

DD Data Brief

January 2004
Vol. 6 • No. 1

Research and Training Center on Community Living • Institute on Community Integration (UCEDD)

Gender, Age, and Disability Differences in Functional Limitations for Non-Institutionalized Adults in the NHIS-D

Introduction

The National Health Interview Survey (NHIS) conducted by the U.S. Bureau of the Census, National Center on Health Statistics, provides information on the health status and needs of Americans in the non-institutionalized population. In 1994 and 1995, a Disability Supplement was added to the

Individuals with ID/DD have substantially more limitations than individuals with FL in major life areas including Activities of Daily Living, learning, communication, self-direction, and economic self-sufficiency.

Core Survey. The NHIS Disability Supplement (NHIS-D) provides a rare opportunity to identify and compare groups of Americans with different types and degrees of disability on a wide range of demographic, health status, functional, socio-economic, and other factors.

To date, most available research on adults with disabilities has focused on subgroups of adults with specific types of disabilities and/or persons identified as recipients of particular types of services. Information on adults with disabilities within the general household population, that is, persons living in non-specialized (“non-institutional”) housing, has been available from several national household surveys, including the National Health Interview Survey, the Medical Expenditure Panel

About This *Data Brief*

This *DD Data Brief* summarizes findings from the National Health Interview Survey conducted by the U.S. Bureau of the Census, National Center on Health Statistics, in 1994 and 1995, which included a Disability Supplement. It examines gender, age, and functional limitations and the relationship between age, functional limitations, and intellectual/developmental disabilities for adults, with a specific focus on adult women. Descriptive population estimates and a series of logistic regressions are used to examine the unique associations with various functional limitations of gender, age, disability, health status, race, and economic status. This *Brief* also examines the relationship between older and younger adults, and differences by gender, disability type, and limitation type.



The College of Education
& Human Development
UNIVERSITY OF MINNESOTA

Survey, and the Survey of Income and Program Participation. These surveys have been limited, however, in the comprehensiveness of information gathered about adults with disabilities and, as a result, in their capacity for identifying and grouping persons by number, severity, and/or nature of conditions causing limitations in major areas of daily activity. Most research on disability is designed to improve treatment, service delivery, understanding, and quality of life of persons within established categories of disability or specific disability-related programs. This pragmatic tendency may overlook similar challenges and needs among adults with different “types” of disabilities.

This *DD Data Brief* examines similarities among two groups of adults, with a particular focus on adult women: 1) persons with at least one functional limitation (FL), and 2) persons with intellectual disabilities (ID), developmental disabilities (DD), or both. We also compare characteristics of adults 18 to 34 years of age with those of adults 35 years of age and older.

Methodology

In both 1994 and 1995, a disability supplement was appended to the National Health Interview Survey (NHIS) to gather nationally representative information on non-institutionalized persons with disabilities who were identified as part of the annual NHIS sample of approximately 108,000 persons in 48,000 households. The NHIS-D gathered more specific information than the NHIS Core Survey on diagnostic, functional, social, and behavioral characteristics; service needs and use; and general circumstances and experiences of sample members with disabilities.

The NHIS-D was conducted in two phases. Phase I was completed at the time of the initial NHIS household survey with reference to all household members. The regular NHIS Core and NHIS-D Phase I supplemental data were used to identify persons with disabilities to be included in Phase II follow-back interviews, which typically occurred three to eight months after the initial household visit. Separate Phase II interviews were developed for children and adults, and included detailed ques-

tions about in-home and out-of-home social and health services; housing and family structure; and physical, emotional, and social functioning of sample members. This *DD Data Brief* is based on items from the Core Survey and the Phase I Disability Supplement. It examines the relationships between various functional limitations and gender, age, category of disability, health status, race, and economic status.

Assignment of individuals to the intellectual and/or developmental disabilities (ID/DD) or functional limitations only (FL) groups followed the protocol used by Larson, et al. (2000), which also describes in detail the operational definitions used for various types of functional limitations. Persons were assigned to the ID/DD group based on categorical responses that indicated ID, and/or that indicated substantial functional limitations in three or more major life areas resulting from chronic conditions first experienced by age 22 (DD). Persons with one or two significant limitations occurring at any age and persons with any number of functional limitations resulting from conditions first experienced in adulthood who did not also have an intellectual or developmental disability were identified as having functional limitations only.

