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Service Use by and Needs of Adults with Functional Limitations or ID/DD in the NHIS-D: Difference by Age, Gender, and Disability

Introduction

The Individuals with Disabilities Education Act, the Americans with Disabilities Act, the Supreme Court's *Olmstead* decision, and President Bush's New Freedom Initiative have brought significant attention to the full participation of persons with disabilities as citizens in American culture and society. As efforts to depopulate state institutions and nursing homes continue, increased efforts are needed to ensure that the infrastructure of support for people living in non-institutional settings is adequate. This *DD Data Brief* examines the community supports and services infrastructure from the perspective of adults with disabilities who use it.

Among adults with ID/DD, 35.8% had tried unsuccessfuly to hire needed help with Instrumental Activities of Daily Living.

Methodology

National Health Interview Survey (NHIS) provides information about the health status and needs of Americans in the non-institutionalized population. The Bureau of the Census collects information annually through interviews with approximately 108,000 persons in 48,000 households. In 1994 and 1995 a special Disability Supplement (NHIS-D) was

About This *Data Brief*

This *DD Data Brief* summarizes findings from the National Health Interview Survey on Disability conducted by the U.S. Bureau of the Census, National Center on Health Statistics in 1994 and 1995. It is an extension of the April 2001 *MR/DD Data Brief* on characteristics of and service use by persons with MR/DD living in their own homes or with family members. Here we re-examine employment services and status, personal supports used and needed, professional and mental health services, previous long-term care services, transportation services, preventative health care, and waiting for services. The new component in this *Brief* is an examination of how service use and needs vary by age (for persons 18-35 years versus persons 36 years and older), gender, and disability group (persons with intellectual and/or developmental disabilities [ID/DD] versus persons with one or more substantial functional limitations who do not meet the criteria of having ID/DD). This *Brief* uses a series of logistic regressions to examine how the services and support needs vary by age, gender, and disability group after controlling for overall health status, race, and economic status.

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added to the NHIS "Core Survey" to gather more specific information on diagnostic, functional, social and behavioral characteristics; service needs and use; and general circumstances and experiences of sample members with disabilities. The NHIS-D included several other supplemental surveys (e.g., Phase 1 Disability Supplement, Phase 2 Adult Disability Supplement, Healthy People 2000 Supplement). Because the supplements were used for two consecutive years, they provide one of the largest census-based samples available to examine the characteristics and needs of people with disabilities. Together the Core Survey and supplements included several thousand data elements.

In this *DD Data Brief* we examine items asked of all respondents in the Core Survey and the Phase 1 Disability Supplement, as well as questions asked of only one adult per household in the Healthy People 2000 Supplement, and questions asked only of adults with disabilities in the Phase 2 Adult Disability Supplement. Specifically, we examine employment services and status, personal supports used and needed, professional and mental health services, previous long-term care services, transportation services, preventative health care, and waiting for services. This analysis examines how service use and needs vary by age (for persons 18-35 years versus persons 36 years and older), gender, and disability group (persons with intellectual and/or developmental disabilities [ID/DD] versus persons with one or more substantial functional limitations who do not meet to criteria of having ID/DD).

Identification of persons with ID/DD was based on items from the Core Survey, the Condition File, and the Phase 1 Disability Supplement. The category ID/DD included all persons identified from the NHIS-D who had intellectual disabilities (as defined categorically), developmental disabilities (as defined functionally), or both (see Larson, Lakin, Anderson, Kwak, Lee & Anderson, 2000 for detailed operational definitions). People with one or more significant functional limitations occurring at any age but not intellectual and/or developmental disabilities were identified as having "functional limitations only" (FL only) (see Larson, Lakin, Kwak & Anderson, 2001 for detailed operational definitions).

An important strength of the NHIS-D was its supplementation of the NHIS for two consecutive years. This allowed a sample of sufficient size to reliably represent low-incidence disabilities such as ID/DD. To take advantage of this strength, the 1994 and 1995 samples were combined, with final population weights appropriately adjusted (divided by two) before computing population estimates. Statistical analyses were conducted using the SUDAAN statistical package to account for the weighting of data and for the complex sampling design used in the NHIS-D. Standard errors are presented as relative standard errors (RSE) and can be found in the Appendix for all point estimates used in this paper. The RSE was computed by dividing the standard error of estimate by the population estimate and multiplying the result by 100. Odds ratios were calculated using logistic regression. When odds ratios of less than one were reported, the inverse of the odds ratio was used to describe the percentage difference between the group of interest and the referent group. For example, an odds ratio of .54 was translated to mean than the group was 85% less likely than the referent group to experience the dependent variable (1 divided by .54 = 1.85). For space reasons, betas and *t*-test statistics are not presented for analyses using logistic regression. Those statistics are available from the authors upon request. Descriptive statistics and population estimates for the variables analyzed in this report can be found in the Appendix.

Results

Employment Programs and Status for Adults

The NHIS-D asked interviewees several questions about their employment status and participation in employment programs. The first was whether each adult interviewed was employed, looking for work, or not in the labor force (those who were not in the labor force may have been keeping house, going to school,

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or engaged in other activities.) Among adults with ID/DD, only 30.7% were in the labor market, which was more than the estimated 24.7% of adults with FL only who were in the labor market (see the Appendix for details). As Table 1 shows, several factors were associated with whether an adult is in the labor market. After controlling for gender, age, health status, race, and economic status, adults with disabilities were significantly less likely to be in the labor market than those without disabilities (adults with FL only were 5 times less likely to be in the labor market than adults without disabilities and adults with ID/DD were 5.9 times less likely to be in the labor market than adults without disabilities). Other groups that were less likely to be in the labor market were women; older adults; adults in good, fair or poor health; adults who were neither White nor Black; and adults whose household income was below the federal poverty level. After taking the other variables into account, adults who were Black were more likely to be in the labor market than those who were White.

Table 1: Employment Status for Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	In the labor market		Employed if in the labor market	
	Odds Ratio	Sig.	Odds Ratio	Sig.
Intercept	**11.68**	***	**30.05**	***
Disability group				
No limitations	1.00		1.00	
Functional limitations only	0.20	***	0.46	***
ID and/or DD	0.17	***	0.44	***
Gender				
Male	1.00		1.00	
Female	0.45	***	0.93	
Age				
18 to 35 years	1.00		1.00	
36 years and older	0.41	***	1.48	***
Overall health status				
Excellent or very good	1.00		1.00	
Good, fair, or poor	0.49	***	0.68	***
Race				
White	1.00		1.00	
Black	1.22	***	0.75	***
Other	0.91	*	0.84	*
Economic status				
Above poverty level	1.00		1.00	
Below poverty level	0.32	***	0.24	***
R^2	**0.166**	***	**0.020**	***

*** p<.001, ** p<.01, *p<.05

The picture for employment among those who were in the labor market was a little different. Adults with disabilities (either FL only or ID/DD) were just over twice as likely to be unemployed as those without disabilities. Older adults who were in the labor market were more likely to be employed, but adults who were Black or another race; adults in good, fair or poor health; and adults in households with incomes below the poverty level were less likely to be employed than those in the referent groups. Overall, 16.6% of the variability in whether a person was in the labor market was accounted for by disability group, gender, age, overall health status, race, and economic status. Less of the variability (2%) in whether a person in the labor market was employed was explained by these variables.

