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Subgroup Differences in Having a Usual Source of Healthcare among Working-Age Adults with and without Disabilities

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Abstract

Background: Having a usual source of healthcare is positively associated with regular health maintenance visits and receipt of preventive services. People with disabilities are, overall, more likely than those without disabilities to have a usual source of care (USC). However, the population of people with disabilities is quite heterogeneous, and some segments of the population may have less access to a USC than others.

Objective: To determine whether there are significant subgroup differences in having a USC within the U.S. population of working-age adults with disabilities, and to compare adults with and without disabilities while controlling for other subgroup differences.

Methods: We analyzed Medical Expenditure Panel Survey annual data files from 2002-2008. We performed both bivariate and multivariate logistic regression analyses to examine the relationship of sociodemographic and disability subgroup variables with having a USC.

Results: Within the disability population, individuals who were younger; male; Black, Hispanic, or other (non-White) race; less educated; of lower income; or uninsured for part or all of the year were significantly less likely to have a USC. These differences mirrored those among adults without disabilities. When controlling for these differences, people with physical, hearing, or multiple disabilities had greater odds of having a USC than people without disabilities, but those with vision or cognitive limitations did not differ significantly from the non-disabled referent group.

Conclusions: Disparities among people with and without disabilities are similar, underscoring the need for attention to disparities within the disability population.

Introduction

Having a usual source of healthcare is positively associated with regular health maintenance visits and receipt of preventive services.[1-4] In contrast, individuals without a usual source of care (USC) are more likely to have unmet healthcare needs.[5] Unmet healthcare needs are of particular concern for people with disabilities, given their "thinner margin of health" and the potential for untreated health problems to lead to major complications.[6,7]

Overall, people with disabilities are more likely than those without disabilities to have a USC.[8-11] However, the population of people with disabilities is quite heterogeneous, and not all segments of the population necessarily have equal access to a USC. For example, there is evidence of differences related to type of disability and presence of a complex activity limitation.[8,12] In the general population, having a USC is associated with income, insurance, race, and ethnicity.[5, 13-15] Similar disparities may exist among people with disabilities, yet there has been little examination of such disparities. Understanding which segments of the disability population are most likely to lack a USC is important for informing healthcare reform efforts and interventions to reach underserved groups whose health may be particularly vulnerable.

The purpose of the present study was to: 1) identify significant subgroup differences in having a USC within the U.S. population of working-age adults with disabilities; and 2) re-examine comparisons between people with and without disabilities when considering other subgroup differences. We were interested in whether the same kinds of disparities seen in the general population are present for people with disabilities, and how controlling for these disparities might affect differences between people with and without disabilities.

Methods

Data Source

We created our analytic file by pooling Medical Expenditure Panel Survey Household Component (MEPS-HC) annual data files from 2002-2008. The MEPS is conducted by the Agency for Healthcare Research and Quality to gather nationally representative data on healthcare use and expenditures. Data are collected via in-person interviews with households selected from a subsample of respondents to the previous year's National Health Interview Survey (NHIS), administered by the National Center for Health Statistics.[16] Each sample, called a panel, is followed through five interview rounds covering two calendar years.[16,17]

Sample

We limited our analyses to working-age adults (ages 18-64 years) because healthcare access changes substantially for adults age 65 and older, most of whom are covered by Medicare. Of the 228,365 individuals included in the MEPS for the years 2002 through 2008 there were 133,368 aged 18-64. From this sample 131,799 had no missing data regarding USC. We then excluded observations with missing data on any items related to basic action difficulties (n=571), which we used to identify people with disabilities as described under Measures. Because we created mutually exclusive disability type categories (described below), data were required for each of the basic actions categories. We also excluded individuals with missing data for covariates described below (n=2,095). The final analytic sample of 129,133 included 25,698 people with disabilities and 103,435 with no disability.

Measures

Dependent variable. Our dependent variable was whether individuals had a USC (yes/no). A follow-up question asked those who answered yes to specify their source of care. If

the emergency department was the usual source of care, respondents were recoded as having no USC.

