definitions use the first digit of the Rural Urban Commuting Area (RUCA) code, with values of 1-3 defined as urban and all other as rural. "Minoritized ZCTAs" are not "majority minoritized" places; rather they are those for which the proportion of residents identifying with specified racial/ethnic groups fall into the top 5 percent across all urban or rural ZCTAs, respectively. Definitions for top minoritized areas are provided in the Appendix (p. 11).

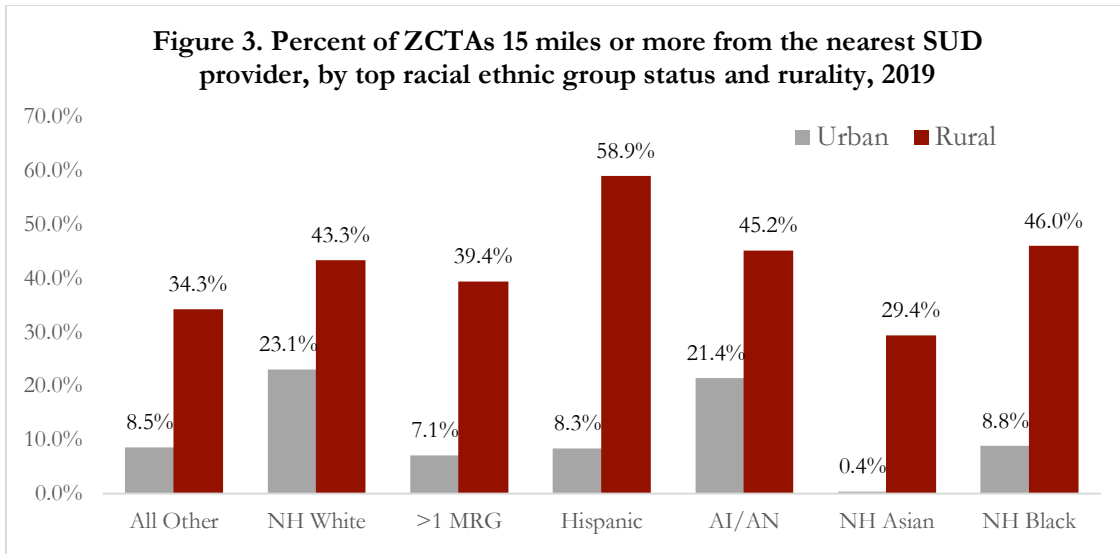**FIRST CONTACT SERVICES: AVAILABILITY WITHIN 15 MILES**

Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs): Across the 48 contiguous states and the District of Columbia, only 9.9% of all ZCTAs were 15 miles or more from one of these two types of provider. However, 15.6% of rural ZCTAs, versus 5.1% of urban areas, lacked an FQHC or RHC within 15 miles (p<0.0001). Within rural ZCTAs, those in the top group for the proportion of residents who report their race/ethnicity as American Indian/Alaska Native (AI/AN) were most likely to lack an FQHC or RHC within 15 miles, 33.2%, followed by those in the top group for non-Hispanic White residents (23.0%). Indian Health Service clinics not also registered as FQHCs or RHCs were not included in this analysis; further exploration of disparities within AI/AN populations is warranted.

Figure 1. Percent of ZCTAs 15 miles or more from an FQHC or RHC, by top racial/ethnic group classification and rurality, 2020
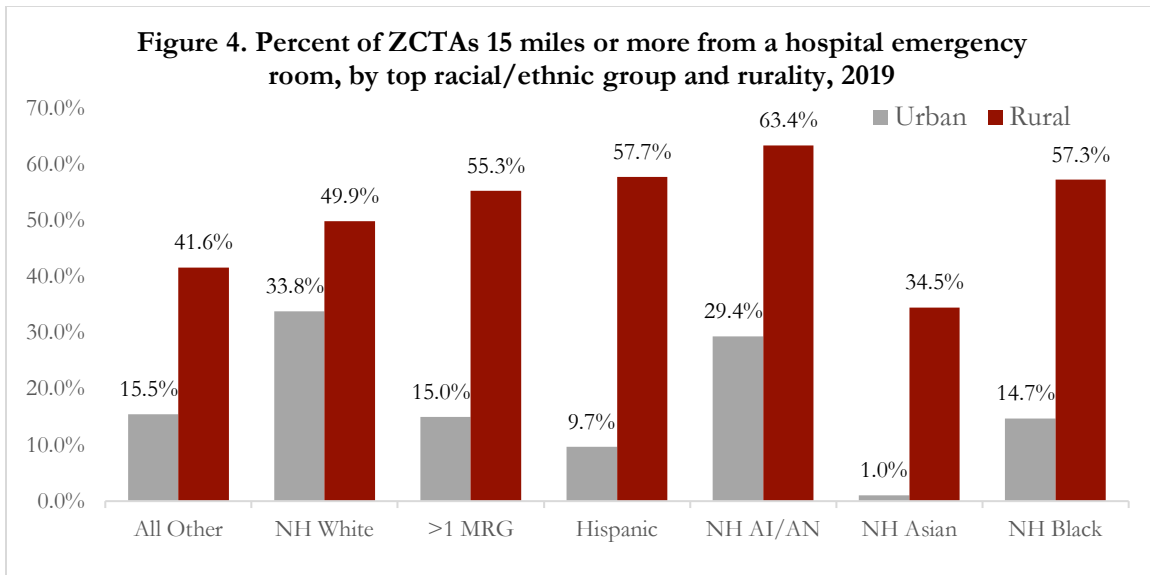
Pharmacy: Across the continental U.S., 6.7% of ZCTAs were more than 15 miles from a pharmacy, with rural ZCTAs more commonly exceeding this distance (12.3% versus 1.9%, respectively; p<0.0001). Variations across rural ZCTAs by racial/ethnic group classifications were substantial, ranging from 26.4% of top Hispanic and 23% of top AI/AN to 3.5% of top rural NH Black areas exceeding 15 miles to the nearest pharmacy.

