

**Mode of Travel and Actual Distance Traveled  
For Medical or Dental Care  
By Rural and Urban Residents**



*At the Heart of Public Health Policy*

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For Medical or Dental Care by Rural and Urban Residents**

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## Executive Summary

### Background and Objectives

The cost and difficulty associated with travel for medical or dental care may serve as a barrier for rural populations. However, nationally representative estimates of the actual travel burden of rural residents, measures of both distance traveled and time spent on the trip, have not previously been available. This study takes advantage of a highly detailed, nationally representative survey of travel conducted by the US Department of Transportation, the 2001 National Household Travel Survey (NHTS). The NHTS asks participants to record each of their trips and its purpose; one purpose was medical/dental care. While this is only a very broad measure of care, the associated travel measures are highly specific. We used this data source, restricting the analysis to households having at least one trip for medical/dental care, to meet the following research objectives:

- Provide a detailed description of travel to care patterns for rural residents, by race.
- Explore the potential for disparities in access associated with rural residence, focusing on the following hypotheses:
  - Rural populations travel further and spend more time traveling for care than do urban populations; distance traveled and time spent in travel is inversely related to population density.
  - Rural minority populations travel further and spend more time traveling for care than do rural white populations.
- Explore the degree to which rural residence may interact with other barriers (e.g., perceived barriers such as traffic congestion and truck traffic) to extend travel times and distances.

### Definition of Rurality

The definition of rurality in the 2001 NHTS data set is derived from a measure developed by Claritas Inc. This measure divides the U.S. into standard-sized grids, and then calculates population density within each grid. Grids falling in the 19<sup>th</sup> percentile or below are classified as “rural.” The Claritas methodology distinguishes among varying types of urban areas based on population gradients between grids at the 20<sup>th</sup> through 99<sup>th</sup> percentile; all urban grids are classified as “urban” in this report.

### Key Findings

#### National travel patterns for medical/dental care:

- Americans made an estimated 5.9 **billion** trips for medical/dental care in 2001.
- Nearly all trips were made in a personal vehicle, a car (59.5%), van (15.4%), SUV (10.7%) or pickup truck.
- Only 2.73% of travelers used public transportation for care, while 2.73% walked and 0.73% fell into an “other” category.
  - African Americans (16.5%) and Hispanics (24.0%) were markedly more likely than whites (3.6%) to report traveling for care by public transportation or walking.
- About a quarter of travelers reported that the price of gasoline, rough pavement, or highway congestion were “very much” or “severe” problems for them.

- More rural (27.5%) than urban (21.4%) residents were concerned about the price of gasoline.

Average distance and time for medical/dental travel:

- Across the whole US, the average distance traveled for medical/dental care was 10.2 miles.
  - Rural trips averaged 17.5 miles, versus 8.3 miles for urban residents. Mean distance traveled did not differ by race.
- Nationwide, the average trip for medical/dental care took 22.0 minutes.
  - Rural trips averaged 27.2 minutes, versus 20.7 minutes for urban residents.
  - African Americans spent considerably more in travel time than whites (29.1 versus 20.6 minutes); other minorities did not differ from whites.
  - Travel time was inversely related to income, with families earning less than \$20,000 per year traveling an average of 24.8 minutes, versus 19.0 minutes among those earning \$70,000 per year or more.

**High Travel Burden**

We looked specifically at high travel burden, defined as trips that were over 30 miles in distance or greater than 30 minutes in time required. The purpose was to identify populations among which travel for care was particularly demanding.

*More than 30 miles:*

- Nationally, 7.9% of persons traveling for medical/dental care traveled 30 miles or more.
- Four times as many rural residents than urban residents traveled 30 miles or more for care (21.4% versus 4.5%).
- The proportion of persons traveling more than 30 miles for care did not vary across race/ethnicity.
- Rural residents remained more likely to report traveling more than 30 miles for care even when characteristics of the traveler, the trip itself, and the surrounding community were held constant in multivariate analysis (OR 2.67, CI 1.39-5.15).

*More than 30 minutes:*

- Nationally, 28.5% of trips for medical/dental care took 30 minutes or more. A higher proportion of rural (41.3%) than urban (25.3%) residents spent more than 30 minutes in travel.
- Overall, patterns of travel for work were similar to those for travel to care. A higher proportion of rural than urban residents took 30 minutes or longer to travel to work (32.2% versus 30.5%;  $p < 0.0001$ ).
- In multivariate analysis, rural residents remained more likely to travel more than 30 minutes for care (OR 1.80, CI 1.09-2.99).
- African Americans (OR 3.04, CI 2.00-4.62) and persons of “other” race (OR 1.64, 1.07-2.51) were markedly more likely than whites to have trips for care that required more than 30 minutes of travel.

- Persons relying on public transportation, walking or other modes were more likely than persons traveling in a personal vehicle to spend more than 30 minutes traveling for care (OR 2.22, CI 1.42-3.46).

### **Conclusions and Implications**

It is hardly surprising to find that rural residents travel further and spend more time in travel for medical/dental care than do persons in urban communities. The principal contribution of the research reported here is to quantify the magnitude of rural-urban differences using a nationally representative sample of travelers, and to identify specific populations most likely to experience a significant travel burden.

Long travel distances and times appear to be a consistent element of rural life, as similar patterns were found for travel for medical/dental care and travel to the workplace. However, disparities in travel for care experienced by African Americans were markedly higher than differences in travel to work, suggesting that this population has particular difficulty finding convenient health care providers. It may also be that minority patients elect to undertake relatively long trips in order to visit providers who have demonstrated cultural sensitivity as well as providers who accept Medicaid. If supported by future research, our findings about travel patterns for minority persons suggest that transportation may be a contributor to health disparities

Rural populations, more likely to perceive the price of gas as a problem, are likely to be particularly affected by current gasoline prices, which are now twice as high as in 2001, when the NHTS was conducted. The most common methods used to overcome transportation barriers in rural areas, mobile clinics and provision of transportation for low-income patients, are also likely to be adversely affected by gasoline price changes.