Considering the large numbers of adults with disabilities who are either not in the labor force or who are unemployed, we wondered about participation in employment and other day programs. Overall, 2% of adults with FL only and 15.3% of adults with ID/DD participated in supported employment, transitional work training, or sheltered workshop programs. In addition, 2.1% of adults with FL only and 12.1% of adults with ID/DD participated in a non-work day program. Overall, 3.8% of adults with FL only and 23.7% of adults with ID/DD participated in employment programs, day programs, or both.

Table 2 shows the variables that were associated with participation in employment or day activity programs. Adults with ID/DD were 1.87 times more likely than adults with FL only to participate in transitional work programs and 14.4 times more likely than adults with FL only to participate in sheltered work once the other factors are taken into consideration. They were four to six times more likely to participate in day activity centers, supported

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Table 2: Employment and Day Activity Program Participation for Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

Employment programs	Day activity center		Supported employment		Transitional work training		Sheltered workshop		In one or more employment programs		In employment program or day activity center	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	**0.02**	***	**0.01**	***	**0.04**	***	**0.01**	***	**0.06**	***	**0.08**	***
Disability group												
Functional limitations only	1.00		1.00		1.00		1.00		1.00		1.00	
ID and/or DD	5.56	***	4.90	***	1.87	**	14.42	***	5.48	***	5.65	***
Gender												
Male	1.00		1.00		1.00		1.00		1.00		1.00	
Female	1.12		0.74		0.61	**	0.78		0.68	**	0.87	
Age												
18 to 35 years	1.00		1.00		1.00		1.00		1.00		1.00	
36 years and older	0.84		0.37	***	0.36	***	0.47	**	0.40	***	0.56	***
Overall health status												
Excellent or very good	1.00		1.00		1.00		1.00		1.00		1.00	
Good, fair, or poor	0.85		0.55	*	0.49	***	0.52	**	0.51	***	0.63	***
Race												
White	1.00		1.00		1.00		1.00		1.00		1.00	
Black	1.64	**	1.68		1.64	*	1.30		1.60	**	1.63	***
Other	0.83		1.72		1.92	^	0.61		1.28		0.94	
Economic status												
Above poverty level	1.00		1.00		1.00		1.00		1.00		1.00	
Below poverty level	1.41	*	1.46		1.69	*	1.57	*	1.63	**	1.63	***
R^2	**0.018**	***	**0.037**	***	**0.012**	***	**0.027**	***	**0.040**	***	**0.047**	***

*** p<.001, ** p<.01, *p<.05
^ not significant, but p = .06

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employment, one or more employment programs, or in any employment or day activity center programs. Women were less likely to participate in employment programs in general and transitional work planning in particular. Adults 36 years and older were less likely to participate in vocational programs (other than day activity centers) than the 18-35 year olds. Overall health status was associated with participation in the employment programs but not the day activity centers. Adults who were Black were 60-64% more likely than adults who were White to participate in day activity centers, transitional work training, employment programs in general, and one or more types of employment or day programs. Adults living in households earning less than the federal poverty level were 1.57 to 2.08 times more likely to participate in each of the employment or day activity programs except supported employment. Finally, while these logistic regression analyses revealed significant differences for all of these programs, the variables examined explained only 1.2 to 4.7% of the variability in participation across adults.

Supports Used or Needed

Because the need for help with Activities of Daily Living (ADLs) and Instrumental Activities of Daily Living (IADLs) was a factor in defining both ID/DD and FL only groups, it is not surprising that 65% of adults with FL only and 62% of adults with ID/DD received help or supervision with one or more IADLs, and that 15.6% of adults with FL only and 23.2% of adults with ID/DD needed help or supervision with one or more ADLs. Adults with ID/DD were 3.48 times more likely to need help or supervision with one or more ADLs than adults with FL only. Older adults and adults in poorer health (i.e., in good, fair or poor health rather than excellent or very good health) also were more likely to need help or supervision to complete one or more ADLs (see Table 3). The pattern for IADLs was similar. Specifically, adults with ID/DD; women; older adults; adults in good, fair or poor health; and adults in households with incomes less than the federal poverty guidelines were more likely to require assistance with one or more IADLs. Altogether, the factors examined accounted for 4.6% of the variability in the need for help or supervision with ADLs and 14.7% of the variability in the need for help or supervision with IADLs.

The NHIS-D included several additional variables assessing the types of personal assistance adults with disabilities needed. Based on findings from the Phase 2 Adult Disability Supplement, 16.1% of adults with FL only and 31.4% of adults with ID/DD could not safely be left alone without supervision for 2 or

Table 3: Gets Help or Supervision in One or More Areas for Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	Activities of daily living		Instrumental activities of daily living	
	Odds Ratio	Sig.	Odds Ratio	Sig.
Intercept	**0.04**	***	**0.19**	***
Disability group				
Functional limitations only	1.00		1.00	
ID and/or DD	3.49	***	2.19	***
Gender				
Male	1.00		1.00	
Female	1.02		1.95	***
Age				
18 to 35 years	1.00		1.00	
36 years and older	2.82	***	5.40	***
Overall health status				
Excellent or very good	1.00		1.00	
Good, fair, or poor	2.57	***	2.13	***
Race				
White	1.00		1.00	
Black	0.87		1.04	
Other	1.04		0.90	
Economic status				
Above poverty level	1.00		1.00	
Below poverty level	0.92		0.73	***
R^2	**0.046**		**0.147**	

*** p<.001, ** p<.01, *p<.05

Activities of daily living (ADLs): bathing, dressing, eating, using a toilet, getting in and out of bed.

Instrumental activities of daily living (IADLs): shopping, managing money, cooking, working around the house, using the telephone.

more hours at a time. As Table 4 shows, adults with ID/DD were 3.4 times less likely to be able to stay home alone than those with FL only. Others who were less likely to be able to stay home alone included women; older adults; those in good, fair or poor health; and those who were neither Black nor White. Adults living in households with incomes below the federal poverty level were more likely to view themselves or be viewed by a proxy respondent as being able to stay home alone for 2 hours (after controlling for the other factors) than those with higher incomes. Overall, 3.7% of the differences in being able stay home alone for 2 hours or more was accounted for by these variables.

The NHIS-D revealed that 4.8% of adults with FL only and 26.6% of adults with ID/DD were viewed as requiring ongoing supervision for safety reasons. Adults with ID/DD were 9.34 times more likely to require ongoing supervision than those with FL only. Also more likely to need ongoing supervision were older adults; adults in good, fair or poor health; and adults with disabilities living in households earning more than the federal poverty rate. Overall, 4.9% of the variability in needing ongoing supervision to ensure safety was accounted for by these variables.

