

Disability Statistics Abstract

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Wheelchair Use in the United States

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An estimated 1.6 million Americans residing outside of institutions use wheelchairs, according to 1994–95 data from the National Health Interview Survey on Disability (NHIS-D).¹ Most (1.5 million) use manual devices, with only 155,000 people using electric wheelchairs.² Wheelchair users are among the most visible members of the disability community, experiencing among the highest levels of activity limitation and functional limitation and among the lowest levels of employment.

Age and gender

The proportion of the population using wheelchairs increases sharply with age (see Table 1). Very few children (88,000, or 0.1 percent of the population under 18 years of age) use wheelchairs. Among working-age adults, the rate of wheelchair use is substantially higher, at 0.4 percent of that population, or about 600,000

Table 1.
Wheelchair use, by age and gender

	Any wheelchair		Manual wheelchair		Electric wheelchair	
	Number (1000s)	% of population	Number (1000s)	% of population	Number (1000s)	% of population
Total	1,599	0.61	1,503	0.58	155	0.06
Age						
Under 18	88	0.12	79	0.11	18	0.02
18–64	614	0.39	560	0.35	90	0.06
65+	897	2.87	864	2.76	47	0.15
Gender						
Male	658	0.52	606	0.48	84	0.07
Female	941	0.70	897	0.67	71	0.05

people. By far the highest rates are found among the elderly population: 2.9 percent of those aged 65 or older use wheelchairs, or about 900,000 people.

Elderly people are the group with the highest rates of both manual and electric wheelchair use. But although a majority (57.5 percent) of manual wheelchair users are elderly, more than two-thirds (69.7 percent) of electric wheelchair users are non-elderly.

Women comprise a significant majority (58.8 percent) of wheelchair users, with 0.7 percent of the female population using a manual or electric wheelchair, compared to 0.5 percent of males. Much of the difference in rates is explained

by the greater average longevity of women, coupled with the much higher rates of mobility device use among the elderly.

Race and ethnicity

Whites and African Americans have similar rates of wheelchair use (both about 0.6 percent; see Figure 1). Asians and Pacific Islanders are significantly less likely to use wheelchairs (0.4 percent of that population). The rate of wheelchair use by Native Americans appears to be high at 0.8 percent, but the difference between that rate and the rate for whites is not statistically significant. People of Hispanic origin are significantly less likely to use

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wheelchairs than non-Hispanics (0.4 vs. 0.6 percent).

Socioeconomic status

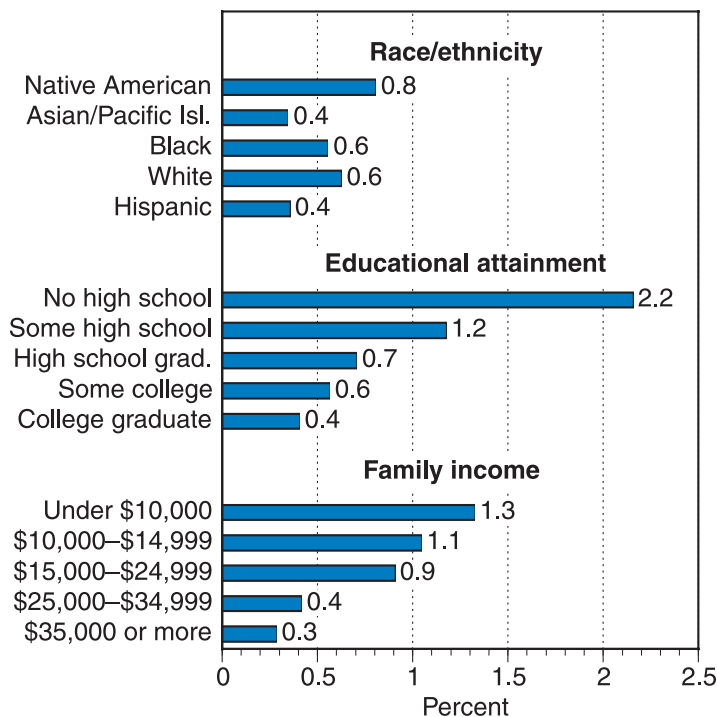
Rates of wheelchair use vary greatly by educational attainment (Figure 1). Adults without a high school education are more than 5 times as likely as college graduates to use a wheelchair (2.2 vs. 0.4 percent). Overall, educational attainment among wheelchair users tends to be low: Only 11.2 percent of adult wheelchair users have graduated from college, compared to 21.6 percent of the general adult population. Among working-age adults, 13.7 percent of wheelchair users are college graduates, compared to 23.2 percent of the overall working-age population.