Because the NHIS-D was conducted for two consecutive years, the 1994 and 1995 samples were combined to create a sample of sufficient size to better represent low-incidence disabilities such as ID/DD. As these samples were combined, the final population weights were 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 for the NHIS-D. Standard errors are presented as relative standard errors (RSE), which were computed by dividing the standard of 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 that the group was 85% less likely than the referent group to experience the dependent variable (one divided by .54 = 1.85). For space reasons, beta and *t*-test statistics are not presented for analyses using logistic regression. They are available from the first author upon request.

Results

Prevalence of Disability and Limitations

The 1994-95 NHIS-D yielded estimates of 15.4 million adults with one or more substantial functional limitations but not ID/DD, and 1.5 million adults with ID/DD (Larson, Lakin, Kwak, and Anderson, 2001). Of the 1.5 million adults identified with ID/DD, an estimated 719,000 (48%) were between 18 and 34 years old and 776,000 (52%) were 35 years or older.

Table 1 shows the average age of younger and older non-institutionalized adults in the U.S. with either FL or ID/DD. Of the estimated 15.4 million adults experiencing FL, an estimated 2.3 million (15%) were between 18 and 34 years old and 13.1 million (85%) were 35 years or older. The average age of adults in the 35 and older group was substantially older for men and women who had FL only than for men and women with ID/DD (the average age was 65.2 years for those with FL only compared with 49.7 years for adults with ID/DD). This age difference must be considered in all of the analyses of the 35 and older group.

There were noticeable differences in gender patterns among individuals with disabilities in the 18 to 34 year age group (see Table 2). For

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

Age by Gender Group	FL Only			ID/DD			X ²	Sig.
	%	Est. Pop.	RSE	%	Est. Pop.	RSE		
18-34 years								
Males	49.4	1,153	4.0	57.3	412	6.8	9.45	***
Females	50.6	1,181	3.8	42.7	307	7.1		
35-54								
Males	43.4	1,615	3.1	58.3	327	7.5	27.2	***
Females	54.6	2,109	2.8	41.7	233	8.2		
55+								
Males	35.5	3,330	2.3	43.1	93	11.7	3.15	
Females	64.5	6,040	2.0	56.9	123	11.3		
35+ total								
Males	37.8	4,945	1.9	54.1	420	6.8	40.64	***
Females	62.2	8,150	1.7	45.9	356	6.7		

FL = Significant Functional Limitations but not ID/DD
 ID/DD = Intellectual Disabilities or Developmental Disabilities
 Est. Population in 1,000s; RSE = Relative Standard Error
 *** p<.001, **p<.01; *p<.05

individuals reporting FL only, there was an almost even split between males and females. However, among those 35 years and older, there were many more females than males (62.2% versus 37.8%). Among adults with ID/DD there were more males than females in both age groups. Among adults between 35 and 54 years with FL, there were more females than males. This difference nearly doubled for the 55 and older group. Among 35- to 54-year-olds with ID/DD, however, there were more males than females. This pattern was reversed in the older group with more females than

males with ID/DD in the 55 years and older group. Estimated populations varied considerably between the FL and ID/DD groups. The estimated number of individuals with a FL who were 55 and older was twice as large as the number of persons

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

Age Group	Total		Females Only		Males Only	
	FL Only	ID/DD	FL Only	ID/DD	FL Only	ID/DD
18-34 years	26.09	25.65	26.52	25.56	25.61	25.73
SD	5.24	5.07	5.08	4.94	5.37	5.18
35 years and older	65.23	49.69	66.32	51.37	63.38	48.18
SD	15.64	12.99	15.74	13.85	15.30	11.98

age 35 to 54 years. Among individuals with ID/DD, the estimated number of persons 55 and older was only 39% of the estimated population between age 35 and 54, with an especially small number of males.

Limitations in Instrumental Activities of Daily Living (IADL) and Personal Care by Age and Disability Group

Table 3a summarizes the estimated percent-ages of women with various functional limitations in the FL only and ID/DD groups by age:

18 to 34 years and 35 years and older. A similar analysis for men can be found on Table 3b.