Disability sometimes makes it difficult for people to enter or leave their homes. Overall, 22.2% of adults with FL only and 14.2% of adults with ID/DD reported having this difficulty. The logistic regression analysis revealed three characteristics associated with this difficulty. Specifically, women, adults 36 years and older, and those in good, fair or poor health were significantly more likely to have difficulty entering or leaving their homes. Once age, gen-

Table 4: Specific Limitations for Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	Ever home alone more than two hours at a time		Needs ongoing supervision to ensure safety		Has difficulty entering or leaving home due to impairment		Has court-appointed legal guardian	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	**20.76**	***	**0.02**	***	**0.03**	***	**0.02**	***
Disability group								
Functional limitations only	1.00		1.00		1.00		1.00	
ID and/or DD	0.29	***	9.34	***	1.05		9.81	***
Gender								
Male	1.00		1.00		1.00		1.00	
Female	0.83	**	1.09		1.25	***	0.87	
Age								
18 to 35 years	1.00		1.00		1.00		1.00	
36 years and older	0.48	***	1.40	**	4.22	***	1.38	*
Overall health status								
Excellent or very good	1.00		1.00		1.00		1.00	
Good, fair, or poor	0.49	***	1.70	***	2.92	***	0.83	
Race								
White	1.00		1.00		1.00		1.00	
Black	0.87		1.01		0.95		1.18	
Other	0.59	*	1.68		1.31		0.65	
Economic status								
Above poverty level	1.00		1.00		1.00		1.00	
Below poverty level	1.36	***	0.49	***	0.96		1.22	
R^2	**0.037**	***	**0.049**	***	**0.062**	***	**0.010**	***

*** p<.001, ** p<.01, *p<.05

der and health status were taken into account, disability group, race, and economic status did not explain significant variability in this outcome. A total of 6.2% of the variability in having difficulty entering or leaving the home was accounted for by gender, age, and health status.

Finally, 1.9% of adults with FL only and 14.9% of adults with ID/DD reported having a court-appointed legal guardian at the time of the study. Adults with ID/DD were 9.8 times more likely to have a court-appointed legal guardian than were adults with FL only. In addition, adults age 36 and older were 38% more likely to have a court-appointed legal guardian than younger adults. Only 1% of the variability in whether an adult with disabilities had a legal guardian was accounted for by disability group and age.

Professional Services and Supports

The next set of analyses examined differences between adults with different disabilities in their use of primary and specialty medical and ancillary services. Among adults with FL only, the proportions who had accessed various professional services in the previous 12 months included general practitioner (75.0%), physician specialist (46.2%), social worker (3.4%), physical therapist (13.3%), occupational therapist (2.0%), speech therapist or pathologist (0.8%), visiting nurse (11.0%), personal care attendant (4.9%), center for independent living (0.3%), and social skills training (1.2%). The corresponding proportions for adults with ID/DD were general practitioner (62.0%), physician specialist (37.6%), social worker (11.8%), physical therapist (8.0%), occupational therapist (3.9%), speech therapist or pathologist (3.2%), visiting nurse (7.8%), personal care attendant (8.1%), center for independent living (3.1%), and social skills training (11.0%).

As Table 5 shows, there were important differences in the use of these services depending on disability group, gender, age, and overall health status. While there were no differences based on disability group in the use of general practitioners, physician specialists, and visiting nurses (once gender, age, health status, and economic status were taken into account), adults with ID/DD were 56% less likely to have visited a physical therapist in the previous 12 months than adults with FL only. They were, however, 93% more likely to have received services from an occupational therapist, 2.6 times more likely to have received services from a personal care attendant, 2.8 times more likely to have received services from a speech therapist or pathologist, 3.3 times more likely to have accessed a social worker, and 13.7 times more likely to have used the services of a center for independent living than adults with FL only.

Gender was not a factor for physical therapist, occupational therapist, centers for independent living, or social skills training services, but men were two times less likely than women to have used a speech therapist or pathologist. Women were between 11% and 59% more likely to have used the services of a general practitioner, physician specialist, social worker, visiting nurse, or personal care attendant than were men (after the other factors were taken into account). There were also age-related differences in the types of services used by adults with disabilities. Specifically, younger adults were more likely to have used a social worker, speech therapist or pathologist, or social skills training services, while older adults were more likely to have used the services of a general practitioner, physician specialist, visiting nurse, or personal care attendant. For some of the services, overall health status was not related to use of the service. For six of the services, however, adults in poorer health were more likely to use the service: general practitioner, physician specialist, physical therapist, occupational therapist, visiting nurse, and personal care attendant.

Race was not related to service use except that adults who were White were more likely than those who were Black to have used a physician specialist. Finally, family economic status was related to the use of four types of professional services. Persons living in households with incomes below the poverty level were 2.6 times more likely to have used the services of a social worker, but were less likely to have used the services of general practitioners, physician specialists, or physical therapists. The proportion of variability accounted for in these analyses ranged from 7.3% for

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Table 5: Services Received in Last 12 Months by Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	General practitioner/ doctor		Physician specialist		Social worker		Physical therapist		Occupational therapist		Speech therapist or pathologist		Visiting nurse		Personal care attendant		Center for Independent Living		Social skills training	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	**0.75**	**	**0.44**	***	**0.02**	***	**0.11**	***	**0.02**	***	**0.02**	***	**0.01**	***	**0.01**	***	**0.00**	***	**0.02**	***
Disability group																				
Functional limitations only	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
ID and/or DD	0.92		0.88		3.28	***	0.64	**	1.93	**	2.79	***	1.15		2.64	***	13.69	***	7.48	***
Gender																				
Male	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Female	1.59	***	1.11	*	1.28	*	1.16		0.93		0.48	**	1.23	**	1.48	**	1.12		0.85	
Age																				
18 to 35 years	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
36 years and older	3.03	***	1.58	***	0.72	*	1.21		0.83		0.51	**	5.37	***	4.21	***	0.95		0.56	**
Overall health status																				
Excellent or very good	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Good, fair, or poor	1.51	***	1.55	***	1.29		1.37	**	1.76	**	1.14		1.84	***	1.63	**	0.82		0.86	
Race																				
White	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Black	0.87		0.86	*	0.95		0.82		1.23		1.21		1.08		1.20		0.58		1.44	
Other	0.71		0.73		1.18		1.15		0.51		1.12		0.60		0.57		—		0.92	
Economic status																				
Above poverty level	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Below poverty level	0.78	***	0.71	***	2.64	***	0.68	***	0.79		0.79		1.09		1.04		2.14		1.21	
R^2	**0.073**	***	**0.028**	***	**0.021**	***	**0.009**	***	**0.003**	***	**0.006**	***	**0.028**	***	**0.014**	***	**0.009**	***	**0.023**	***

*** p<.001, ** p<.01, *p<.05

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general practitioners and 2.8% for physician specialists and visiting nurses to less than 1% for physical therapists, occupational therapists, speech therapists or pathologists, and centers for independent living.

Mental Health and Drug and Alcohol Abuse Services

Among adults with FL only, in the last 12 months 1.2% had stayed overnight in a hospital or other facility for mental health services, 7.6% had received outpatient mental health services, 5.2% had received community mental health services, 0.9% had received services for alcohol or drug abuse, and 14.4% were currently taking psychotropic medications. Among adults with ID/DD, in the last 12 months 4.3% had stayed overnight in a hospital or other facility for mental health services, 5.1% had received outpatient mental health services, 5.3% had received community mental health services, 2.2% had received services for alcohol or drug abuse, and 27.5% were taking psychotropic medications. There were consistent differences in the use of these services depending on disability group, age, health status, and household economic status (see Table 6). Specifically, adults with ID/DD were between 1.7 and 3.7 times more likely to have stayed overnight in a hospital for mental health services, received outpatient mental health services, received community mental health services, and/or used psychotropic medications than adults with FL only. Women with disabilities were 2.3 times less likely to have received services for alcohol or drug abuse than men.