Independent Variables. We examined differences related to disability status and type, presence of complex activity limitation, age, gender, race/ethnicity, urban/rural residence, socioeconomic status (education, income), and health insurance. Disability was coded based on basic action difficulties, which are limitations in movement, sensory, cognitive, or emotional functioning.[8] However, MEPS data only include questions about difficulties with movement, sensory, and cognitive functions, thus we did not include limitations in emotional functioning. We categorized people with any reported degree of difficulty as having a disability. Those who reported no limitations were categorized as having no disability. Disability type was categorized as no disability (reference group), hearing limitation only, vision limitation only, cognitive limitations only, physical limitations only, or more than one type. Complex activity limitation could occur within any group in the disability type variable. Its presence (yes/no) was indicated by need for assistance with activities of daily living or instrumental activities of daily living or by limitations in work, social, or recreational activities.[8]

Age was coded in the following categories: 18-29 years (reference category), 30-39 years, 40-49 years, 50-59 years, 60-64 years. This grouping ensured ample sample size in each category while allowing observation of potential non-linear age effects. For gender, males served as the reference group. Race/ethnicity categories included non-Hispanic White (reference); non-Hispanic Black; non-Hispanic other races (including American Indian/Alaska Native, Asian/Native Hawaiian/other Pacific Islander, and people of multiple races); and Hispanic of any race. We used residence in a Metropolitan Statistical Area (MSA [yes/no]) as an indicator of urban versus rural location. Education categories were Bachelor's degree or higher (reference),

other degree, high school diploma or General Education Development (GED), no high school diploma or GED. Income was analyzed as a percent of federal poverty level: ≥ 400% (reference), 200 to <400%, 125 to <200%, 100 to <125%, and <100%. Health insurance status and type of insurance were coded in groups used previously by Gulley and colleagues[18]: insured all year and all or part of that year was private insurance (reference), publicly insured all year, uninsured part of the year, uninsured all year.

Analyses

We performed bivariate logistic regression analyses to individually examine the relationship between each independent variable and having a USC. With the exception of the analysis for disability status/type, all bivariate analyses were stratified by presence of disability to separately examine patterns for people with and without disabilities. We then conducted a multivariate logistic regression analysis for people with and without disabilities combined to assess the effect of each independent variable while adjusting for all other variables. Statistical analyses were conducted using Stata 12.1 to account for the complex survey design of the MEPS. Our analyses used Taylor series linearization for variance estimation. We set a p-value of <0.05 as our cutoff for statistical significance.

Results

Overall, 73.3% of the sample population had a USC. The proportion of people with disabilities with a USC was 81.5%, while 71.4% of people without disabilities had a USC. Demographic and insurance characteristics of people with and without disabilities are shown in Table 1. As noted, complex activity limitation could occur for people with any type of disability. It was most common among people with physical disabilities (50.8% of whom had a complex activity limitation), cognitive limitations (51.7%) and more than one type of limitation (72.0%).

Relatively few individuals with hearing (5.2%) or vision limitations (6.3%) had a complex activity limitation. Additionally, a small proportion (2.4%) of people without disabilities (defined as basic action difficulties) reported a complex activity limitation.

There were several statistically significant differences in bivariate (unadjusted) regression analyses. Compared to people without disabilities, people with most types of disabilities were significantly more likely to have a USC. In particular, those with physical limitations only (OR=2.11, 95% CI: 1.94, 2.29) or with more than one type of limitation (OR=2.19, 95% CI: 2.01, 2.38) had more than twice the odds of having a USC. People with hearing limitations (OR=1.71, 95% CI: 1.52, 1.92) or cognitive limitations (OR=1.27, 95% CI: 1.11, 1.47) also had significantly greater odds of having a USC. The exception was people with vision limitations (OR=1.10, 95% CI: 0.99, 1.21), who did not differ significantly from the reference group of people without disabilities.

Among people with disabilities (Table 2), those with complex activity limitations were more likely to have a USC than people without complex limitations. As age increased, the odds of having a USC increased. Women were more likely than men to have a USC. The odds of having a USC were significantly lower among Blacks, Hispanics, and other races when compared to Whites. Lower educational attainment and lower family income both were associated with lower odds of having a USC. People who were uninsured for part or all of the year were much less likely to have a USC. For people without disabilities, identical patterns were observed with one exception: residence outside an MSA was associated with increased odds of having a USC, whereas this effect was not significant among people with disabilities (Table 2).

In the multivariable model for people with and without disabilities (Table 3), patterns of significance were consistent with those seen in the bivariate models, with the following

exceptions. First, people with cognitive limitations no longer differed significantly from the reference group of people without disabilities. Second, the education effect was reversed such that people with less education were slightly more likely to have a USC than the college-educated reference group. Third, those who were publicly insured all year had significantly higher odds of having a USC compared to those who were also insured all year but some portion of that was private insurance.