Six activities comprised the operational definition of Instrumental Activities of Daily Living (IADLs): preparing meals, shopping, managing money, using the telephone, and doing heavy or light work around the house. Six other activities made up the Activities of Daily Living (ADLs) operational definition: bathing, dressing, eating, getting in and out of bed or chairs, using the toilet, and getting around inside the house. In Tables 3a and 3b,

Table 3a: Prevalence of IADLs, ADLs, and Other Limitations for Females Age 18 and Older with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

Limitations by Age Group	FL Only			ID/DD			X ²	Sig.
	%	Est. Pop.	RSE	%	Est. Pop.	RSE		
18-34 years								
Instrumental Activities of Daily Living	26.6	314	6.5	51.3	158	9.7	37.75	***
Activities of Daily Living	2.2	26	21.4	16.1	50	19.2	21.79	***
Mobility limitations	3.8	44	16.3	11.9	37	21.9	10.1	***
Uses mobility aid	4.9	57	15.9	14.2	43	21.2	9.83	***
Problems with balance lasting more than three months	6.8	79	13.9	11.6	35	19.5	4.36	*
Serious difficulty seeing	6.6	78	12.0	11.6	35	19.6	4.74	*
Difficulty hearing normal conversation with hearing aid	7.9	91	13.9	7.4	22	28.5	0.05	
Difficulty communicating with others outside family	2.1	24	24.9	25.2	77	14.0	46.84	***
Difficulty understanding others	3.9	46	18.0	36.3	112	11.6	66.05	***
Learning limitations	25.1	296	7.7	87.3	268	7.6	200.31	***
Limitations in self-direction	18.2	215	9.1	45.0	139	11.7	38.84	***
Limitations in economic self-sufficiency	57.4	677	5.1	85.5	263	7.6	66.03	***
35+ years								
Instrumental Activities of Daily Living	74.2	6,049	1.9	61.9	221	1.3	12.47	***
Activities of Daily Living	15.4	1,256	3.8	23.6	84	1.3	8.85	***
Mobility limitations	36.4	2,970	2.5	24.8	88	12.2	14.68	***
Uses mobility aid	35.2	2,865	2.4	21.9	78	14.6	18.99	***
Problems with balance lasting more than three months	20.0	1,601	3.7	18.8	65	15.0	0.23	
Serious difficulty seeing	18.7	1,520	3.2	12.5	45	16.6	8.76	***
Difficulty hearing normal conversation with hearing aid	16.9	1,364	3.7	9.8	34	19.9	12.1	***
Difficulty communicating with others outside family	3.8	308	6.8	23.2	82	13.5	43.04	***
Difficulty understanding others	9.0	737	4.8	30.9	110	11.4	46.83	***
Learning limitations	5.3	433	6.2	85.0	303	7.5	186	***
Limitations in self-direction	14.3	1,164	3.9	50.8	181	9.9	71.98	***
Limitations in economic self-sufficiency	38.9	3,167	2.4	87.3	311	17.4	163.5	***
Adults (18+ years)								
Considered legally blind	3.4	514	6.1	3.6	53	18.7	0.1	
Difficulty communicating with family	1.9	295	7.1	11.9	175	9.7	77.38	***

FL = Significant Functional Limitations but not ID/DD; ID/DD = Intellectual Disabilities or Developmental Disabilities

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

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

sample members were defined as having an IADL or ADL limitation if they had significant difficulty or were unable to complete one or more IADLs or ADLs without assistance.

Over half (57.4%) of the women between 18 and 34 years old with FL reported a limitation in economic self-sufficiency and over 25% identified significant with IADL limitations and/or learning limitations. The next most common limitation was for self-direction (18.2%). For similarly-aged women with ID/DD, the most common limitation was in learn-

ing limitations (87.3%), closely followed by limitations in economic self-sufficiency (85.5%). Over half (51.3%) reported difficulties in IADLs and 45% reported substantial limitations in self-direction. Among adult women with ID/DD, 36.3% reported problems in understanding others and 25.2% reported difficulty in communication with persons outside their immediate family.