Table 6: Mental Health or Drug and Alcohol Abuse Services Received for Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	Overnight stay for mental health services		Outpatient mental health services		Alcohol or drug abuse services		Community mental health		Uses psychotropic medications	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	**0.01**	***	**0.09**	***	**0.02**	***	**0.04**	***	**0.09**	***
Disability group										
Functional limits only	1.00		1.00		1.00		1.00		1.00	
ID and/or DD	2.42	**	1.73	***	1.21		3.69	***	2.21	***
Gender										
Male	1.00		1.00		1.00		1.00		1.00	
Female	0.94		1.08		0.43	**	1.03		1.11	
Age										
18 to 35 years	1.00		1.00		1.00		1.00		1.00	
36 years and older	0.47	**	0.52	***	0.24	***	0.56	***	0.87	
Overall health status										
Excellent or very good	1.00		1.00		1.00		1.00		1.00	
Good, fair, or poor	2.86	**	1.62	***	1.65		1.62	***	2.22	***
Race										
White	1.00		1.00		1.00		1.00		1.00	
Black	1.13		0.74	*	1.18		1.19		0.67	***
Other	1.26		0.98		1.94		1.32		0.70	
Economic status										
Above poverty level	1.00		1.00		1.00		1.00		1.00	
Below poverty level	1.51	*	1.38	***	2.23	**	2.20	***	1.47	***
R^2	**0.007**	***	**0.014**	***	**0.010**	***	**0.036**		**0.024**	

*** p<.001, ** p<.01, *p<.05

Older adults were between 1.78 and 4 times less likely to have received mental health or alcohol or drug abuse services than younger adults. Adults in poorer health were 1.62 to 2.86 times more likely to have received mental health services or psychotropic medications than those in excellent or very good health. For outpatient mental health services and psychotropic medications, adults who were Black were less likely than adults who were White to have received those services. Finally, adults in households with incomes below the poverty level were 1.38 to 2.23 times more likely than those living above the poverty level to have received inpatient and outpatient mental health or substance abuse services or to use psychotropic medications. The variables examined explained between 0.7% and 3.6% of the variability in the use of mental health or drug and alcohol abuse services among adults with disabilities.

Residential Long-Term Care Services

While the main focus of the NHIS-D was people in non-institutional settings, the Adult Phase 2 Disability Supplement asked adults with disabilities whether they had ever received residential services or supports in any of seven types of long-term care facilities. Among adults with FL only, 9.4% had lived in long-term care settings including facility or group home for persons with mental illness (1.2%), facility for people with mental retardation (0.1%), nursing home (5.2%), board and care home (0.5%), assisted living facility (1.0%), convalescent home (1.4%), or some other type of long-term care facility (1.2%). Among adults with ID/DD, 20.8% had lived in long-term care settings including facility or group home for persons with mental illness (7.4%), facility for people with mental retardation (5.2%), nursing home (4.0%), board and care home (3.6%), assisted living facility (3.7%), convalescent home (1.9%), or some other type of long-term care facility (2.2%).

The patterns of factors associated with having lived in one of the types of long-term care settings are summarized in Table 7. First, adults with ID/DD were more likely to have lived in each type of long-term care facility except nursing homes when compared to adults with FL only. They were 2.9 times more likely to have stayed in any type of long-term care facility. They were 40 times more likely to have lived in a facility for persons with mental retardation, 8.5 times more likely to have lived in a board and care facility, 4.5 times more likely to have lived in an assisted living facility, 2.4 times more likely to have lived in a facility for persons with mental illness, 2.3 times more likely to have lived in a convalescent home, and 1.8 times more likely to have lived in another type of long-term care facility. Women were 36% more likely to have stayed in a nursing home but 78% less likely to have stayed in "other" types of long-term care facilities. Older adults were 49% more likely to have ever lived in any type of long-term care facility. They were more likely than younger adults to have lived in nursing homes (9.8 times more) and convalescent homes (4.6 times more), but less likely to have ever lived in a facility for persons with mental illness (2.2 times less).

There were no differences in the history of using long-term care facilities for adults with disabilities based on reported health status once the other factors including age and disability status were considered. The only racial differences were that adults who were Black were less likely than adults who were White to have lived in nursing homes or board and care homes. Finally, adults living in households with incomes below the poverty level were 23% more likely to have ever lived in a long-term care facility, 93% more likely to have lived in a facility for people with mental illness, and 2.2 times more likely to have lived in a board and care home. Between 1.3% and 1.7% of the variability in the use of facilities for persons with mental illness, facilities for persons with mental retardation, nursing homes, and any type of long-term care facility was accounted for by the variables examined. Less than one percent of the variability in the use of board and care homes, assisted living facilities, convalescent homes, or other long-term care facilities was accounted for by the variables examined.

Citation: Larson, S., Lakin, C., & Huang, J. (2003). Service Use by and Needs of Adults with Functional Limitations or ID/DD in the NHIS-D: Difference by Age, Gender, and Disability. *DD Data Brief, 5*(2). Minneapolis: University of Minnesota, Research and Training Center on Community Living.

Table 7: Long-Term Care Residential Settings Ever Used by Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	Facility for people with mental illness		Facility for people with mental retardation		Nursing home		Board and care home		Assisted living facility		Convalescent home		Other long-term care facility		Any long-term care facility	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	**0.03**	***	**0.00**	***	**0.01**	***	**0.00**	***	**0.01**	***	**0.00**	***	**0.01**	***	**0.06**	***
Disability group																
Functional limitations only	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
ID and/or DD	2.44	***	40.45	***	1.40		8.48	***	4.45	***	2.31	**	1.79	*	2.90	***
Gender																
Male	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Female	0.84		0.85		1.36	**	0.91		1.13		1.28		0.56	*	1.06	
Age																
18 to 35 years	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
36 years and older	0.45	***	1.42		9.78	***	0.97		1.23		4.62	***	1.18		1.49	**
Overall health status																
Excellent or very good	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Good, fair, or poor	1.52		0.90		1.22		0.89		1.42		0.66		1.38		1.20	
Race																
White	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Black	1.08		1.41		0.49	*	0.29	*	0.67		0.69		1.07		0.77	
Other	0.95		0.48		0.51		1.85		0.51		0.43		1.12		0.81	
Economic status																
Above poverty level	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Below poverty level	1.93	***	2.00		1.00		2.23	*	1.22		0.78		0.97		1.23	*
R^2	**0.013**		**0.016**		**0.017**		**0.008**		**0.004**		**0.004**		**0.002**		**0.013**	

*** p<.001, ** p<.01, *p<.05

Transportation

The Adult Phase 2 Disability Supplement included a series of questions about transportation options used by adults with disabilities during the previous week. Among adults with FL only, 60.4% drove a car in the last week, 58.9% had been passengers in a car driven by another person, 1.1% had ridden in a social service agency van, 19.8% had used public transportation, 13.2% had used a special bus service, and 4.9% had received other transportation services. Among adults with ID/DD, 26.4% reported driving a car, 67.4% reported riding in a car driven by another person, 8.7% reported riding in a social service agency van, 31.9% reporting using public transportation, 27.2% reported using special bus services, and 16.4% reported receiving other transportation services.