Figure 2. Percent of ZCTAS 15 miles or more from a pharmacy, by racial/ethnic group classification and rurality, 2018
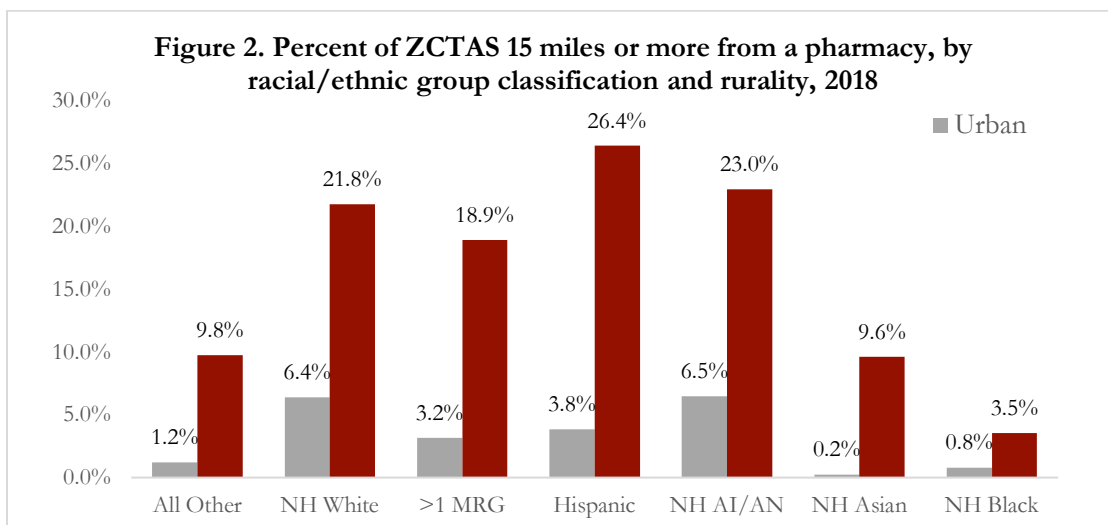
Substance Abuse Disorder (SUD) Treatment: Across the contiguous states, 22.3% of ZCTAs were 15 miles or more from the nearest SUD treatment provider of any kind. Note that this includes all SUD treatment providers: those facilities that do and do not offer methadone for opioid treatment, plus all buprenorphine prescribers. Among urban ZCTAs, 9.7% exceed the 15-mile distance; among rural ZCTAs, the value is 37.5% (p<0.0001). Within rural ZCTAs, the proportion of areas located 15 miles or more from SUD treatment ranges from 26.0% among top NH Asian ZCTAs to 58% among top American Indian/Alaska Native population areas.

Figure 3. Percent of ZCTAs 15 miles or more from the nearest SUD provider, by top racial ethnic group status and rurality, 2019

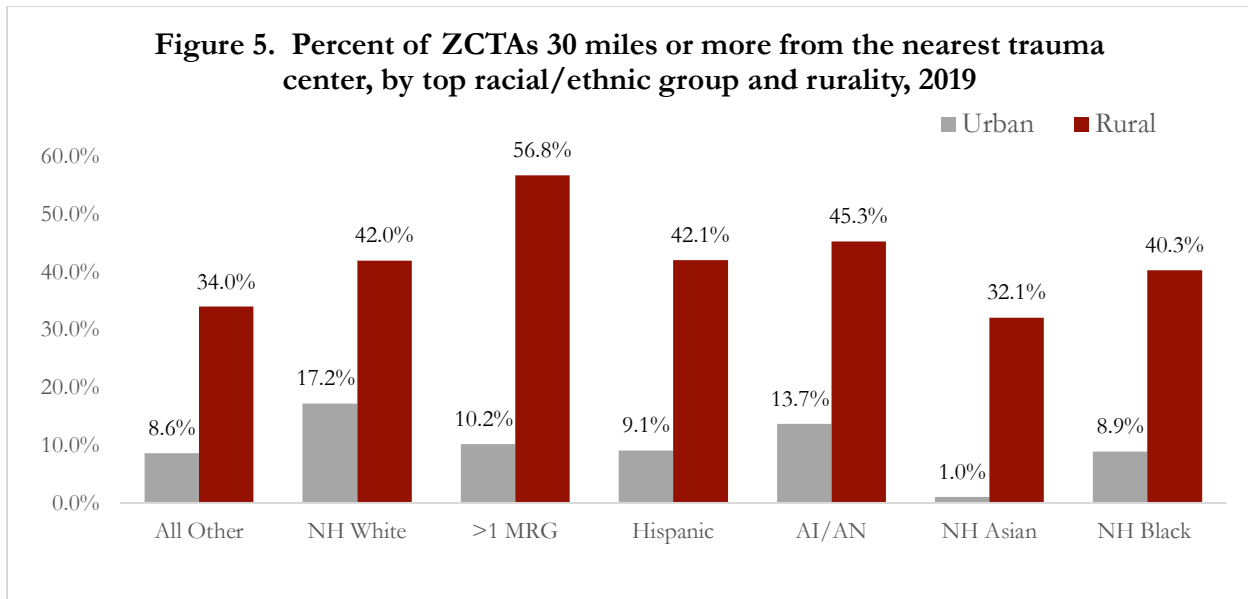| Group	Urban	Rural
All Other	8.5%	34.3%
NH White	23.1%	43.3%
>1 MRG	7.1%	39.4%
Hispanic	8.3%	58.9%
AI/AN	21.4%	45.2%
NH Asian	0.4%	29.4%
NH Black	8.8%	46.0%

Hospital Based Emergency Room (ER): Across the 48 contiguous states and the District of Columbia, 29.4% of ZCTAs do not have a hospital based ER within 15 miles. Paralleling other first contact services, the proportion of rural ZCTAs exceeding this distance, 44.2%, is greater than among urban ZCTAs (16.4%, p<0.0001).