With the exception of difficulties in hearing, 18 to 34 year old women with ID/DD were significantly more likely to report limitations

Table 3b: Prevalence of IADLs, ADLs, and Other Limitations for Males Age 18 and Older with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

Limitations by Age Group	FL Only			ID/DD			X ²	Sig.
	%	Est. Pop.	RSE	%	Est. Pop.	RSE		
18-34 years								
Instrumental Activities of Daily Living	12.5	144	10.5	50.4	208	9.1	99.72	***
Activities of Daily Living	1.9	22	24.9	13.5	56	17.2	27.85	***
Mobility limitations	3.5	40	18.8	13.5	56	18.3	16.74	***
Uses mobility aid	5.3	61	17.5	11.5	47	19.9	8.14	***
Problems with balance lasting more than three months	5.9	68	15.9	11.4	46	21.3	5.16	*
Serious difficulty seeing	4.2	48	22.1	10.8	45	21.4	8.42	***
Difficulty hearing normal conversation with hearing aid	8.9	101	13.8	6.9	28	25.0	1.13	
Difficulty communicating with others outside family	4.2	48	18.5	22.6	92	13.3	42.91	***
Difficulty understanding others	7.2	82	14.8	31.8	131	11.6	50.77	***
Learning limitations	42.6	490	6.4	90.4	373	7.3	171.61	***
Limitations in self-direction	13.8	159	9.6	48.3	199	10.1	66.41	***
Limitations in economic self-sufficiency	52.9	609	5.3	88.7	365	7.2	110.74	***
35+ years								
Instrumental Activities of Daily Living	60.6	300	2.4	60.9	255	8.2	0.01	
Activities of Daily Living	15.3	759	4.4	24.5	103	12.5	11.45	***
Mobility limitations	31.7	157	3.0	21.6	91	13.5	13.55	***
Uses mobility aid	33.7	1,658	3.0	25.7	107	12.1	7.28	**
Problems with balance lasting more than three months	19.2	929	4.0	23.4	96	13.3	2.16	
Serious difficulty seeing	17.6	869	4.3	15.8	66	14.5	0.73	
Difficulty hearing normal conversation with hearing aid	28.4	1,390	3.4	15.9	67	15.5	25.61	***
Difficulty communicating with others outside family	6.0	295	6.7	27.5	115	12.4	44.42	***
Difficulty understanding others	16.8	829	4.6	38.4	161	10.9	36.88	***
Learning limitations	9.1	449	5.8	87.4	367	7.4	205.12	***
Limitations in self-direction	16.1	798	5.1	59.4	249	8.6	109.54	***
Limitations in economic self-sufficiency	48.9	2,420	2.6	89.4	375	6.7	169.38	***
Adults (18+ years)								
Considered legally blind	3.6	216	8.9	4.5	37	23.9	0.74	
Difficulty communicating with family	2.6	156	9.5	12.4	102	12.8	40.68	***

FL = Significant Functional Limitations but not ID/DD; ID/DD = Intellectual Disabilities or Developmental Disabilities

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

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

in all areas than 18- to 34-year-old women with FL only. Young women with ID/DD were more than twice as likely to report limitations with IADLs, ADLs, mobility, vision, communication, learning, and self-management. Young women with ID/DD were also more likely to have report limitations in economic self-sufficiency.

Women 35 years and older indicated substantially more limitations. Among the FL only group, 74.2% reported having a significant limitation with IADLs. The next most common problems were substantial limitations in economic self-sufficiency (38.9%), mobility limitations (36.4%), and the need to use mobility aids (35.2%). More than half of women 35 years and older with ID/DD reported economic limitations (87.3%), learning difficulties (85.0%), IADL limitations (61.9%), and/or self-direction limitations (50.8%).

With the exception of chronic balance problems, the limitations of women 35 years and older were different than for younger women. Older adults with FL only were more likely than those with ID/DD to report limitations in IADLs, mobility, and hearing. A significant factor in differences in mobility and hearing is the substantial differences in the age distributions within the FL only and ID/DD groups, with the FL only group being substantially older. Non-institutionalized females 35 years and older with ID/DD were more likely to have limitations with their personal care, interpersonal communication, learning, and self-management than those with FL only. Those older adults with ID/DD were also more than twice as likely to have limitations in the area of economic self-sufficiency as those with FL only.

Factors Associated with Various Limitations

IADL and ADL Limitations. Table 4 summarizes the factors associated with limitations in IADLs or ADLs for adults with FL only or ID/DD. The IADL limitations were significantly related to disability group, gender, age, overall health status, and economic status. Overall, nearly 14% of the variability in IADL limitations was accounted for by these vari-