The forms of transportation used by adults with disabilities varied significantly by disability group, gender, age, health status, race, and economic status (see Table 8). Driving a car in the last week was less likely for adults with ID/DD (4.8 times less likely), women (85% less likely), older adults (2 times less likely), adults in poorer health (56% less likely), adults who were Black (2.1 times less likely), and adults in households below the poverty level (61% less likely). Older adults were also less likely to ride as a passenger in a car (63% less likely) and to use public transportation (25% less likely) than younger adults. Adults living in households with incomes below the federal poverty level were less likely to ride as a passenger in a car (15% less likely) than adults with higher incomes. Between 1.6% and 9.6% of the variability in the use of various modes of transportation or transportation services was accounted for by the variables examined in this analysis.

Adults with ID/DD were 8.3 times more likely to have ridden in a social services van in the previous week than adults with FL only, while adults who were Black were 2.1 times more likely than adults who were White to have done so. Women and older adults were less likely to use public transportation, while adults who were Black or another non-White race and adults living in households with incomes below the poverty level were more likely to use public transportation. Special bus, cab or van services were more likely to be used by adults with ID/DD (3.0 times more likely), women (54% more likely), older adults (66% more likely), persons in households with income below the poverty level (62% more likely) and adults who were Black (94% more likely) or of another non-White race (73% more likely). Use of transportation services in the last 12 months was more common among adults with ID/DD (4.7 times more likely), women (62% more likely), older adults (62% more likely), adults who were Black (2.2 times more likely), and adults in households with incomes below the poverty level (53% more likely).

Two questions focused specifically on barriers to using public transportation systems that were available to the respondents. Among adults with FL only, 39.6% reported that it was somewhat or very difficult to use public transportation and 29.0% reported that an impairment or health problem prevented or limited their use of public transportation. Among adults with ID/DD, 43.1% reported that it was somewhat or very difficult to use public transportation and 44.4% reported that an impairment or health problem prevented or limited their use of public transportation. Those who were more likely to report that an impairment or health problem prevented or limited their use of public transportation included adults with ID/DD (4.2 times more likely), women (45% more likely), older adults (4.7 times more likely), adults in poorer health (62% more likely), and adults who were Black (62% more likely). Difficulties in getting and using public transportation were more likely to be reported by adults with ID/DD (2.2 times more likely), women (43% more likely), older adults (3.4 times more likely), and adults in poorer health (90% more likely). The variables examined explained 7.7% of the variability in whether an impairment or health problem prevented or limited the use of public transportation and 7.8% of the variability in whether it was difficult to get and use public transportation among adults with disabilities.

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Table 8: Transportation and Transportation Services Used by Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	Drove car last week		Rode in car last week		Rode in social service van last week		Use public transportation		Use available special bus, cab, or van service		Received transportation services in past 12 months		Impairment or health problem prevents use of public transportation		Difficulty getting and using public transportation	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	**4.77**	***	**1.74**	***	**0.01**	***	**0.42**	***	**0.04**	***	**0.02**	***	**0.05**	***	**0.11**	***
Disability group																
Functional limitations only	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
ID and/or DD	0.21	***	1.35	**	8.32	***	1.21		3.03	***	4.68	***	4.19	***	2.23	***
Gender																
Male	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Female	0.54	***	1.69	***	1.46		0.80	**	1.54	***	1.62	***	1.45	***	1.43	***
Age																
18 to 35 years	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
36 years and older	0.50	***	0.61	***	1.32		0.46	***	1.66	**	1.62	***	4.68	***	3.41	***
Overall health status																
Excellent or very good	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Good, fair, or poor	0.64	***	0.97		0.83		0.86		1.27		1.09		1.62	***	1.90	***
Race																
White	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Black	0.47	***	0.96		2.05	**	2.14	***	1.94	***	2.20	***	1.62	***	1.05	
Other	0.84		1.11		1.59		1.55	*	1.73	*	1.26		1.36		1.34	
Economic status																
Above poverty level	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Below poverty level	0.62	***	0.87	*	1.35		1.95	***	1.62	***	1.53	**	1.13		0.88	
R^2	**0.096**		**0.024**		**0.016**		**0.062**	***	**0.038**	***	**0.028**	***	**0.077**	***	**0.078**	***

*** p<.001, ** p<.01, *p<.05

Vaccinations and Tetanus Shots

The Healthy People 2000 Supplement to the Core Survey included many questions to assess progress toward achieving the Healthy People 2000 public health goals. Only one adult per household answered these questions, so participation by adults with disabilities was limited. However, three of the questions had enough responses to do meaningful analysis: items asking whether adults had had a flu shot in the past 12 months, whether they had ever had a pneumonia vaccination, and whether they had had a tetanus shot in the past 10 years. Among adults who did not have significant functional limitations, 20.7% had had a flu shot, 10.3% had had a pneumonia vaccination, and 58.4% had had a tetanus shot. Among adults with FL only, 39.9% had had a flu shot, 23.3% had had a pneumonia vaccination, and 40.8% had had a tetanus shot. Finally, among adults with ID/DD, 24.3% had had a flu shot, 14.3% had had a pneumonia vaccination, and 64.9% had had a tetanus shot.

Adults with FL only were more likely than those with no functional limitations to have had a flu shot or a pneumonia vaccination (see Table 9). Women were more likely to have had a flu shot but less likely to have had a pneumonia vaccination or a tetanus shot. Older adults were more likely to have had a flu shot but less likely to have had a tetanus shot. Adults in poorer health were more likely to have had a flu shot or a pneumonia vaccination but less likely to have had a tetanus shot. Adults who were Black were less likely to have had a flu shot or a tetanus shot, and adults of another non-White race were less likely to have had a tetanus shot. Finally, adults living in households with incomes below the federal poverty level were less likely to have had a flu shot or tetanus shot after the other variables were taken into consideration. The variables examined accounted for 6.3% of the variability in getting a flu shot, 1.6% of the variability in having a pneumonia vaccination, and 3.9% of the variability in getting a tetanus shot.