Figure 4. Percent of ZCTAs 15 miles or more from a hospital emergency room, by top racial/ethnic group and rurality, 2019

| Group	Urban	Rural
All Other	15.5%	41.6%
NH White	33.8%	49.9%
>1 MRG	15.0%	55.3%
Hispanic	9.7%	57.7%
NH AI/AN	29.4%	63.4%
NH Asian	1.0%	34.5%
NH Black	14.7%	57.3%

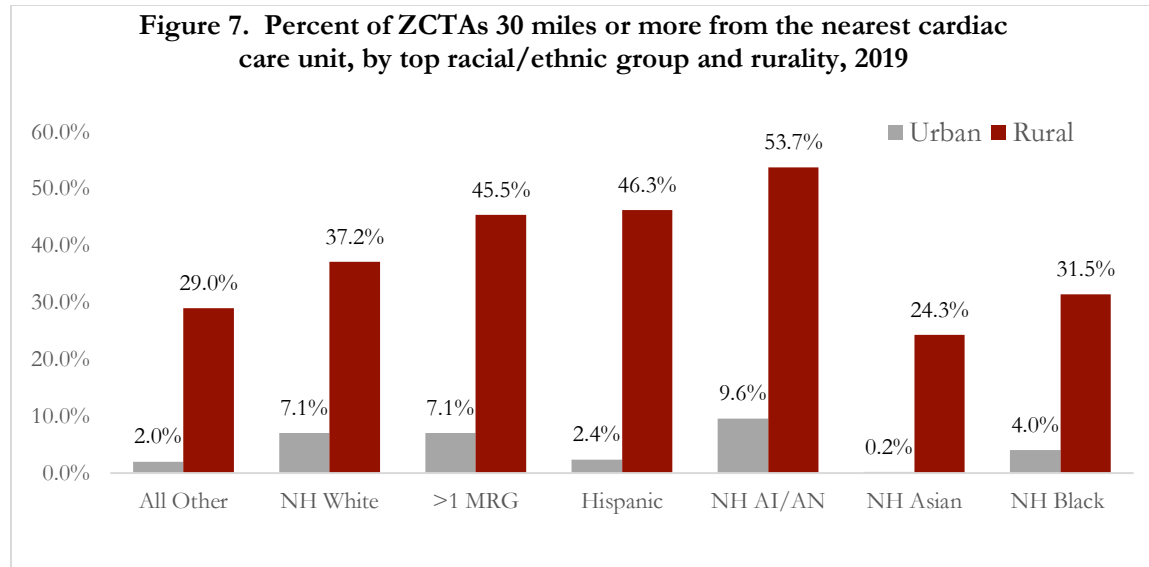# HIGHER ACUITY SERVICES: AVAILABILITY WITHIN 30 MILES

Trauma Centers: Across the continental U.S., 36.4% of rural ZCTAs, compared to 9.1% of urban ZCTAs, were located 30 or more miles from the nearest certified trauma center (any level, 1 through 3). Urban ZCTAs had better geographic access to trauma care than rural ZCTAs across all racial/ethnic categories.

Figure 5. Percent of ZCTAs 30 miles or more from the nearest trauma center, by top racial/ethnic group and rurality, 2019

Intensive Care Units (ICUs): Rural ZCTAs were 10 times more likely to be 30 miles or more from the nearest general medical-surgical ICU than were urban ZCTAs (23.9% versus 2.3%; $p<0.0001$). Within rural ZCTAs, areas at the top of the distribution for all minoritized populations except non-Hispanic Black were more likely to exceed this distance as were top ZCTAs for non-Hispanic White residents. Within rural ZCTAs, 45.0% of top AI/AN met or exceeded this distance, followed by top Hispanic areas (39.7%).

Figure 6. Percent of ZCTAs 30 miles or more from the nearest intensive care unit, by top racial/ethnic group and rurality, 2019
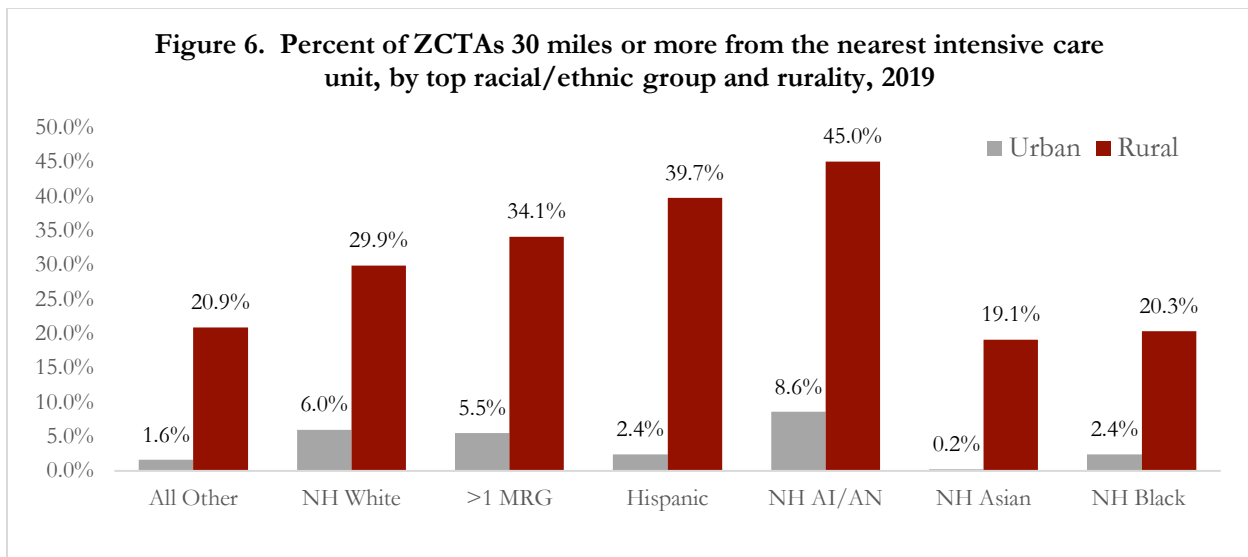
Cardiac Care Units: Cardiac care units, defined as a hospital service offering cardiac and cardiac surgery services, were 30 miles or more distant for 2.8% of urban ZCTAs, but 31.9% of rural ZCTAs (p<0.0001). Within urban ZCTAs, areas in the top category for AI/AN residents and multiple minoritized groups were most likely to exceed the distance metric (9.6% and 7.1%, respectively), followed by top NH White (7.1%) and NH Black (4.0%) ZCTAS. Across rural ZCTAs, high distances were more frequent for AI/AN ZCTAs (53.7%), follow by top Hispanic (46.3%) and multiple MRG (45.5%) places.