Table 4: Self-Care Needs of Adults Age 18 and Older with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	IADL Limitations		ADL Limitations	
	Odds Ratio	Sig.	Odds Ratio	Sig.
Intercept	0.21	***	0.03	***
Disability group				
Functional limitations only	1.00		1.00	
ID and/or DD	1.90	***	2.90	***
Gender				
Male	1.00		1.00	
Female	1.89	***	1.01	
Age				
18 to 34 years	1.00		1.00	
35 years and older	5.31	***	3.31	***
Overall health status				
Excellent or very good	1.00		1.00	
Good, fair, or poor	1.84	***	2.43	***
Race				
White	1.00		1.00	
Black	0.99		0.94	
Other	0.88		0.82	
Economic status				
Above poverty level	1.00		1.00	
Below poverty level	0.72	***	0.82	*
R²	0.139	***	0.044	***

*** 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.

ables. Adults 35 and older were five times more likely to report having IADL limitations than younger adults. The IADL limitations were more common among females; adults who were in good, fair, or poor health; and adults with ID/DD. Individuals below the poverty level were 38% less likely to have an IADL limitation.

The ADL limitations were significantly related to disability group, age, overall health status, and economic status, although only 4% of the overall variability was accounted for by these variables. Individuals 35 and older were over three times more likely to report ADL

limitations. Adults with ID/DD were nearly three times more likely than adults with FL only to report ADL limitations. Adults in good, fair, or poor health were almost 2.5 times more likely to report ADL limitations. However, persons living below the poverty level were 22% less likely to have ADL problems, which is not surprising since adults with ID/DD who are not in institutional settings are more likely to continue to live with family members, which in our previous analyses we learned is associated with higher household incomes (Larson, Lakin, Anderson, & Kwak, 2001).

Mobility and Sensory Limitations. Table 5 summarizes factors associated with differences in mobility and sensory limitations for adults. Mobility limitations were significantly related to gender, age, and health status with 11% of the variability in mobility limitations accounted for by these variables. As might be expected, persons 35 years and older were 5.9 times more likely to have mobility limitations than those 34 years and younger. Those in good, fair, or poor health were 2.9 times more likely to have mobility problems compared to those reported to be in excellent health. Women were 27% more likely to have significant mobility limitations than men.

Age, health status, and race accounted for 7% of the variance in use of mobility aids. Controlling for the other variables, adults older than 35 were 5.6 times more likely to use a mobility aid. Individuals in good, fair, or poor health were 65% more likely to use a mobility aid, and Blacks were 20% more likely to use mobility aids than Whites.

Nearly 5% of the variability in chronic balance problems was accounted for by disability group, age, health status, economic status, and race. Controlling for the other variables, adults 35 years and older were 2.5 times more likely to report long-lasting balance problems than younger adults. Adults in good, fair, or poor health were 2.5 times more likely to report balance problems than adults in excellent health. Adults with ID/DD were 38% more likely than adults with FL only to experience balance problems, and persons living below the poverty level had a 30% increased risk for similar

problems when compared with adults living in households with incomes at or above the poverty level. Blacks were 27% less likely to report long-lasting balance problems than Whites.

Approximately 3% of the variability in having serious difficulty seeing was accounted for by age, health status, and economic level. Controlling for the other variables, individuals older than 35 years were 2.5 times more likely to report vision limitations than the younger age group. Persons reporting good, fair, or poor health were 81% more likely to report vision problems than those reporting very good or excellent health, and those living below the poverty level were 34% more likely to report vision limitations than those at or above the poverty level. Adults 35 years and older were 2.1 times more likely to be legally blind than younger adults.

A total of 4% of the variability in difficulty hearing conversations even with a hearing aid was accounted for by age, race, disability group, and gender. As expected, controlling for the other factors, individuals 35 and older were three times more likely to report limitation in this area than younger adults. Race was significant as Blacks and those who identified themselves as of another race were respectively 45% and 67% less likely than Whites to report a limitation in hearing problems despite using a hearing aid. Women were 54% less likely than men to report hearing difficulties, and adults with ID/DD were 59% less likely than adults with FL only to report hearing problems. Again, differences in the average age of adults with ID/DD versus adults with FL only may have influenced this finding.

