

Brief Report

Trips to medical care among persons with disabilities: Evidence from the 2009 National Household Travel Survey

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Abstract

Background: Persons with disabilities experience multiple barriers to obtaining necessary medical care. Problems with access to transportation and provider choice could lead to longer travel distances and longer travel times to medical appointments.

Objective/hypothesis: 1) Persons with disabilities travel further distances to receive necessary care, holding other variables constant. 2) Travel to medical appointments takes a longer amount of time for persons with disabilities, controlling for distance, mode of transportation and other factors. 3) Disability is the key factor influencing access to transportation options, holding other variables constant.

Methods: The 2009 National Household Travel Survey (NHTS) is used to examine travel patterns of persons with disabilities as they access medical care. Logistic regressions are run on distance to medical appointments, time taken for travel to medical appointments, and access to private vehicle.

Results: There is no difference in the distance traveled, but trips to medical care by persons with disabilities take longer amounts of time than trips taken by persons without disabilities, holding other variables constant. Access to private transportation is similar for both persons with and without disabilities.

Conclusions: Persons with disabilities experience longer travel times to receive medical care, despite traveling similar distances and having similar access to private vehicles. © 2016 Elsevier Inc. All rights reserved.

Keywords: Disability; Transportation; Access to health care

In the United States, persons with disabilities experience multiple barriers to obtaining necessary medical care. Identifying appropriate health care providers who are familiar with disability, offer services in an accessible way, demonstrate clear communication and are covered by available insurance are common concerns.^{1,2} Such obstacles might limit provider choice to such an extent that persons with disabilities must consider a larger geographic area when choosing providers. This can be problematic as transportation has frequently been identified as a barrier for persons with disabilities who are seeking necessary health care.^{3–6} Legislative and programmatic responses have made public transportation more accessible to persons with disabilities in recent years, yet transportation barriers remain.^{7,8,9}

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Access to transportation, including public transit and other options, can be influenced by factors that often co-occur for persons with disabilities, such as poverty¹⁰ and rural geography.¹¹ As the interplay of these factors makes it difficult to tease out the specific effect that disability has on travel patterns and access to transportation, this paper will apply multivariate techniques to national level household survey data to examine travel patterns and access to transportation for persons with disabilities who are accessing medical care.

Persons with disabilities struggle to find physicians who are knowledgeable about their disabilities, particularly in rural areas, and the high rates of public health insurance coverage common among persons with disabilities may limit choice of providers.² All of the aforementioned factors may necessitate traveling further distances to receive care. In addition, disability is more common in rural areas, areas where it is common to travel greater distances to obtain care.¹² This leads to our first hypothesis: 1) Persons with disabilities have to travel further distances to receive necessary care, holding other variables constant.

On a related note, barriers to transportation may also lengthen the amount of travel time required to access

medical care. Other research has confirmed that even though overall health outcomes are poorer for persons with disabilities, persons with disabilities spend more time on health-related activities than persons without disabilities.¹³ For the general population, travel time to providers is a more meaningful measure of health care access than traditional proxies such as rural-urban residence or providers per capita.¹⁴ We will thus test a second hypothesis: 2) Travel to medical appointments takes a longer amount of time for persons with disabilities, controlling for distance and other factors.

Access to certain modes of transportation is likely to influence travel patterns. Public transit only accounts for a small piece of the transportation puzzle, as the U.S. is a highly automobile dependent country.¹⁵ Furthermore, for the general population, walking or using public transportation to receive medical care is associated with not having a usual source of care and with delays in receiving care.¹⁶ We will thus test a final hypothesis: 3) Disability is the key factor influencing access to transportation options, holding economic and other variables constant.

Methods

Data

The National Household Travel Survey (NHTS), a nationally representative household survey that collects great detail about travel patterns among U.S. households, was most recently administered in 2009.¹⁷ The survey tracks detailed information about all trips that occur during an assigned day of the week, including weekends. While the full 2009 sample included information about 1,167,321 trips that were taken by 270,760 people ages 16 and older, we restricted the sample to only include trips that occurred to receive medical care, among persons age 18 and older. We also removed trips that had no documented mode of travel as well as any outliers. Our final unweighted analytic sample included 20,941 trips taken by 18,539 people.

Measures

Medical trips

The NHTS captures information about trip purpose for each trip. Respondents may indicate that travel occurred for “medical or dental care.” We considered such trips as those occurring within a more broadly defined category of “medical care.”

Travel limiting medical condition

The NHTS currently does not gather detailed data on disability per se but does identify persons who have a medical condition which limits their ability to travel. The survey includes a question that asks whether the respondent has a temporary or permanent condition or handicap that

makes it difficult to travel outside the home. Approximately 11 percent of respondents answered “Yes” to this question in 2009. For purposes of assessing our hypotheses, we consider this answer as positive disability status.

Long trip distance

Mileage was estimated based on self-report, although the NHTS makes certain adjustments to clean up self-reported mileage information. Overall, the mean distance for trips to medical care was slightly over nine miles. Miles was a highly skewed variable, however, with most trips shorter than 20 miles (32.2 km). Other researchers who have used the NHTS have addressed this skewed data by creating a categorical variable.^{18–20} For our analyses, we recoded this variable into a long trip distance variable, assigning a value of one for trips that ranged roughly in the top 25th percentile of all trips. This included trips of 11 or more miles (17.7 or more km). A value of zero was assigned to trips of shorter lengths.^a

Long travel time

In the data set, starting and ending times of trips were recorded using military time. These values were used to derive the length of the trip in minutes. Similar to miles traveled, length of travel time was skewed. Average travel time to medical care was approximately 20 min. Whereas others have used a cut-off of 30 min as a measure of high travel burden,²¹ we recoded this variable into a long travel time variable by assigning a value of one to trips that had travel times falling roughly in the top 25th percentile in terms of travel time.^b This included trips of 26 or more minutes.

Transportation

As we were interested in exploring differences among specific modes of transportation, we included variables for each type of transportation in our first two sets of regressions with private vehicles as the reference group. Separate variables indicated bus/train, special transit for persons with disabilities, bike/walk, taxi, and other. We created a binary private motorized vehicle variable to identify trips that occurred by car, van, sport utility vehicle, pick-up truck, other trucks, recreational vehicle, motorcycle, or light electric vehicle.^c

^a We tested the sensitivity of this long trip distance cut-off when conducting our regression analyses. Results obtained using a cut-off of the top ten percent of all trips did not change the significance level of our focal variable for any of the regressions. Results are available from the authors.

^b We tested the sensitivity of this long travel time cut-off when conducting our regression analyses. Results obtained using a cut-off of the top ten percent of all trips changed the significance level of our focal variable for one of the three regressions. Results are available from the authors.

^c Bicycle and walking are not considered transit or private motor vehicle.

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