Figure 7. Percent of ZCTAs 30 miles or more from the nearest cardiac care unit, by top racial/ethnic group and rurality, 2019
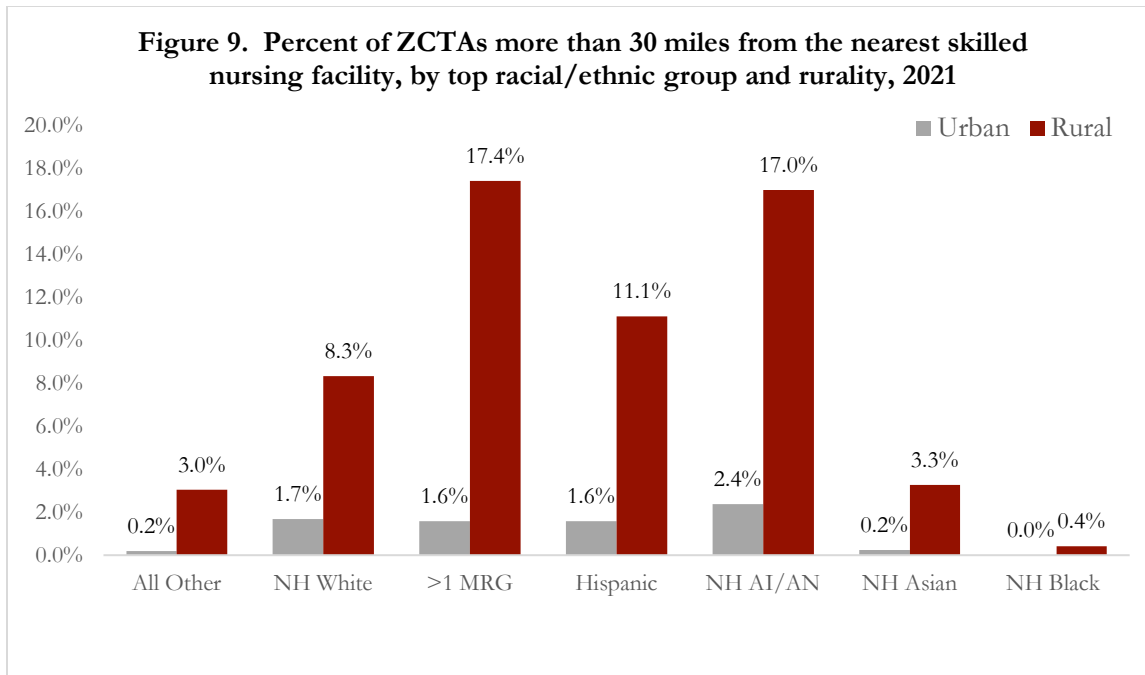
Obstetrics: Rural ZCTAs were more likely to be located 30 miles or more from the nearest hospital offering obstetric services than were their urban equivalents (20.4% versus 2.8%; p<0.0001). Within rural ZCTAs, top Hispanic (29.1%), non-Hispanic White (26.6%), multiple group (29.6%), American Indian/Alaska Native (29.9%) and non-Hispanic Black (21.9%) all were more likely than the reference group, all other rural ZCTAs, to meet the high distance cutoff value.