Communication, Learning and Independence Limitations. Table 6 summarizes factors associated with variability in communication limitations, learning limitations, and economic self-sufficiency. Communication limitations include ability to communicate with family members, ability to communicate with persons outside the family, and ability to understand others. Disability type, gender, age, health status, and race accounted for more than 2% of the variability in difficulty communicating with family members. Controlling for

Table 5: Mobility and Sensory Limitations of Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	Has Mobility Limitations		Uses Mobility Aids		Has Problems with Balance Lasting at Least Three Months		Has Serious Difficulty Seeing		Is Considered Legally Blind		Has Difficulty Hearing Conversation with Hearing Aid	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	0.04	***	0.07	***	0.05	***	0.05	***	0.02	***	0.14	***
Disability group												
Functional limitations only	1.00		1.00		1.00		1.00		1.00		1.00	
ID and/or DD	1.04		0.93		1.38	**	1.00		1.39		0.59	***
Gender												
Male	1.00		1.00		1.00		1.00		1.00		1.00	
Female	1.27	***	1.06		1.04		1.06		0.80		0.54	***
Age												
18 to 34 years	1.00		1.00		1.00		1.00		1.00		1.00	
35 years and older	5.92	***	5.58	***	2.51	***	2.52	***	2.09	***	2.95	***
Overall health status												
Excellent or very good	1.00		1.00		1.00		1.00		1.00		1.00	
Good, fair, or poor	2.88	***	1.65	***	2.47	***	1.81	***	1.02		1.01	
Race												
White	1.00		1.00		1.00		1.00		1.00		1.00	
Black	0.92		1.20	*	0.79	**	1.03		1.05		0.45	***
Other	0.86		0.98		1.02		1.04		0.61		0.67	**
Economic status												
Above poverty level	1.00		1.00		1.00		1.00		1.00		1.00	
Below poverty level	1.04		0.96		1.30	***	1.34	***	0.99		1.03	
R²	0.114	***	0.073	***	0.047	***	0.029	***	0.003	***	0.041	***

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

Table 6: Communication and Comprehension Limitations of Adults with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	Difficulty Communicating with Family		Difficulty Communicating with Non-Family		Difficulty Understanding Others		Learning Limitations		Limitations in Self-Direction		Economic Limitations	
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig
Intercept	0.01	***	0.04	***	0.11	***	0.70	***	0.14	***	0.88	
Disability group												
Functional limitations only	1.00		1.00		1.00		1.00		1.00		1.00	
ID and/or DD	8.64	***	8.04	***	5.09	***	46.85	***	6.01	***	8.38	***
Gender												
Male	1.00		1.00		1.00		1.00		1.00		1.00	
Female	0.69	**	0.70	***	0.55	***	0.52	***	0.90		0.71	***
Age												
18 to 34 years	1.00		1.00		1.00		1.00		1.00		1.00	
35 years and older	1.48	*	1.29	*	1.90	***	0.19	***	0.99		0.52	***
Overall health status												
Excellent or very good	1.00		1.00		1.00		1.00		1.00		1.00	
Good, fair, or poor	1.73	***	1.24	*	0.84	**	0.68	***	1.35	***	2.49	***
Race												
White	1.00		1.00		1.00		1.00		1.00		1.00	
Black	0.78		0.93		0.64	***	0.82		1.06		1.48	***
Other	1.83	*	1.49		1.03		0.93		1.72	**	1.76	***
Economic status												
Above poverty level	1.00		1.00		1.00		1.00		1.00		1.00	
Below poverty level	0.78		0.83		0.90		1.15		1.69		1.75	***
R²	0.023	***	0.041	***	0.047	***	0.268	***	0.068	***	0.136	***

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

the other variables, adults with ID/DD were 8.6 times more likely to report difficulty communicating with family members than adults with FL only. Adults 35 years and older were 48% more likely than younger adults to have difficulty communicating with family members. Women were 45% less likely than men to report this as a limitation. Persons who identified themselves as of another race were 83% more likely to report this limitation than those who were White. Those reporting good, fair, or poor health were 73% more likely to have difficulty communicating with family members than those in very good or excellent health.

Disability type, age, health status, and gender accounted for 4.1% of the variability in difficulty communicating with non-family members. Adults with ID/DD were eight times more likely to have this communication limitation than adults with FL only. Women were 70% less likely than men to have difficulty communicating with non-family members.

Adults 35 and older were 29% more likely to have this problem than younger adults, and those reporting good, fair, or poor health were 24% more likely than adults in very good or excellent health to report difficulty communicating with non-family members.

Disability type, gender, age, health status, and race accounted for nearly 5% of the variability in difficulty understanding others. Controlling for the other variables, adults with ID/DD were more than five times more likely than those with FL to have difficulty understanding others. Women were 55% less likely than men to have difficulty understanding others. Adults 35 years and older were 90% more likely than younger adults to have difficulty understanding others. Blacks were 64% less likely to have difficulty understanding others than Whites, and those reporting good, fair, or poor health were 84% less likely to have difficulty understanding others than those reporting very good or excellent health.