Table 9: Vaccinations and Tetanus Shots for Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	Flu shot in past 12 months		Pneumonia vaccination ever		Tetanus shot in past 10 years	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	**0.11**	***	**0.20**	***	**3.31**	***
Disability group						
No limitations	1.00		1.00		1.00	
Functional limitations only	1.76	***	1.90	***	0.99	
ID and/or DD	1.31		1.38		1.27	
Gender						
Male	1.00		1.00		1.00	
Female	1.14	***	0.69	***	0.59	***
Age						
18 to 35 years	1.00		1.00		1.00	
36 years and older	2.91	***	0.94		0.56	***
Overall health status						
Excellent or very good	1.00		1.00		1.00	
Good, fair, or poor	1.47	***	1.45	***	0.91	**
Race						
White	1.00		1.00		1.00	
Black	0.77	***	1.10		0.81	***
Other	0.95		0.87		0.62	***
Economic status						
Above poverty level	1.00		1.00		1.00	
Below poverty level	0.81	***	1.06		0.83	***
R^2	**0.062**		**0.016**		**0.039**	

*** $p < .001$, ** $p < .01$, * $p < .05$

Waiting for Services

Sample members were asked whether they were currently waiting for a service and/or whether they had any unmet support needs. Among adults with FL only, 2.9% were waiting for community mental health services; 1.8% were waiting for case management services; 0.7% were waiting for home, community-based or facility-based long-term care; 0.6% were waiting for employment or day activity services; and 0.6% were waiting for community services such as physical therapy, speech therapy, a visiting nurse, or a personal care attendant. Among adults with ID/DD, 6.2% were waiting for mental health services, 8.3% were waiting for case management services, 2.5% were waiting for long-term care services, and 1.8% were waiting for community services.

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Table 10: Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population Waiting for Services

	On a Waiting List or Waiting for:															
	Mental health services or counseling		Case management		Long-term care facility or services		Employment or day program		Community services or supports*		Needs more help with IADLs		Has attempted to hire help or get help		Has stopped getting help but still needs it	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	**0.04**	***	**0.01**	***	**0.01**	***	**0.01**	***	**0.01**	***	**0.02**	***	**0.26**	***	**0.26**	***
Disability group																
Functional limitations only	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
ID and/or DD	1.56	*	4.63	***	4.02	***	3.75	***	2.59	**	1.41	**	1.90	*	0.81	
Gender																
Male	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Female	1.18		0.92		1.78	*	1.45		0.88		1.95	***	1.33	*	1.41	
Age																
18 to 35 years	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
36 years and older	0.32	***	0.98		0.72		0.35	***	0.71		1.93	***	1.68		0.57	*
Overall health status																
Excellent or very good	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Good, fair, or poor	1.50		1.91	**	1.00		1.03		1.34		1.81	***	0.75		1.39	
Race																
White	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Black	0.58	*	2.09	***	0.94		1.30		1.10		1.20		0.64		0.93	
Other	1.65		2.68	**	1.18		0.83		1.38		1.31		0.85		1.25	
Economic status																
Above poverty level	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Below poverty level	1.60	**	1.80	***	0.94		2.08	**	1.50		1.16		1.23		0.99	
R^2	**0.01**	***	**0.014**	***	**0.004**	***	**0.008**	***	**0.002**	***	**0.021**	***	**0.017**	***	**0.010**	***

*** p<.001, ** p<.01, *p<.05

* Waiting for community services includes people waiting for physical therapy, occupational therapy, audiologist, speech therapist or pathologist, recreational therapist, visiting nurse, personal care attendant, reader or interpreter, adult day care or activity center, alcohol or drug abuse services, center for independent living, respiratory therapy, social work or transportation (from the Phase 2 survey).

Waiting for mental health services or counseling was more likely among adults with ID/DD (56% more likely), younger adults (3.1 times more likely), adults who were Black (70% more likely), and people whose household income was below the poverty level (60% more likely; see Table 10). Waiting for a case manager was more common among adults with ID/DD (4.6 times more likely), adults in poorer health (90% more likely), adults who were Black (2.1 times more likely), non-White adults of another race (2.7 times more likely), and adults whose household income was below the poverty level (80% more likely). Waiting for long-term care services was more likely among adults with ID/DD (4.0 times more likely) and women (78% more likely). Waiting for employment or day program services was more likely among adults with ID/DD (3.8 times more likely), younger adults (2.9 times more likely), and adults in households earning less than the poverty level (2.1 times more likely). Adults with ID/DD were also 2.6 times more likely to be waiting for one or more of the community services. Overall, less than 1.4% of the variability in waiting lists were accounted for by the variables examined.

Adults with disabilities also reported whether they needed more help than they currently receive. Among adults with FL only, 10.4% said they needed additional help with one or more Instrumental Activities of Daily Living, 29.0% said they have unsuccessfully attempted to hire people to provide supports they need, and 19.8% reported that they need help they received at one time but are not currently receiving. Among adults with ID/DD, 10.1% reported needing additional help with IADLs, 35.8% had tried unsuccessfully to hire needed help, and 16.7% needed help they received at one time but are not currently receiving. Needing more help with IADLs was more likely among adults with ID/DD (41% more likely), women (95% more likely), older adults (93% more likely), and adults in poorer health (81% more likely). Attempting unsuccessfully to hire help was more likely among adults with ID/DD (90% more likely) and women (33% more likely). Needing help that a person had received at one time but was no longer receiving was 75% more likely among women than among men. Overall, 2.1% of the variability in needing more help with IADLs, 1.7% of the variability in attempting unsuccessfully to hire help, and 1.0% of the variability in needing help that had been received at one time was accounted for by the variables examined.

Discussion

The primary question to be answered in this brief is to what extent do access to and experiences with various services for adults in community settings vary depending on disability group (FL only versus ID/DD), age (18 to 35 versus 36 and older), and gender. As the many analyses show, the answer is quite a bit. Of the 56 different outcomes examined, differences were noted for disability group in 47 outcomes, for age in 42 outcomes, and for gender in 26 outcomes. Differences were also frequently associated with overall health status (30 outcomes), race (22 outcomes), and economic status (33 outcomes). Clearly, awareness of the patterns of these findings is important when considering public policy decisions regarding how to best meet the needs of adults with disabilities in the non-institutional U.S. population.

Disability Group

In almost every case where differences were noted between adults with one or more substantial functional limitations and adults with intellectual and/or developmental disabilities, adults with ID/DD had poorer outcomes or were more likely to receive, need, or be waiting for the supports or services. The only exception was that adults with ID/DD were less likely to have received physical therapy services. In a few instances there were no differences between these groups. These findings raise the question of why these differences were so consistent, and in many cases so large.

There are important differences between these two disability groups that need to be considered to understand the findings. One critical difference between the groups is that adults in the ID/DD group had to have been

Citation: Larson, S., Lakin, C., & Huang, J. (2003). Service Use by and Needs of Adults with Functional Limitations or ID/DD in the NHIS-D: Difference by Age, Gender, and Disability. *DD Data Brief, 5*(2). Minneapolis: University of Minnesota, Research and Training Center on Community Living.

born with their disability or acquired it by age 22, whereas adults in the FL only group could have either been born with their disability or acquired it at any age. Verbrugge & Yang (2003), describing differences in the age of onset of disability and the patterns of disabilities among adults, noted that relatively few people with disabilities (ranging from 4.2%-25.6% across the various limitations they examined) have an onset of disability prior to age 20. We found that within the NHIS, while 15.4 million adults are estimated to have functional limitations only, only 1.5 million adults have ID/DD (Larson, Lakin, Kwak & Anderson, 2001). A related difference is that adults in the FL group are much more likely to be 65 or older (46.4% of people with FL only versus 7.7% of people with ID/DD).