Figure 8. Percent of ZCTAs 30 miles or more from the nearest obstetric care unit, by top racial/ethnic group and rurality, 2019
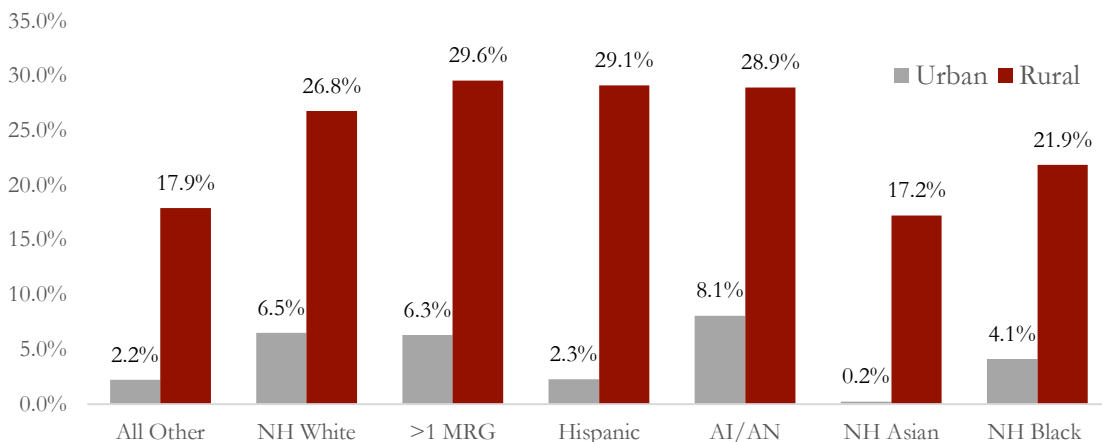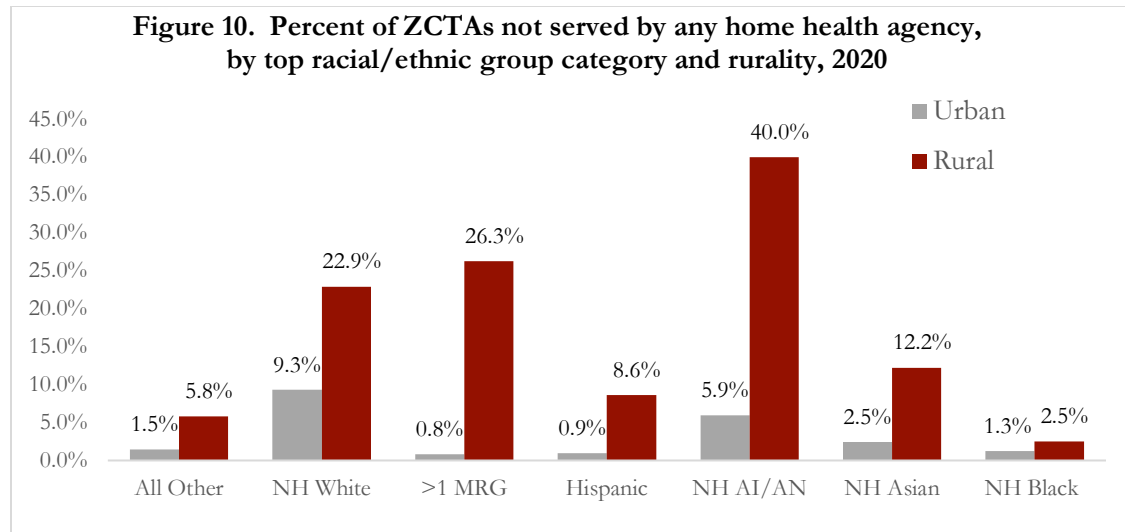
Nursing home (skilled nursing facility): Virtually all urban ZCTAs were located less than 30 miles from a nursing home, with only 0.46% of urban areas exceeding this cutoff. Across rural ZCTAs, 4.7% were located 30 miles or more from the nearest nursing home. Paralleling other services studied, exceeding the 30 miles or more metric was most common for rural ZCTAs at the top of the distribution for multiple MRG residents (17.4%) and AI/AN residents (17.0%). ZCTAs in the top category for proportion of residents identifying as non-Hispanic Black were more likely to have nursing home access than other ZTAs, with no top non-Hispanic Black urban ZCTAS, and only 0.4% of top non-Hispanic Black rural ZCTAs, being 30 miles or more from a skilled nursing facility.

Figure 9. Percent of ZCTAs more than 30 miles from the nearest skilled nursing facility, by top racial/ethnic group and rurality, 2021
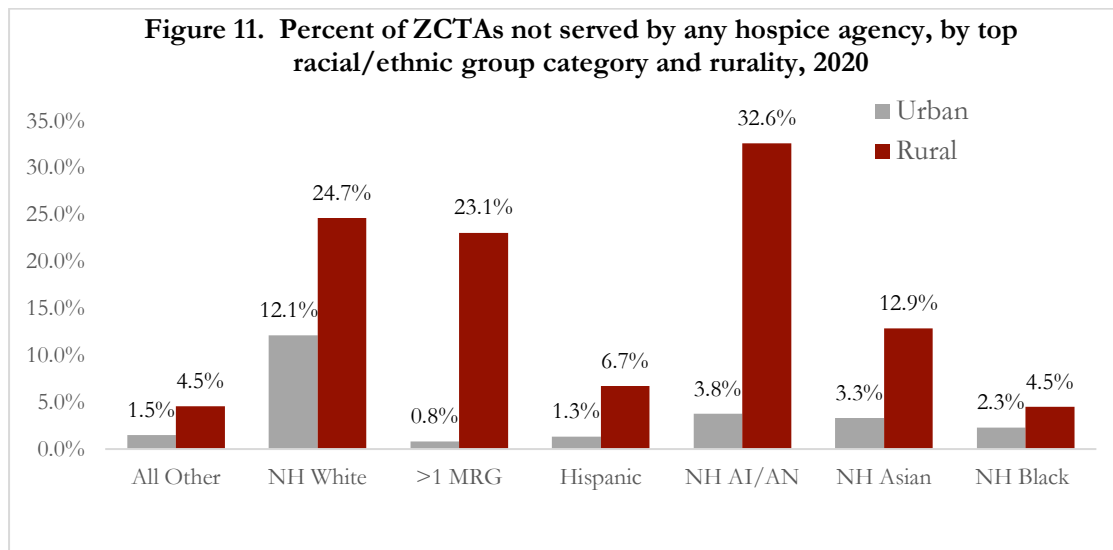
HOME-BASED SERVICES: HOME HEALTH AND HOSPICE

Home health-based services, by definition, do not entail travel on the part of the patient. Thus, to measure access we tallied whether each ZCTA was reported as served by any agency. This information is required as part of the CMS certification process. Each home health agency and hospice indicates the ZIP Codes for which it could provide service, even if the hospice has no patients in that ZIP Code at the time of reporting. The summaries reported here may overestimate home-based service availability, since an agency may list a ZIP Code even if rarely provides services there. All states, including Alaska and Hawaii, are included in this analysis.

Home Health: Nationally, 10.3% of rural ZCTAs, compared to 2.2% of urban ZCTAs, did not fall within the reported service area of any home health agency in 2020 (p<0.0001). Gaps were highest for top rural AI/AN ZCTAs, 40.0% of which are not reached by any home health agency.

Figure 10. Percent of ZCTAs not served by any home health agency, by top racial/ethnic group category and rurality, 2020

Hospice: Across the U.S., 9.4% of rural ZCTAs, versus 2.4% of urban ZCTAs, do not fall within the reported service area of any hospice agency (p<0.0001). Lack of hospice was most common among top rural AI/AN (32.6%), non-Hispanic White (24.7%), and multiple MRG population (23.1%) areas.