Table 7: Living Arrangements by Age and Gender for People with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

Living Arrangement	FL Only			ID/DD			X ²	Sig.
	%	Est. Pop.	RSE	%	Est. Pop.	RSE		
18-34 years								
Women								
Alone or with unrelated persons	13.0	154	11.7	14.4	44	18.3	79.04 ***	
With spouse	45.4	536	5.6	13.9	43	19.0		
With relative (parent, siblings, etc.)	41.6	491	5.2	71.7	220	8.6		
Men								
Alone or with unrelated persons	20.5	236	9.5	13.4	55	17.5	59.12 ***	
With spouse	29.9	345	6.9	10.3	42	21.8		
With relative (parent, siblings, etc.)	49.6	572	6.0	76.3	314	7.8		
35+ years								
Women								
Alone or with unrelated persons	37.1	3,025	2.9	27.0	96	12.5	58.58 ***	
With spouse	38.9	3,169	14.1	20.4	73	14.1		
With relative (parent, siblings, etc.)	24.0	1,956	9.3	52.6	187	9.3		
Men								
Alone or with unrelated persons	24.0	1,153	4.0	33.0	139	12.4	112.85 ***	
With spouse	62.7	3,257	2.3	25.0	104	12.9		
With relative (parent, sibling, etc.)	13.3	535	5.7	42.0	177	10.2		

FL = Significant Functional Limitations but not ID/DD; ID/DD = Intellectual Disabilities or Developmental Disabilities

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

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

Disability type, gender, age, and health status accounted for nearly 27% of the variability in learning limitations. As expected, adults with ID/DD were almost 47 times more likely to report a learning limitation than adults with FL only. Women and adults 35 and older were respectively 52% and 19% less likely to report having a learning limitation. Persons who reported good, fair, or poor health were 68% less likely to have a learning limitation than adults reporting very good or excellent health.

Disability type, race, and health status accounted for 6.8% of the variability in limitations in self-direction. Adults with ID/DD were six times more likely to have limitations in self-direction than adults with FL. Adults who identified themselves as of another race were 72% more likely to report limitations in self-direction than those who were White, and adults in good, fair, or poor health were 35% more likely to have limitations in self-direction than adults reporting very good or excellent health.

Disability group, gender, age, health status, race, and economic status accounted for 13.6% of variability in limitations in economic self-sufficiency. Adults with ID/DD were 8.4 times more likely to have limitations in economic self-sufficiency than those with FL only. Controlling for the other variables, adults reporting poor health were 2.5 times more likely than adults reporting excellent health to report limitations in economic self-sufficiency. Blacks and those who identified themselves as of another race were respectively 48% and 76% more likely than Whites to report limitations in economic self-sufficiency. Adults in households with incomes below the poverty level were 75% more likely to report limitations in economic self-sufficiency. On the other hand, women and adults 35 and older were respectively 71% and 52% less likely than men and younger adults to report limitations in economic self-sufficiency.

Living Arrangements. Table 7 summarizes the estimated populations and percentages of living arrangements for non-institutionalized adults with disabilities in the U.S. Adults with ID/DD were more likely than adults with FL only to be living with parents, siblings, or other

relatives and less likely to be living with a spouse across all age and gender groups. Among young women with FL only, an equal number lived with family members and with spouses (45.4% and 41.6%, respectively). Among younger men with FL only, nearly half lived with family members (49.6%) while 29.9% lived with a spouse and 20.5% lived alone. Among older women with FL only, only 24.0% lived with family members, while the others were evenly split between living alone and living with a spouse. Among older men with FL only, the vast majority lived with a spouse (62.7%).

