Southwest Rural HEALTH RESEARCH CENTER

Rural Urban Variation in Travel Burdens for Care: Findings from the 2017 National Household Travel Survey

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Purpose and Objectives

Burdensome travel arrangements for medical or dental care have been identified as barriers to healthcare access, particularly in rural areas. Higher travel burden has been associated with delayed or foregone medical care and missed appointments, which leads to reduced preventive care, greater disease burden, poorer treatment outcomes, and reduced quality of life. A previous study using the 2001 National Household Travel Survey (NHTS) found that rural residents traveled farther and spent more time in travel for medical and dental care. Given that the previous study is about 20 years old, this study uses the more recent 2017 NHTS to achieve the following objectives:

i. Provide recent national estimates of the distance traveled and time spent on one-way trips for medical and dental care among rural and urban dwellers.

ii. Examine how the travel behaviors of rural residents vary by socio-demographic and geographic characteristics.

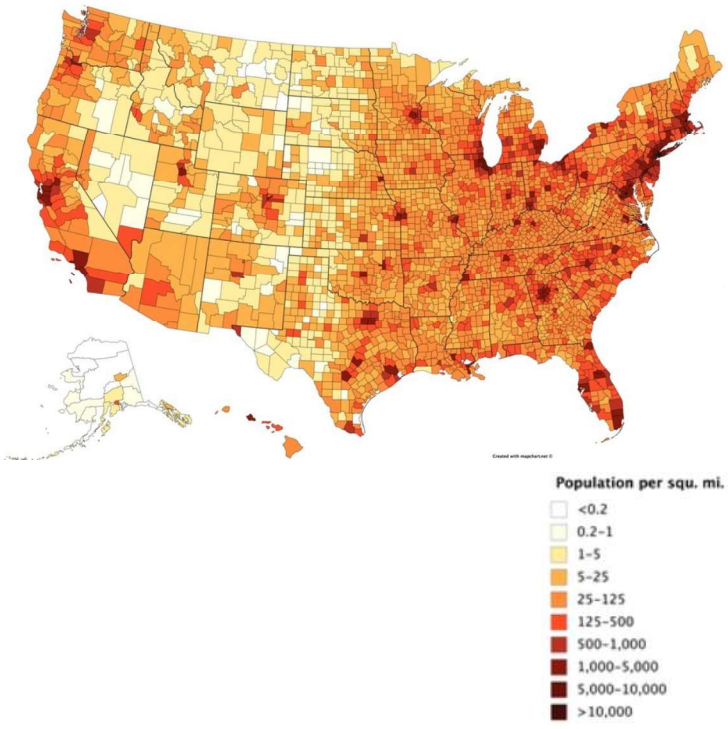
iii. Evaluate factors associated with a high travel burden for medical and dental care among rural residents.

Materials and Methods

In the 2017 NHTS, each participating household was asked to record in a 24-hour travel diary all travel by household members and their purpose on a previously assigned day of the week. We restricted our study to households that made trips for medical/dental care. The major outcomes of this study were the one-way distance traveled for medical/dental care and the time spent during such travels, measured in miles and minutes, respectively. To provide context, we compared the distance and time spent in travel for medical/dental care with that of travel for work. To assess the travel burden for medical/dental care, we characterized trips of more than 30 miles or minutes as indicators of a high travel burden.

To assess the urban-rural differences in these outcomes, we used the rural/urban classification of the respondent's home location - a measure developed by Claritas Inc. using a population density grid and nearness to urban segments. We examined the urban-rural differences in distance traveled and time spent in travel for medical/dental care by participant characteristics such as race/ethnicity, age, gender, educational status, and household income, and by trip characteristics including mode of travel, trip start time, trip weekday, and driver/passenger status during the trip.

Population Density of the US by County

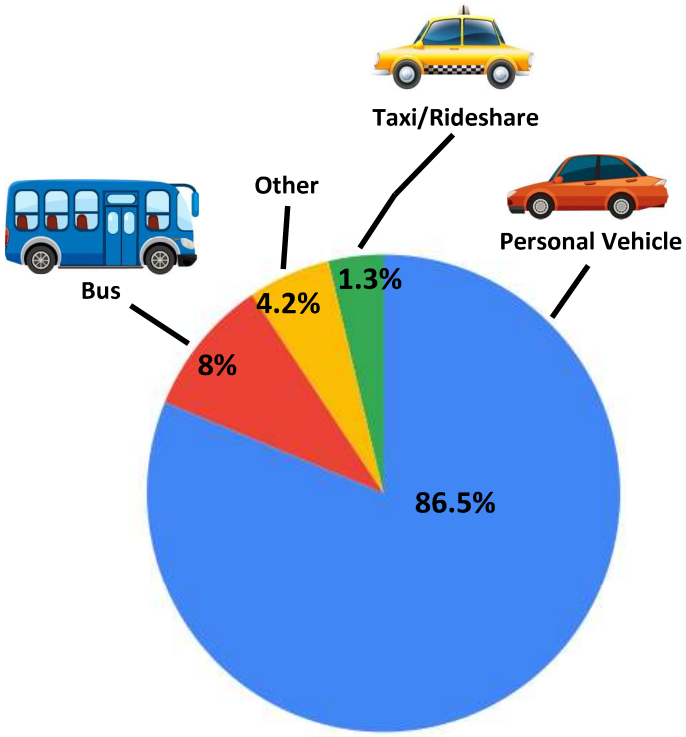


Key Findings

Overall distribution of trips for medical/dental care in the U.S.