Low levels of educational attainment and low employment rates (see below) combine to create a bleak economic picture for many wheelchair users, one-fifth (19.1 percent) of whom live in poverty. As shown in Figure 1, wheelchair use decreases by nearly a factor of 5 between persons with family income less than \$10,000 (1.3 percent of whom are wheelchair users) and those with family income greater than \$35,000 (0.3 percent).

Employment

Just over one-sixth (17.4 percent) of working-age wheelchair users have jobs, or 107,000 people aged 18–64. An additional 2.9 percent (18,000 people) are unemployed, meaning that they are either looking for work or on lay-off. The remaining 79.6 percent (489,000) are not in the labor force. The unemployment rate—the proportion of labor force participants who are not working—is quite high for wheelchair users: 14.4 percent, compared to 4.3 percent for the working-age popu-

Figure 1.
Proportion of population using wheelchairs, by race/ethnicity, educational attainment, and family income



Note: Statistics on educational attainment are for adults (18 and over) only.

lation as a whole (see the report cited in Note 1.).

Activity and functional limitation

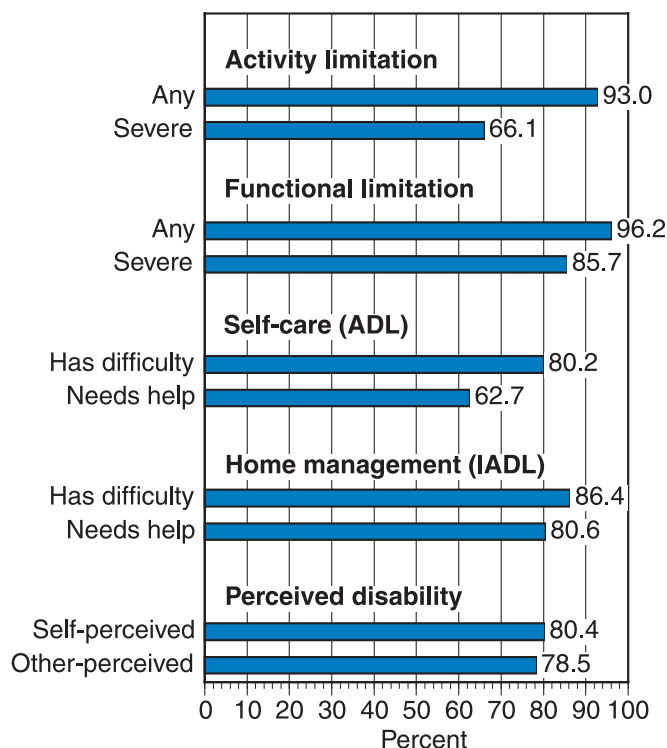
Wheelchair users report very high levels of activity limitation, functional limitation, difficulty in basic life activities, and perceived disability (Figure 2).

Activity limitation, a traditional definition of disability, is measured by first identifying the person's major life activity—an age-appropriate activity such as attending school, working, doing housework, or performing basic self-care and home-management tasks. Respondents are asked about limitations in the major activity, and then about any other activities in which they might be limited "in any way . . . due to a health problem or impairment."

An overwhelming majority (93.0 percent) of wheelchair users report some form of activity limitation. For two-thirds (66.1 percent), the limitation is severe enough to render them unable to perform their major activity.

Functional limitation provides another common definition of disability. Adult respondents to the NHIS-D are asked about a set of eight mobility-related physical functions: lifting a ten-pound object, climbing a flight of stairs without resting, walking one-quarter mile, standing for 20 minutes, bending down from a standing position, reaching up or out, grasping or handling objects with the fingers, and holding a pen or pencil. Nearly all wheelchair users (96.2 percent) report limitations in one or more of these

Figure 2.
Activity limitation, functional limitation, basic life activities,
and perceived disability status among wheelchair users



Note: Functional and IADL limitations are tabulated only for adults 18 and over, and ADL limitation is tabulated only for persons 5 years of age or older.

functions, and more than four-fifths (85.7 percent) are unable to perform one or more of them. Looked at another way, only 14.3 percent of wheelchair users are able to perform all of the eight mobility-related functions listed above. More than three-quarters (78.5 percent) are unable to walk a quarter of a mile, and inabilities in climbing, standing, and bending are each reported more than half the time (63.7, 61.0, and 55.4 percent, respectively).