Several other important differences have also been noted between these groups. For example, while 20.8% of adults with FL only have three or more different substantial functional limitations (with the seven areas including economic self-sufficiency, learning, self-direction, independent living, communication, personal care, and mobility), 74.1% of adults with ID/DD have three or more different substantial functional limitations. Furthermore, the types of limitations these groups have are different. While the most common limitations among adults with FL only are independent living (61.6%), economic self-sufficiency (44.5%), and mobility (30.0%), the most common limitations among adults with ID/DD are economic self-sufficiency (87.8%), learning (87.6%), and self-direction (49.7%) (Larson, Lakin, Anderson, Kwak, Lee & Anderson, 2001; Larson, Lakin, Kwak & Anderson, 2001). It seems reasonable, then, to assume that some of the differences described above result from differences in age, age at onset, and number and types of limitations across the groups. Because public policy decisions regarding supports and services are often defined as targeting one or the other of these groups, it is important to document the needs, characteristics, and experiences of each group. Future analyses will examine the relationship between the number and type of limitations on these outcomes.

Age

In this paper, we compared younger adults (ages 18 to 35 years) to older adults (ages 36 years and older). These age breaks divided the group with ID/DD in half. Because the group with ID/DD was only about 10% of the group with FL only, and because for some items fewer than 100 adults with ID/DD responded, it was important to assure an adequate sample in the various cells in the analysis (see sample sizes on Table 18 in the Appendix). Using these age breaks, there were many age-related differences in needs, services used, and unmet needs revealed in these analyses. Unlike disability groups where almost all of the findings were in the same direction, the findings for age varied across the variables.

Older adults with disabilities were more likely to be employed (if they were in the labor market), to need help with ADLs and IADLs, to need more help with IADLs than they were getting, to need ongoing supervision to ensure safety, to have difficulty leaving their homes due to an impairment, to have received help from a non-profit agency, and to have a legal guardian. They were also more likely to have seen a general practitioner, a physician specialist, a visiting nurse, or a personal care attendant. Older adults were more likely to have lived in a nursing home, convalescent home, or any type of long-term care facility. They were more likely to have used special bus, cab or van services; to have received any transportation services in the past 12 months; to have an impairment preventing the use of public transportation; and to have difficulty using public transportation. Finally, they were more likely to have had a flu shot. In summary, older adults with disabilities had more needs for assistance with specific skills, had more trouble getting around outside of their homes, and had received more services and supports related to health care needs.

Younger adults with disabilities were more likely to be in the labor market, to participate in employment programs (including supported employment, transitional work training, and sheltered workshops), to participate in employment programs or day activity programs, and

to be on a waiting list for an employment program or day activity center. Younger adults were more likely to be able to spend two hours or more home alone. Younger adults were more likely to have a social worker, have seen a speech therapist or pathologist, or have had social skills training in the last 12 months. They were more likely to have received mental health services including overnight stays, outpatient services, alcohol or drug abuse services, and community mental health services. They were also more likely to have ever stayed in a facility for people with mental illness and to be waiting for mental health services or counseling. Younger adults were more likely to have driven or ridden in a car or used public transportation. Younger adults were more likely to have had a tetanus shot in the last 10 years. Finally, younger adults were more likely to have stopped receiving help but still be in need of that assistance. In summary, younger adults were more likely to need or participate in employment programs, social skills and communication supports, mental health services, and generic transportation options. It seems reasonable to assume that they were more likely to have had a tetanus shot because they were more active outside the home and were more likely to have had an injury that required a tetanus shot. Both younger and older adults had support needs that were unmet, but the nature of those supports differed. It is important to note, however, that age was not the only factor associated with need for and use of services and supports. Both younger and older adults with other relevant characteristics needed various services.

Gender

While gender was less a factor in explaining differences in service use and needs than age or disability group, there were important differences in 26 items. Women with disabilities were more likely to need assistance with IADLs, to have difficulty entering or leaving their homes, and to have received help from a non-profit agency. Women were also more likely to have seen a general practitioner, physician specialist, social worker, visiting nurse, or personal care attendant in the last 12 months. Women were more likely to have ridden as a passenger in a car; used a special bus, cab or van service; received transportation services; have an impairment or health problem that prevented the use of public transportation; and have difficulty getting and using public transportation. Women were more likely to have had a flu shot. Finally, women were more likely to have lived in a nursing home, to be on a waiting list for a long-term care facility or community services, to need additional assistance with IADLs, and to have attempted unsuccessfully to hire or get help. Women tended to have more needs for long-term care and assistance, transportation, and health care.

Men with disabilities were more likely to be in the labor force, to participate in transitional work training, and to participate in one or more employment programs. Men were more likely to be able to stay home alone for more than two hours at a time. They were also more likely than women to have seen a speech therapist or pathologist, to have used alcohol or drug abuse services, and to have used an “other” type of long-term care facility. Men were more likely to have driven a car in the last week and to have used public transportation. They were more likely to have ever received a pneumonia vaccination and to have had a tetanus shot in the last 10 years. These differences center around work and independent travel, which may reflect socio-economic expectations and opportunities related to gender. The reason for the increased likelihood of getting a pneumonia vaccination is not immediately apparent. Perhaps this item simply reflects better access to the vaccination for men than for women.

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Appendix: Descriptive Statistics for Dependent Variables

Tables 11 through 17 in this appendix describe services and needs in terms of the percentage of the adults with FL only or ID/DD using those services or having those needs and the estimated U.S. non-institutional adult population with those services or needs. It also provides the relative standard error for each of the population estimates. Table 18 shows the sample sizes for each age by gender by disability group across the surveys and supplements used in this paper.

Table 11: Employment Programs and Status for Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	FL Only			ID/DD		
Employment Status	**%**	**Est. Pop.**	**RSE**	**%**	**Est. Pop.**	**RSE**
Employment program						
Supported employment	0.4	64	15.2	3.6	54	17.4
Transitional work training	1.1	170	10.1	3.6	53	16.8
Sheltered workshop	0.5	82	20.3	9.2	137	12.4
Used one or more employment programs	2.0	303	8.7	15.3	226	9.2
Day activity center	2.1	316	8.2	12.1	178	10.4
Employment program or day activity center	3.8	584	6.3	23.7	350	7.6
Employment status						
In the labor market	24.7	3,808	2.6	30.7	459	6.3
Employed if in the labor market	89.4	3,404	2.7	85.4	392	7.1
Alternative employment status						
Employed	22.1	3,404	2.7	26.2	392	7.1
Looking for work	2.6	404	7.2	4.5	67	14.8
Not in labor market	75.3	11,620	1.5	69.3	1,037	4.3
Primary activity						
Working	20.1	3,060	2.7	20.5	304	7.8
Keeping house	30.8	4,688	2.3	14.4	214	8.7
Going to school	37.0	565	6.1	11.7	173	10.8
Something else	45.3	6,889	1.8	53.4	793	4.9

Est. Population in 1,000s; RSE = Relative Standard Error

Citation: Larson, S., Lakin, C., & Huang, J. (2003). Service Use by and Needs of Adults with Functional Limitations or ID/DD in the NHIS-D: Difference by Age, Gender, and Disability. *DD Data Brief, 5*(2). Minneapolis: University of Minnesota, Research and Training Center on Community Living.