Figure 11. Percent of ZCTAs not served by any hospice agency, by top racial/ethnic group category and rurality, 2020

DISCUSSION

As would be expected given the lower population density in rural versus urban areas within the U.S, rural places measured at the ZCTA level were generally more likely to exceed distance cutoffs, across multiple types of service. In addition, three consistent disparities become evident across the various analyses in this summary.

First, the distance variation associated with an area having a relatively high concentration (top 5%) of any particular racial/ethnic group differed between urban and rural locations and the specific group being considered. In urban areas, where redlining has historically grouped minoritized populations in older neighborhoods [10], ZCTAs in the top 5% for non-Hispanic Black, Hispanic and non-Hispanic Asian population representation were often closer to needed facilities than were ZCTAs at the top for non-Hispanic white residents. Overall, however, only a small proportion of all urban ZCTAs, even those with relatively concentrated minoritized populations, exceed the distance cutoff used in our analyses.

Second, rural ZCTAs in the top 5% for AI/AN population representation were more likely to exceed 15-mile and 30-mile distance thresholds for various services than any other concentrated ZCTA type. Excluding the "more than one MRG" category, which contained only 259 out of more than 32,000 ZCTAs studied, ZCTAs at the top of the distribution for the proportion of residents identifying as AI/AN had the highest rates of lack of service of any racial/ethnic group in 8 of the 11 types of service examined. While it is possible that Indian Health Service facilities or other institutions not fully captured in the data sets remedy this gap, more analysis is needed.

Third, service gaps for rural ZCTAs in the top 5% for Hispanic residents closely parallel those for AI/AN ZCTAs. This distance gap may not be recognized by scholars carrying out analyses that do not explicitly examine rural populations and places. [e.g, 8, 9] Renewed attention to the rural Hispanic population is required.

REFERENCES

[1] Centers for Disease Control and Prevention. *MMWR Rural Health Series,* 2017. Available at https://www.cdc.gov/mmwr/rural_health_series.html. Accessed October 6, 2022.

[2] Probst JC, Eberth JM, Crouch EL. Structural urbanism contributes to poorer health outcomes for rural America. *Health Affairs* 2019, 38(12): 1976-1984.

[3] Eberth JM, Hung P, Benavidez GA, Probst JC, Zahnd WE, McNatt M-K, Toussaint E, Merrell MA, Crouch E, Oyesode O, Yell N. The problem of the color line: spatial access to hospital services for minoritized racial/ethnic groups. *Health Affairs*, 2022 Feb;41(2):237-246.

[4[Kelly C, Hulme C, Farragher T, Clarke G. Are differences in travel time or distance to healthcare for adults in global north countries associated with an impact on health outcomes? A systematic review. BMJ Open. 2016 Nov 24;6(11):e013059.

[5] Guagliardo MF. Spatial accessibility of primary care: concepts, methods and challenges. *Int J Health Geogr.* 2004 Feb 26;3(1):3.

[6] Centers for Medicare & Medicaid Services. *2023 Letter to Issuers in the Federally-facilitated Exchanges.* Jan 7, 2022.

[7] Colvin JD, Hall M, Thurm C, Bettenhausen JL, Gottlieb L, Shah SS, Fieldston ES, Goldin AB, Melzer SM, Conway PH, Chung PJ. Hypothetical Network Adequacy Schemes For Children Fail To Ensure Patients' Access To In-Network Children's Hospital. *Health Aff* (Millwood). 2018 Jun;37(6):873-880. doi: 10.1377/hlthaff.2017.1339. PMID: 29863927.

[8] Bonifonte A, Garcia E. Improving geographic access to methadone clinics. *J Subst Abuse Treat.* 2022 Oct;141:108836.

[9] Amiri S, Lutz R, Socías ME, McDonell MG, Roll JM, Amram O. Increased distance was associated with lower daily attendance to an opioid treatment program in Spokane County Washington. *J Subst Abuse Treat.* 2018 Oct;93:26-30.

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APPENDIX

Data Sources

Data on the racial/ethnic composition of ZCTAs and their socioeconomic characteristics were obtained from the U.S. Census Bureau's American Community Survey (ACS) 2015-2019 5-year estimates.[i] Facility data were obtained from a variety of sources across multiple types of provider or service; documentation for each is provided in the relevant brief.

Definitions

Rurality: Rurality was defined using the ZIP approximated Rural Urban Commuting Area (RUCA) codes.[ii] Specifically, ZCTAs were assigned the RUCA code for the matching ZIP, even if additional ZIP codes were included in the creation of the ZCTA boundary. Those ZCTAs with a ZIP matched RUCA code of 1-3 were designated as urban while those with a RUCA code of 4-10 were designated as rural. This corresponds to the Office of Management & Budget metropolitan/nonmetropolitan distinction.

The Uniform Data System (UDS) Mapper was used to identify the corresponding ZCTA for each ZIP code.[iii] The UDS Mapper is a mapping tool operated primarily by data from the Uniform Data System to analyze service area of health centers. Since the U.S. Census Bureau does not release an official crosswalk between ZIP Codes and ZCTAs, the UDS Mapper was used to identify ZCTAs using patient data that was matched from the Uniform Data System. Each ZCTA code was added to the dataset using a left join via ZIP codes. Since there were multiple ZIP codes for some ZCTA codes, unique CMS Certification Numbers (CCN's) were counted for each ZCTA code. The procedure worked well, as there were no ZIP codes used for multiple ZCTA codes.

Minoritized racial/ethnic group area: ZCTAs were defined as "top" area if proportion of residents of a specific racial/ethnic identity within the ZCTA was at or above the 95th percentile of that group's proportion of the population across all ZCTAs. Because we created mutually exclusive categories for ZCTAs that fall into the top 5th percentile for each minoritized racial/ethnic group (MRG), plus a category for ZCTAs at the top for 2 or more MRGs, the total proportion of MRG ZCTAs equals 18.9% of all ZCTAs.