Self-care and home management

Limitations in self-care and home-management activities are commonly used to measure disability severity, particularly for the purposes of disability benefit programs. People needing the assis-

tance of others in performing these activities are often regarded as having severe disabilities.

A set of six self-care activities (Activities of Daily Living, or ADL) are asked about in the NHIS-D of all persons aged 5 and above: bathing, dressing, eating, getting in or out of bed or chairs (transferring), using the toilet, and getting around inside the home. Four-fifths (80.2 percent) of wheelchair users report some degree of difficulty in at least one ADL (see Figure 2). More than three-fifths (62.7 percent) need assistance in performing at least one ADL. Bathing is the activity most likely to present problems, with 72.0 percent limited in this activity. A majority of wheelchair users are limited in dressing (54.6

percent), transferring (55.4 percent), toileting (52.6 percent), and getting around inside the home (59.6 percent).

The Instrumental Activities of Daily Living (IADL) are a set of everyday activities associated with managing a home. The NHIS-D asks about these IADLs for persons aged 18 or over: preparing meals, shopping, managing money, using the telephone, doing heavy housework, and doing light housework. Four-fifths (80.6 percent) of wheelchair users need assistance in at least one IADL; 86.4 percent have difficulty. Heavy housework is the most problematic: 85.1 percent are limited to some degree and 76.0 percent need help performing this activity. Limitations in shopping and light housework are reported by about two-thirds of wheelchair users (69.4 and 65.4 percent, respectively), and a substantial majority need help in these activities (63.6 and 58.4 percent). A limitation in preparing meals is also reported by a majority of wheelchair users (56.3 percent); half (49.3 percent) need help in this activity.

Perceived disability

A final way of measuring disability is through self-perception. Respondents to the NHIS-D are asked whether they consider themselves as having a disability. They are also asked whether others regard them as having a disability. About four-fifths of wheelchair users responded affirmatively to each question (80.4 percent self-perceived and 78.5 percent other-perceived). Some 85.0 percent have either a self- or other-perceived disability. Because wheelchairs often serve as a symbol of the concept of disability, it is not surprising that so high a proportion of wheelchair users have perceived disabilities.

Conditions causing disability

Table 2 lists the top-ranked health conditions and impairments causing disability³ among wheelchair users. Cerebrovascular disease (likely to be reported as “stroke”), which affects 180,000 wheelchair/scooter users, and osteoarthritis, affecting 170,000 persons, are the two most prevalent primary conditions. Although these conditions are commonly associated with aging, other highly prevalent conditions are not: multiple sclerosis (82,000 persons), absence or loss of lower extremity (60,000), paraplegia (59,000), and orthopedic impairments of lower extremity (59,000).

Notes

¹ A description of the NHIS-D and of the methods used in this analysis can be found in the report on which this abstract is based: Kaye, H.S., Kang, T., and LaPlante, M.P. 2000. Mobility Device Use in the United States. *Disability Statistics Report* 14. Washington, DC: U.S. Department of Education, National Institute on Disability and Rehabilitation Research.

² There are also an estimated 142,000 scooter users, for a total of 1.7 million users of wheelchairs or scooters. For more information on scooter usage, see the report cited in Note 1.

³ Conditions listed are those identified in the NHIS-D as the primary cause of mobility limitation (for adults) or activity limitation (for children and those few adults without known causes of mobility limitation).

Table 2.
Leading conditions associated with wheelchair/scooter use

Condition	Persons (1000s)	% of device users
1 Stroke (cerebrovascular disease)	180	11.1
2 Osteoarthritis	170	10.4
3 Multiple sclerosis	82	5.0
4 Absence or loss of lower extremity	60	3.7
5 Paraplegia	59	3.6
6 Orthopedic impairment of lower extremity	59	3.6
7 Heart disease (type unspecified)	54	3.3
8 Cerebral palsy	51	3.1
9 Rheumatoid arthritis	49	3.0
10 Diabetes	39	2.4

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