Table 12: Supports Used or Needed by Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

Support or Assistance Received or Needed	FL Only			ID/DD		
	%	Est. Pop.	RSE	%	Est. Pop.	RSE
Help or supports received						
Gets help/supervision for 1+ IADLs	65.4	10,091	1.7	62.4	933	4.5
Gets help/supervision for 1+ ADLs	15.6	2,695	2.6	23.2	739	4.7
Has a guardian	1.9	284	7.7	14.9	220	8.9
Support needs						
Never left alone for 2+ hours	16.1	2,306	3.7	31.4	478	8.7
Needs ongoing supervision for safety reasons	4.9	681	5.8	26.6	393	9.7
Has difficulty leaving the house	22.2	3,125	3.2	14.2	216	9.2

ADLs - Activities of Daily Living (bathing, dressing, eating, using a toilet, getting in and out of bed)
IADLs - Instrumental Activites of Daily Living (shopping, managing money, cooking, working around the house, using the telephone)
Est. Population in 1,000s; RSE = Relative Standard Error

Table 13: Services Received in Last 12 Months by Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

Services Received in Last 12 Months	FL Only			ID/DD		
	%	Est. Pop.	RSE	%	Est. Pop.	RSE
Professional service (Phase 1 data)						
General practitioner/doctor	75.0	10,400	2.5	62.0	932	5.7
Physician specialist	46.2	6,450	2.8	37.6	568	6.5
Social worker	3.4	469	7.4	11.8	177	12.0
Physical therapist	13.3	1,863	4.1	8.0	122	13.1
Occupational therapist	2.0	276	8.8	3.9	59	17.2
Speech therapist or pathologist	0.8	116	13.0	3.2	49	23.0
Visiting nurse	11.0	1,531	3.9	7.8	119	14.6
Personal care attendant	4.9	684	6.0	8.1	124	15.8
Center for independent living	0.3	42	22.3	3.1	47	18.2
Social skills training	1.2	162	11.7	11.0	165	13.9
Mental health/substance abuse						
Overnight in hospital or other facility for mental health services (P2)	1.2	173	11.1	4.3	66	19.7
Outpatient mental health services (P2)	7.6	1,051	5.1	16.3	246	11.9
Community mental health services (P1)	5.2	739	5.3	21.0	285	8.0
Services for alcohol or drug abuse (P2)	0.9	129	12.2	2.2	33	24.9
Uses psychotropic medications (P1)	14.4	2,197	3.1	27.5	406	6.8

Est. Population in 1000s; RSE = Relative Standard Error
P1: Phase 1 variable, P2: Phase 2 variable

Table 14: Long-Term Care Settings Previously Used by Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	FL Only			ID/DD		
Type of Facility	**%**	**Est. Pop.**	**RSE**	**%**	**Est. Pop.**	**RSE**
Facility or group home for people with mental illness	2.1	307.7	8.3	7.4	113.1	13.3
Facility for people with mental retardation	0.1	20.5	27.6	5.2	80.4	23.3
Nursing home	5.2	758.4	5.9	4.0	61.6	16.1
Board and care home	0.5	66.2	20.7	3.6	56.1	20.2
Assisted living facility	1.0	140.7	14.3	3.7	57.3	20.4
Convalescent home	1.4	204.2	10.5	1.9	28.9	28.4
Other long-term care facility	1.2	179.8	11.8	2.2	34.8	25.0
Any long-term care facility	9.4	1,365.2	4.8	20.8	324.6	9.4
Never received long-term care services	90.6	13,125.5	2.5	79.2	1,235.0	5.3

Est. Population in 1000s; RSE = Relative Standard Error

Table 15: Transportation Used by Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	FL Only			ID/DD		
Type of Transportation	**%**	**Est. Pop.**	**RSE**	**%**	**Est. Pop.**	**RSE**
Drove a car in last week	60.4	3,310	3.3	26.4	225	10.7
Rode in a car in last week	58.9	8,287	2.7	67.5	1,025	6.0
Rode in social service agency van last week	1.1	163	11.3	8.7	134	18.7
Used public transportation (where available)	19.8	1,880	3.9	31.9	324	8.5
Used special bus service (where available)	13.2	1,018	5.7	27.2	240	11.6
Received transportation services	4.9	689	5.7	16.4	249	11.8
Using public transportation (where available) is somewhat or very difficult	39.6	3,157	3.5	43.1	385	8.7
Impairment prevents or limits use of public transportation (where available)	29.0	2,089	3.8	44.4	283	9.5

Est. Population in 1000s; RSE = Relative Standard Error

Table 16: Vaccinations and Tetanus Shots Received by Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	No Significant Limitations			FL Only			ID/DD		
Service	**%**	**Est. Pop.**	**RSE**	**%**	**Est. Pop.**	**RSE**	**%**	**Est. Pop.**	**RSE**
Flu shot in last 12 months	20.7	31,163	1.7	39.9	5,330	3.4	24.3	257	16.5
Pneumonia vaccination ever	10.3	14,619	2.5	23.3	2,934	4.6	14.3	136	21.9
Tetanus shot in past 10 years	58.4	83,864	1.5	40.8	6,353	3.6	64.9	634	11.8

Est. Population in 1000s; RSE = Relative Standard Error

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Table 17: Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population Waiting for Services

	FL Only			ID/DD		
Type of Service	**%**	**Est. Pop.**	**RSE**	**%**	**Est. Pop.**	**RSE**
Waiting for a specific service						
Mental health services	2.9	394	8.0	6.2	93	17.7
Case manager	1.8	253	7.9	8.3	85	13.4
Home, community-based, or facility-based long-term care	0.7	96	14.0	2.5	39	24.3
Employment program or day activity center	0.6	88	13.8	3.2	47	19.0
Community services*	0.6	77	14.2	1.8	27	25.8
Needs or tries to get help						
Needs additional help with one or more IADLs	10.4	1,442	4.2	10.1	151	11.0
Needs help, has unsuccessfully attempted to hire services	29.0	439	6.6	35.8	52	19.5
Needs help but has stopped receiving it	19.8	309	7.8	16.7	41	26.9

Est. Population in 1000s; RSE = Relative Standard Error

* Waiting for community services includes people waiting for physical therapy, occupational therapy, audiologist, speech therapist or pathologist, recreational therapist, visiting nurse, personal care attendant, reader or interpreter, adult day care or activity center, alcohol or drug abuse services, center for independent living, respiratory therapy, social work, or transportation (from the Phase 2 survey).

Table 18: Maximum Sample Sizes by Survey, Gender, and Age for Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. National Health Interview Survey on Disability

	Phase 1 and Core		Phase 2		HP 2000	
Group	**FL Only**	**ID/DD**	**FL Only**	**ID/DD**	**FL Only**	**ID/DD**
Men						
18-35 years	837	307	566	244	166	46
36+ years	3,806	295	2,835	229	884	58
TOTAL	4,643	602	3,401	473	1,050	104
Women						
18-35 years	958	242	670	193	213	53
36+ years	6,477	272	4,997	216	1,788	53
TOTAL	7,435	514	5,667	409	2,001	106
GRAND TOTAL	12,078	1,116	9,068	882	3,051	210

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