- There were about 5.5 billion trips for medical/dental care in the U.S. in 2017.
- Most of the trips were made with personal vehicles (86.5 percent), 8 percent with public transportation, and 1.3 percent with ridesharing services such as Uber, Lyft, or taxis.
- Blacks (23 percent) and Hispanics (11.8 percent) were more likely to use public transportation to get to medical/dental care compared to Whites (3 percent).
- Taking population distribution into account within the U.S. census regions, almost four out of every 10 trips were made in the South (38 percent), while 22 percent of the trips were made in the West and 21 percent in the Midwest census region.
- More rural than urban residents identified the price of gasoline and the financial burden of travel as barriers to travel for medical/dental care.

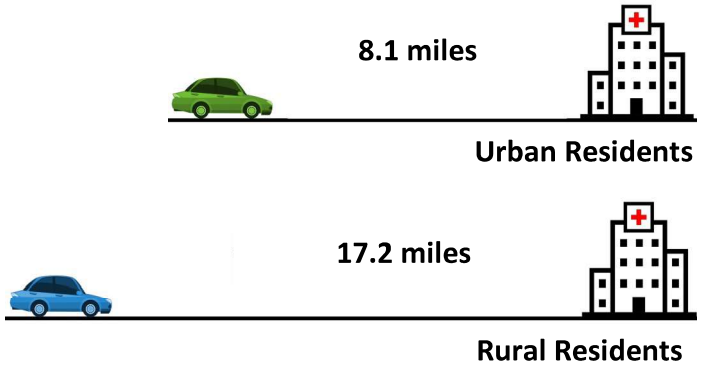
Mode of Transportation Used for Medical/Dental Care



Distance and time spent in travel for medical/dental care

- On average, U.S. residents traveled 9.9 miles one-way for medical/dental care in 2017.
- Rural residents traveled more than twice the distance for medical/dental care than urban residents (urban, 8.10 miles; rural, 17.8 miles, $p<0.0001$).
- Rural Blacks and Hispanics traveled the farthest for care. Hispanics in rural areas traveled more than three times the distance for care compared to Hispanics in urban areas (urban, 8.9 miles; rural, 28.3 miles, $p<0.0001$).
- The rural-urban-difference in the miles traveled for care was highest among residents aged 50 to 64 (urban, 8.14 miles; rural, 19.05 miles, difference=10.91 miles) and those who were 65 and older (urban, 8.61 miles; rural, 20.44 miles, difference=11.83 miles).
- On average, U.S. residents spent 27.1 minutes in travel for medical/dental care in 2017.
- Rural residents spent more time in travel for care than urban residents (urban, 25.5 minutes; rural, 34.2 minutes, $p<0.0001$).
- Hispanics in rural areas traveled 17 more minutes for medical/dental care compared to Hispanics in urban areas (urban, 27.6; rural, 44.6 minutes, $p=0.002$).
- Rural trips made between midnight and 6.59 a.m. were 22 miles farther and 24 minutes longer than urban night trips.

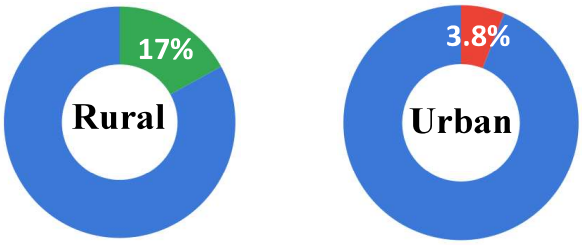
Travel Distance for Medical/Dental Care



Factors associated with a high travel burden for medical/dental care

- To assess the travel burden for medical/dental care, we characterized trips of more than 30 miles or minutes as indicators of a high travel burden.
- About 17 percent of rural medical/dental trips took 30 miles or more, compared to 3.8 percent of urban trips.
- In the context of work, urban residents traveled significantly farther for work than for medical/dental care (medical/dental=8.1 miles, work travel=11.8 miles, p=0.035), while rural residents traveled similar distances for medical/dental care and for work (medical/dental=17.8 miles, work travel=18.1 miles, p=0.265).
- When personal and trip characteristics were controlled for among rural residents, higher travel burden (trips longer than 30 miles) was associated with being Hispanic, having household incomes between $50,000 and $74,999, and living in the Midwest census region.
- About 48 percent of rural medical/dental trips took 30 minutes or more, compared to 32.5 percent of urban trips.
- When personal and trip characteristics were accounted for among rural residents, higher travel burden (trips longer than 30 minutes) was associated with older age, male gender, low income (less than $25,000), night travel, and living in the Midwest census region.