Discussion

Our analyses confirmed previous findings[8-11] that adults with disabilities are generally more likely to have a USC than adults without disabilities. However, we found substantial variations within the disability population. The odds of having a USC were no different for individuals with vision limitations than for those with no disability, either in crude or adjusted models. In the adjusted model, people with cognitive limitations also did not differ significantly from people without disabilities. In other words, differences between people with cognitive disabilities and those without disabilities appear to be attributable to age, race, gender, socioeconomic status, insurance, and/or presence of complex activity limitation. Regardless of disability type, people with complex activity limitations had greater odds of having a USC than those without a complex activity limitation. Blacks, individuals in other non-White racial groups, and Hispanics had lower odds of having a USC compared to Whites. Odds of having a USC were also lower among those who were younger, male, less educated, poorer, or uninsured some or all of the year.

Subgroup variations in having a USC within the population of people with disabilities were very similar to those among people without disabilities. People with disabilities are often treated as a monolithic population, with little attention to disparities along dimensions other than

disability. Yet racial, socioeconomic, and other disparities impact people with disabilities as well as those without disabilities. Examining differences between subgroups of people with disabilities provides important detail about where interventions are most needed in order for our healthcare system to better serve people who may have the poorest access to care. Identification of differences also serves as an initial step in efforts to understand why those differences exist.

In the general population, the most common reason given for not having a USC is that respondents rarely or never get sick.[5] People with disabilities who are younger, male, or have vision limitations may feel less need for a USC compared to other people with disabilities because they are generally healthier. Indeed, a recent study found that people with vision limitations were among the healthiest within the disability population.[19] Conversely, people with multiple types of disabilities had the highest prevalence of health problems.[19] Similarly, people with complex activity limitations tend to have greater healthcare needs than those without complex activity limitations.[20] It is encouraging that groups with the greatest healthcare needs also have the highest odds of having a USC for addressing those needs. In the absence of a USC, these subgroups of people with disabilities would probably be at particularly high risk of unmet healthcare needs leading to serious health problems and overall deterioration of health.[6,7,20]

High cost of medical care is the second most common reason respondents give for not having a USC.[5] It is therefore not surprising that both people with and without disabilities who are poorer or lack insurance are less likely to have a USC. Public Law 111-148, the Patient Protection and Affordable Care Act (ACA), includes provisions to expand public insurance and prevent private insurers from refusing to cover individuals with disabilities. These changes will reduce the extent to which lack of insurance is a barrier to having a USC, and should help address cost issues. However, people with disabilities who are less educated may have greater

difficulty understanding and taking advantage of these changes.[21] Thus, targeted outreach and education efforts may be especially important.

Racial and ethnic disparities within the disability population mirror those seen in the general population and may be related to barriers associated with language, immigrant and citizenship status, previous experiences of discrimination or poor quality care, or mistrust of the medical system.[22-26] Ongoing work is needed to improve cultural competency of the healthcare system and reduce such barriers.[27] It is important that cultural competency efforts not only address racial and ethnic competency but also be relevant to and inclusive of people with disabilities. In fact, Section 5307 of the ACA introduces improvements in cultural competency training for healthcare providers to better meet the needs of people with disabilities.

Limitations and Future Directions

Our analyses were limited to data in MEPS, which did not assess emotional function. A small proportion of people with no basic action limitations reported complex activity limitation; this subgroup may include individuals with difficulties in emotional function. Others in this group may have restrictions unrelated to their own conditions, as in the case of a mother who said she could not work because she was caring for her child with a disability (B. Altman, personal communication, March 25, 2011). The NHIS includes variables on emotional function and can be linked to the MEPS. Future studies with linked data could clarify the emotional functioning of people with complex activity limitations who were identified as non-disabled in our sample, and could explore disparities in having a USC for people with limitations in emotional functioning. The latter analysis is of particular interest given an emerging emphasis on integration of physical and mental health services. Having a USC was treated as an outcome in the present study, but is also a predictor of receipt of needed healthcare services.[1-5] Subsequent

studies should examine whether the health impacts of lacking a USC are greater for people with disabilities than for people without disabilities. This might well be the case given the greater susceptibility of people with disabilities to health threats.[6]

Conclusion

We found subgroup disparities among adults with disabilities that are very similar to those in the non-disabled population. These results refute assumptions that all people with disabilities have a USC and underscore the need for attention to disparities within the disability population. Ensuring access to a USC for people in underserved groups who also have disabilities is especially important due to the thinner margin of health experienced by people with disabilities[6] and the potentially greater consequences of not receiving timely care.[7] Interventions to increase USC access should address unique concerns of people with disabilities, including physical and communication accessibility and need for disability-competent clinicians.