Defining ZCTAs with a high proportion of minoritized racial/ethnic group residents: ZCTAs (n = 32,670) were first classified as rural or urban using Rural Urban Commuting Area definitions, with as noted above. Given differences in the demographic profile of rural and urban places, rural and urban ZCTAs were examined separately.

ZCTAs were classified as being a "top" place for a specific racial/ethnic group if the proportion of persons who identified as that group in the ZCTA met or exceeded the 95th percentile for the proportion of those residents in all rural or all urban ZCTAs, respectively. With the exception of non-Hispanic White residents, the "top 5%" for any one population group was consistently less than a majority, and for some populations was fairly low (Table A-1).

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[i] U.S. Census Bureau. Explore Census Data. Accessed August 4, 2021. https://data.census.gov/cedsci/

[ii] United States Department of Agriculture. Rural-Urban Commuting Area Codes. Accessed August 4, 2021. https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes.aspx

[iii] American Academy of Family Physicians. ZIP Code to ZCTA Crosswalk. Accessed August 4, 2021. https://udsmapper.org/zip-code-to-zcta-crosswalk/

"Hispanic" included all persons of Hispanic ethnicity, regardless of race. ZCTAs that fell in the top category for more than one MRG population were grouped separately, so that categories do not overlap. Thus, the final analysis included seven separate categories within both rural and urban ZCTAs: top ZCTAs for NH Black, NH Asian, American Indian/Alaska Native, Hispanic, and multiple MRG populations, NH White, and a referent category, which included all other ZCTAs (see Table A-2).

Note that MRG ZCTAs are not "majority minoritized" places; rather, they are ZCTAs in which the proportion of each group is at the top of the distribution compared to other ZCTAs. The geographic location of MRG ZCTAs is shown in Figure A-1. Demographic characteristics of rural and urban ZCTAs, by high racial/ethnic group status, are presented in Table A-3

| Table A-1. Proportion of residents needed to meet or exceed the 95 percentile,[a] by race/ethnicity and rurality		
	Rural	Urban
Non-Hispanic Black	34.4%	49.3%
Hispanic	23.8%	34.1%
Non-Hispanic American Indian/Alaska Native	11.8%	2.2%
Non-Hispanic Asian	2.5%	15.3%
Non-Hispanic White	100.0%	100.0%
[a] Percentiles derived from population data obtained from the American Community Survey.		

Table A-2. Distribution of ZCTAs in the top 5th percentile for racial/ethnic group populations, by rurality and racial/ethnic group (2015-2019 American Community Survey)

Racial/ethnic group categories:	Urban ZCTAs		Rural ZCTAs		Total, all ZCTAs	
Minoritized groups	n	%	n	%	n	%
Hispanic*	755	4.2	594	4.0	1,349	4.1
NH* American Indian/Alaska Native.	825	4.6	668	4.5	1,493	4.6
NH* Asian	851	4.8	622	4.2	1,473	4.5
NH* Black	874	4.9	709	4.8	1,583	4.9
> 1 MRG	127	0.7	156	1.1	283	0.9
Non-minoritized						
NH* White	1,203	6.8	2,177	14.6	3,380	10.3
All other ZCTAs (excludes NH White)	13,160	74.0	9,949	66.9	23,109	70.7
Total	17,795	100.0	14,875	100.0	32,670	100.0

Note: Percentiles derived from population data obtained from the 2015-2019 American Community Survey. More than 5% of ZCTAs in both urban and rural area had 100% white populations; all such ZCTAs were classified as high NH White ZCTAs.
*Hispanic includes all racial identities. All other racial/ethnic groups classified as "non-Hispanic" (NH).

Figure A-1. Geographic distribution of ZCTAs meeting the 95th percentile threshold, by racial and ethnic group [a,b]
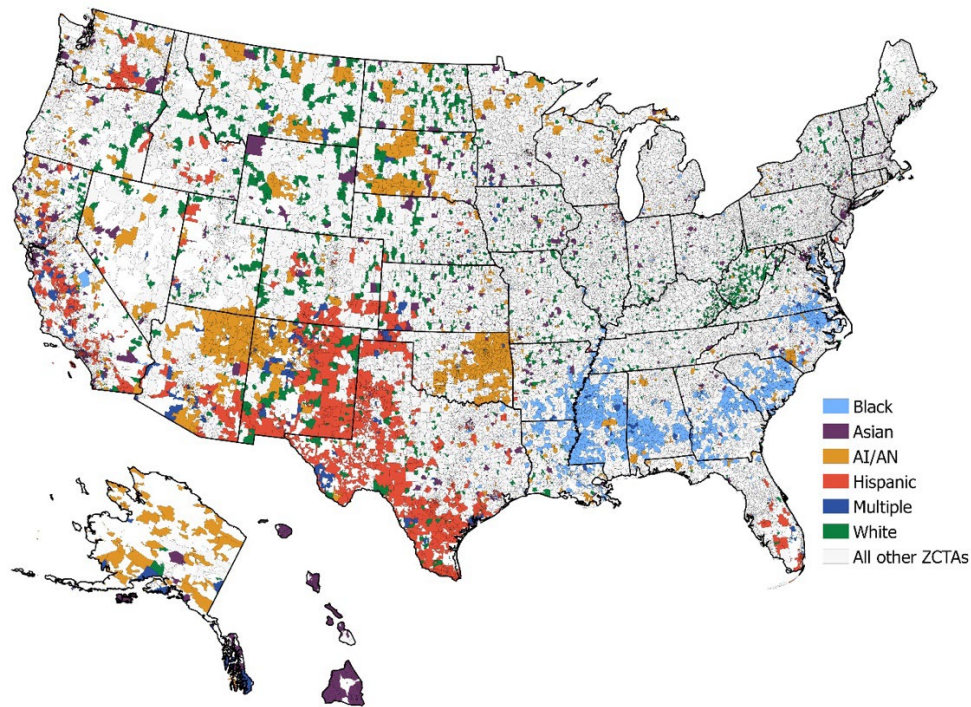
[a] Data from the 2015-2019 American Community Survey [b] This map was adapted from Eberth et al, 2022.[iv]

Demographic characteristics of top MRG ZCTAs

Top MRG ZCTAs could differ from other ZCTAs in the U.S. on characteristics that affect both demand for and local ability to support and retain services. To provide context for our substance abuse treatment availability results, we compared MRG ZCTAs, defined as those in the 95th percentile for the proportion of each group, to all other ZCTAs (labeled "all other;" Table A-3).