Percentage of Medical/Dental Trips that Require 30 Miles or More of Distance



** Appendix 1 includes a subset of the figures included in the policy brief version of this project linked below:*

https://srhrc.tamhsc.edu/docs/travel-burdens-072021.pdf

Conclusion and Implications

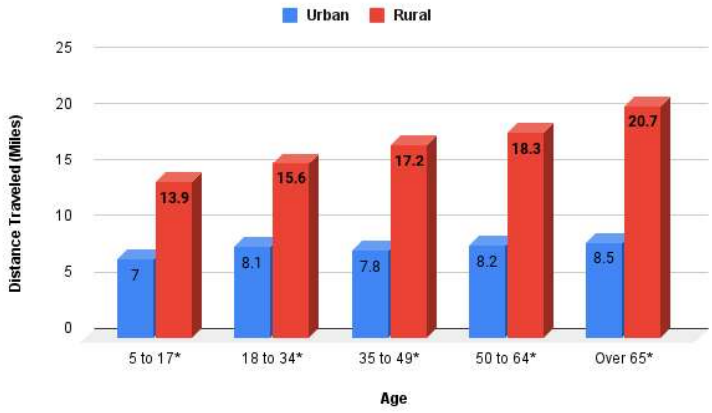
This study has provided a more contemporary view of the actual one-way distance traveled and time spent in travel for medical/dental care and highlighted the individual and trip characteristics associated with a high travel burden among rural residents. These findings show that between 2001 and 2017, not much changed in terms of the discrepancies in the average distance traveled for medical/dental care between rural and urban residents in the U.S. When put in the context of work however, a similar percentage of rural trips for medical/dental care and work were more than 30 miles, suggesting that longer trips are an integral part of rural life. However, among rural residents, Blacks and Hispanics, older residents, those with low incomes, those who seek care between 12:00 a.m. and 6:59 a.m, and who live in the Midwest bear a disproportionate burden of travel for care.

Reasons for these disparities could include lower availability of after-hours providers in rural areas, difficulty finding providers who accept Medicaid, and difficulty in finding providers with Spanish translation services or culturally congruent care. The higher burden experienced among minority groups such as rural Hispanics highlights the need for other interventions such as telehealth, travel discounts, and ridesharing services for medical travel. For these interventions to be successful, however, greater attention should be given to ensuring broadband access in rural areas and ensuring that efforts to expand telehealth include Spanish translation and culturally sensitive care.

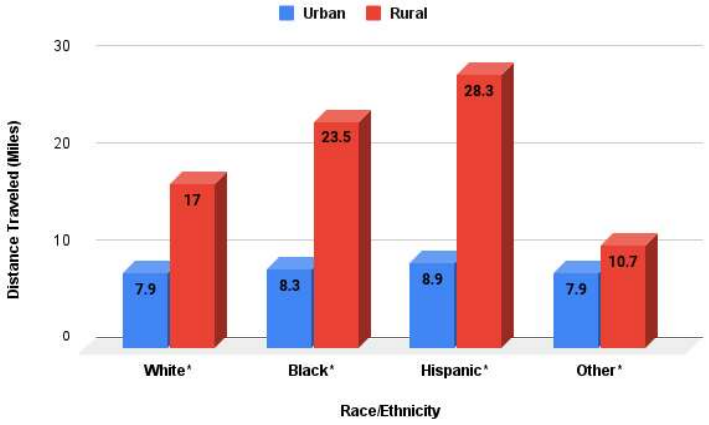
Rural residents were more likely than urban residents to identify the financial burden of travel and the price of gasoline as barriers to travel. This is important because rural residents have fewer opportunities to adapt their travel patterns when gasoline prices rise. Though it was not possible to identify travel for emergency visits in the data, there may be adverse consequences associated with the higher travel distance and time experienced during rural night trips for medical/dental care.

Appendix 1:

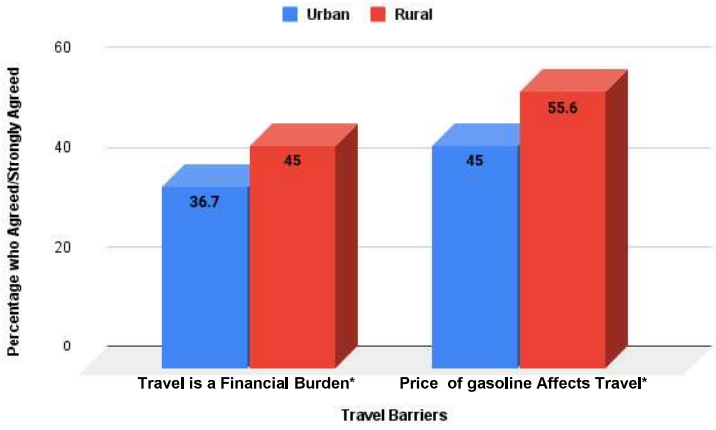
Distance Covered in Travel for Medical/Dental Care by Age and Urban-Rural Residence



Distance Covered in Travel for Medical/Dental Care by Race/Ethnicity and Urban-Rural Residence



Reported Barriers to Travel by Urban-Rural Residence



Note: * indicates statistically significant urban-rural differences

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