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Table 1: Characteristics of adults age 18-64 in the Medical Expenditure Panel Survey Household Component 2002-2008 (n=129,133)

	People With Disabilities	People Without Disabilities	Total
		N (weighted %)	
Disability type			
Hearing limitations only	3,145 (14.7)	N/A	3,145 (2.9)
Vision limitations only	3,805 (15.4)	N/A	3,805 (3.0)
Cognitive limitations only	8,927 (34.8)	N/A	8,927 (6.8)
Physical limitations only	1,899 (6.8)	N/A	1,899 (1.3)
More than one type	7,922 (28.3)	N/A	7,922 (5.5)
Complex activity limitation			
No	13,459 (56.7)	100,782 (97.6)	114,241 (89.6)
Yes	12,239 (43.3)	2,653 (2.4)	14,892 (10.4)
Age (years)			
18-29	3,008 (12.4)	30,801 (29.5)	33,809 (26.1)
30-39	3,607 (13.4)	25,671 (23.6)	29,278 (21.6)
40-49	6,779 (26.3)	24,116 (23.4)	30,895 (23.9)
50-59	8,549 (33.1)	17,379 (17.6)	25,928 (20.6)
60-64	3,755 (14.8)	5,468 (5.9)	9,223 (7.7)
Sex			
Male	10,997 (46.9)	49,046 (49.8)	60,043 (49.3)
Female	14,701 (53.1)	54,389 (50.2)	69,090 (50.7)
Race and ethnicity *			
White	15,430 (72.6)	51,801 (66.2)	67,231 (67.4)
Black	4,464 (12.2)	15,526 (11.6)	19,990 (11.7)
Other races †	4,294 (9.5)	28,624 (15.2)	32,918 (14.1)
Hispanic	1,510 (5.7)	7,484 (7.0)	8,994 (6.8)
Resides in a MSA ‡			
MSA	19,794 (79.7)	86,515 (84.4)	106,309 (83.5)
Non-MSA	5,904 (20.3)	16,920 (15.6)	22,824 (16.5)
Education			
≥Bachelor's	3,883 (19.0)	22,744 (28.1)	26,627 (26.3)
Other degree	2,003 (8.8)	7,235 (8.1)	9,238 (8.2)
GED or HS §	13,646 (55.4)	49,062 (48.4)	62,708 (49.8)
No GED or HS	6,166 (16.8)	24,394 (15.4)	30,560 (15.7)
Income ‖			
≥400%	6,749 (34.5)	35,815 (44.8)	42,564 (42.8)
200 to <400%	6,964 (29.3)	31,719 (31.6)	38,683 (31.1)
125 to <200%	4,069 (13.6)	15,922 (11.4)	19,991 (11.8)

100 to <125%	1,590 (4.7)	5,342 (3.2)	6,932 (3.5)
<100%	6,326 (17.9)	14,637 (9.1)	20,963 (10.8)
Health insurance status			
Insured all year (any private)	11,879 (54.8)	59,291 (66.5)	71,170 (64.2)
Publicly insured all year	6,270 (18.1)	7,575 (4.9)	13,845 (7.5)
Uninsured part of the year	3,048 (11.5)	13,194 (11.6)	16,242 (11.6)
Uninsured all year	4,501 (15.5)	23,375 (17.0)	27,876 (16.7)
Total	25,698 (19.6)	103,435 (80.4)	129,133 (100)

* Except "Hispanic" all race categories are non-Hispanic

† Includes American Indian or Alaska Native; Asian, Native Hawaiian or Pacific Islander; and Multiple Races

‡ Metropolitan Statistical Area (MSA)

§ General Educational Development (GED) or high school diploma (HS)

|| Family income as percent (%) of the Federal Poverty Line

Table 2: Crude odds of having a usual source of health care among adults age 18-64 years