- Across both rural and urban ZCTAs, the proportion of the population that is age 65 or older is significantly lower in MRG ZCTAs than in "all other" ZCTAs, while that same proportion is higher in top NH White ZCTAs. A younger population base might have more need for substance abuse disorder treatment services.
- High proportions of uninsured persons within a population can reduce the willingness of providers to locate in or serve the area. The proportion of the population lacking health insurance was higher among most MRG ZCTAs than the "all other" group. High NH Asian and high NH White ZCTAs had lower rates for uninsurance.
- We examined vehicle availability within the household as an indicator of residents' ability to leave home for care, particularly in rural places.
  - Within rural MRG ZCTAs, ZCTAs in the top group for AI/AN, NH Black, and multiple MRG population had higher proportions of households that lacked a vehicle.

[iv] Eberth JM, Hung P, Benavidez GA, Probst JC, Zahnd WE, McNatt M-K, Toussaint E, Merrell MA, Crouch E, Oyesode O, Yell N. The problem of the color line: spatial access to hospital services for minoritized racial/ethnic groups. *Health Affairs*, 2022 Feb;41(2):237-246.

The top NH Asian ZCTAs did not differ from the "all other" group, while top NH White ZCTAs had lower proportions of households without a vehicle.
  o The top NH AI/AN ZCTAs were the only group for which the proportion of households without a vehicle was significantly higher among rural than among urban ZCTAs (rural 19.0%, urban 5.8%).
- Broadband access is important for residents' ability to access telehealth and telemedicine services, as a supplement to or alternative for substance use disorder services at a physical treatment location.
  o All rural ZCTAs, within each racial/ethnic category, had a lower proportion of households with broadband access than among the equivalent urban ZCTAs.
  o Within urban and rural places, all top MRG ZCTAs except the NH Asian group had lower access to broadband than the "all other" category. Within top rural NH Black ZCTAs, only 58.2% of households reported broadband access.
- Community poverty can make an area unattractive for health care providers of all kinds, as persons who are uninsured or whose care is funded by lower-paying insurers, such as Medicaid, offer lower payment for the provider. The proportion of households with incomes at or below 200% of the Federal Poverty Level were higher among MRG ZCTAs than the "all other" group, for all except high A/PI ZCTAs.

Even within the "minoritized population" category, rural ZCTAs can experience disadvantage when compared to urban ZCTAs in the same population group. With some exceptions, noted in the table, ALL rural metrics differ significantly, and in a direction of greater disadvantage, than the corresponding values for urban MRG ZCTAs.

Table A-3 Characteristics of Top ZCTAs when compared to all other ZCTAs, by rurality,[1] in percent (Data from the 2015-2019 American Community Survey)

	Population characteristics						Household characteristics:			
	Females age 15 – 44		Lack health insurance		Unemployment rate		Have broadband		200% Federal Poverty Level	
	mean	Sig.	mean	Sig.	mean	Sig.	mean	Sig.	mean	Sig.
Rural ZCTAs (14,875)										
Minoritized groups:										
Hispanic (594)	33.9%	***	15.1%	***	6.9%		68.5%	***	45.4%	***
NH Black (709)	33.2%	***	12.6%	***	8.9%	***	58.2%	***	51.6%	***
NH Am. Ind./ Alaska Nat. (668)	32.1%	***	20.5%	***	12.6%	***	60.9%	***	49.5%	***
NH Asian (622)	32.4%	**	7.4%	***	5.2%		78.1%	***	32.8%	*
>1 MRG (156)	32.6%	***	15.6%	***	8.0%	***	66.6%	***	45.0%	***
Non-minoritized & other										
NH White (2,177)	23.3%	***	7.5%	***	4.5%	**	71.9%	***	35.2%	*
All other ZCTAs (9,949)	26.8%		8.4%		4.7%		74.4%		34.4%	
Urban ZCTAs (17,795)										
Minoritized groups:										
Hispanic (755)	27.8%	**	17.0%	***	6.7%	***	73.8%	***	48.1%	***
NH Black (874)	30.4%	***	11.3%	***	10.0%	***	68.7%	***	49.0%	***
NH Am. Ind./ Alaska Nat. (825)	28.2%	***	11.2%	***	6.4%		74.8%	***	36.7%	***
NH Asian (851)	28.4%	**	5.3%	***	4.5%	***	89.0%	***	21.65	***
>1 MRG (127)	27.0%	**	14.6%	***	7.1%	***	74.5%	***	49.3%	***
Non-minoritized & other										
NH White (1,203)	23.7%	***	6.6%	**	4.8%	*	75.6%	***	31.8%	***
Referent ZCTAs (13,160)	26.2%		7.2%		4.6%		82.3%		27.1%	

[1] Note: With the exception of lack of health insurance and lack of a vehicle in >1 MRG rural, ZCTAs, all rural values differ significantly from the corresponding urban value. [2] NH = Non-Hispanic

[3] Statistical indicators: Group differs from Referent ZCTA within either all rural or all urban ZCTAs. Sig. * = p < .05; ** = p < .01; *** p < .001