	People With Disabilities n=25,698			People Without Disabilities n=103,435		
	OR	95% CI	p	OR	95% CI	p
Complex activity limitation						
No	Ref.	-	-	Ref.	-	-
Yes	1.77	1.63,1.92	<0.01	1.62	1.43,1.84	<0.01
Age (years)						
18-29	Ref.	-	-	Ref.	-	-
30-39	1.93	1.68,2.22	<0.01	1.38	1.31,1.46	<0.01
40-49	2.57	2.28,2.89	<0.01	2.13	2.02,2.25	<0.01
50-59	4.66	4.05,5.37	<0.01	3.08	2.89,3.29	<0.01
60-64	6.27	5.22,7.53	<0.01	4.25	3.81,4.74	<0.01
Sex						
Male	Ref.	-	-	Ref.	-	-
Female	1.62	1.49,1.76	<0.01	1.88	1.82,1.95	<0.01
Race & ethnicity †						
White	Ref.	-	-	Ref.	-	-
Black	0.75	0.66,0.84	<0.01	0.59	0.56,0.63	<0.01
Other races ‡	0.49	0.44,0.55	<0.01	0.35	0.33,0.38	<0.01
Hispanic	0.78	0.65,0.94	0.01	0.65	0.60,0.72	<0.01
Resides in a MSA §						
MSA	Ref.	-	-	Ref.	-	-
Non-MSA	1.12	0.98,1.28	0.09	1.21	1.09,1.34	<0.01
Education						
≥Bachelor's	Ref.	-	-	Ref.	-	-
Other degree	0.95	0.75,1.19	0.64	1.01	0.92,1.12	0.83
GED or HS ‖	0.67	0.57,0.77	<0.01	0.71	0.67,0.76	<0.01
No GED or HS	0.49	0.41,0.57	<0.01	0.42	0.39,0.46	<0.01
Income ¶						
≥400%	Ref.	-	-	Ref.	-	-
200 to <400%	0.60	0.53,0.68	<0.01	0.60	0.57,0.64	<0.01
125 to <200%	0.44	0.38,0.51	<0.01	0.39	0.36,0.41	<0.01
100 to <125%	0.38	0.32,0.46	<0.01	0.35	0.31,0.38	<0.01
<100%	0.39	0.34,0.45	<0.01	0.33	0.31,0.36	<0.01
Health insurance status						
Insured all year (any private)	Ref.	-	-	Ref.	-	-
Publicly insured all year	1.03	0.89,1.20	0.66	0.91	0.83,1.01	0.08

Uninsured part of the year	0.28	0.25,0.32	<0.01	0.35	0.33,0.37	<0.01
Uninsured all year	0.16	0.14,0.19	<0.01	0.16	0.15,0.17	<0.01

* Odds ratio (OR), 95% confidence interval (95% CI) and p-value (p)

† Except "Hispanic" all race categories are non-Hispanic

‡ Includes American Indian or Alaska Native; Asian, Native Hawaiian or Pacific Islander; and Multiple Races

§ Metropolitan Statistical Area (MSA)

|| General Educational Development (GED) or high school diploma (HS)

¶ Family income as percent (%) of the Federal Poverty Line

Table 3: Adjusted odds of having a usual source of health care among adults age 18-64 years

	People With and Without Disabilities n=129,133		
	AOR*	95% CI	p
Disability type			
No disability	Ref.	-	-
Hearing impairment only	1.24	1.10,1.40	<0.01
Vision impairment only	0.98	0.88,1.09	0.70
Cognitive limitations only	1.08	0.93,1.26	0.32
Physical limitations only	1.32	1.20,1.45	<0.01
More than one type	1.24	1.11,1.37	<0.01
Complex activity limitation			
No	Ref.	-	-
Yes	1.62	1.48,1.77	<0.01
Age (years)			
18-29	Ref.	-	-
30-39	1.22	1.16,1.29	<0.01
40-49	1.71	1.62,1.80	<0.01
50-59	2.38	2.23,2.54	<0.01
60-64	3.27	2.95,3.61	<0.01
Sex			
Male	Ref.	-	-
Female	1.85	1.79,1.92	<0.01
Race & ethnicity †			
White	Ref.	-	-
Black	0.75	0.71,0.80	<0.01
Other races ‡	0.63	0.59,0.68	<0.01
Hispanic	0.74	0.68,0.81	<0.01
Resides in a MSA §			
MSA	Ref.	-	-
Non-MSA	1.18	1.08,1.29	<0.01
Education			
≥Bachelor's	Ref.	-	-
Other degree	1.20	1.09,1.32	<0.01
GED or HS ‖	1.08	1.02,1.15	0.02
No GED or HS	1.08	1.00,1.16	0.04
Income ¶			
≥400%	Ref.	-	-
200 to <400%	0.84	0.79,0.89	<0.01

125 to <200%	0.73	0.69,0.78	<0.01
100 to <125%	0.71	0.64,0.77	<0.01
<100%	0.66	0.61,0.70	<0.01
Health insurance status			
Insured all year (any private)	Ref.	-	-
Publicly insured all year	1.16	1.06,1.27	<0.01
Uninsured part of the year	0.44	0.42,0.47	<0.01
Uninsured all year	0.22	0.21,0.24	<0.01

* Adjusted odds ratio (AOR), 95% confidence interval (95% CI) and p-value (p)

† Except "Hispanic" all race categories are non-Hispanic

‡ Includes American Indian or Alaska Native; Asian, Native Hawaiian or Pacific Islander; and Multiple Races

§ Metropolitan Statistical Area (MSA)

|| General Educational Development (GED) or high school diploma (HS)

¶ Family income as percent (%) of the Federal Poverty Line