Table 8 summarizes the variables associated with various living arrangements. Disability group, gender, age, race, and economic status

Table 8: Living Arrangements of Adults Age 18 and Older with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	With Relatives		With Spouse	
	Odds Ratio	Sig.	Odds Ratio	Sig.
Intercept	8.73	***	1.08	
Disability group				
Functional limitations only	1.00		1.00	
ID and/or DD	4.29	***	0.25	***
Gender				
Male	1.00		1.00	
Female	1.78	***	0.48	***
Age				
18 to 34 years	1.00		1.00	
35 years and older	0.26	***	1.53	***
Overall health status				
Excellent or very good	1.00		1.00	
Good, fair, or poor	0.98		1.54	***
Race				
White	1.00		1.00	
Black	2.60	***	0.48	***
Other	1.51	**	1.19	
Economic status				
Above poverty level	1.00		1.00	
Below poverty level	0.78	***	0.38	***
R²	0.126	***	0.123	***

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

Note: The category "with relatives" does not include people living with spouses.

accounted for 12.6% of the variability in living with relatives. Adults with ID/DD were 4.3 times more likely to be living with relatives than were adults with FL only. Women were 78% more likely than men to be living with family members. Older adults were 26% less likely than younger adults to be living with relatives. Blacks and those of another race were respectively 2.6 and 1.5 times more likely to be living with relatives. Finally, adults in households with incomes below the poverty level were 78% less likely to be living with relatives than those in higher income levels.

Disability group, gender, age, race, health status, and economic status together accounted for 12.3% of the variability in living with a spouse. Adults with ID/DD were four times less likely than adults with FL only to be living

with a spouse. After the other variables were accounted for, women with disabilities were 2.1 times less likely than men with disabilities to be living with a spouse. Adults with disabilities 35 and older were 53% more likely than younger adults to be living with a spouse. Adults reporting good, fair, or poor health were 54% more likely than adults reporting very good or excellent health to be living with a spouse. Adults living below the poverty level were over 2.5 times less likely than adults in households at or above the poverty level to be living with a spouse. Finally, Blacks were 2.1 times less likely and those who identified themselves as of another race were 19% more likely to be living with their spouse as compared to Whites.

Table 9: Marital Status by Age and Gender for People with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

Marital Status	FL Only			ID/DD			X ²	Sig.
	%	Est. Pop.	RSE	%	Est. Pop.	RSE		
18-34 years								
<i>Women</i>								
Never married	42.3	500	5.7	76.0	231	8.4	79.82 ***	
Married	46.3	546	5.5	14.4	44	18.7		
Formerly married (e.g., separated, divorced)	10.1	126	11.1	9.3	28	21.5		
Widowed	0.8	9	39.4	0.3	1	100.0		
<i>Men</i>								
Never married	65.1	748	5.2	85.1	350	7.4	47.78 ***	
Married	30.4	349	6.9	10.2	42	21.8		
Formerly married (e.g., separated, divorced)	4.5	49	18.9	4.7	19	26.9		
Widowed	0.2	3	71.3	0.0	-	0.0		
35+ years								
<i>Women</i>								
Never married	5.8	475	5.5	44.2	157	9.3	136.41 ***	
Married	40.0	3,254	2.2	21.9	78	13.3		
Formerly married (e.g., separated, divorced)	14.7	1,193	3.7	21.7	77	16.9		
Widowed	39.5	3,216	2.5	12.2	43	17.1		
<i>Men</i>								
Never married	8.0	397	6.5	56.9	239	9.1	150.56 ***	
Married	67.3	3,328	2.3	25.3	106	12.5		
Formerly married (e.g., separated, divorced)	13.5	667	4.7	15.8	66	15.1		
Widowed	11.2	551	5.0	2.0	8	42.6		

FL = Significant Functional Limitations but not ID/DD; ID/DD = Intellectual Disabilities or Developmental Disabilities

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

Italics = Relative Standard Error for the estimate exceeds 30 which means the estimate is considered unreliable

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

Table 10: Marital Status of Adults Age 18 and Older with Functional Limitations (FL Only) or Intellectual or Developmental Disabilities (ID/DD) in the U.S. Non-Institutionalized Population

	Never Married		Separated or Divorced	
	Odds Ratio	Sig.	Odds Ratio	Sig.
Intercept	1.32	***	0.10	***
Disability group				
Functional limitations only	1.00		1.00	
ID and/or DD	8.67	***	2.73	***
Gender				
Male	1.00		1.00	
Female	0.55	***	1.06	
Age				
18 to 34 years	1.00		1.00	
35 years and older	0.09	***	1.15	
Overall health status				
Excellent or very good	1.00		1.00	
Good, fair, or poor	0.58	***	0.99	
Race				
White	1.00		1.00	
Black	2.15	***	1.72	***
Other	0.70		1.16	
Economic status				
Above poverty level	1.00		1.00	
Below poverty level	1.42	***	3.33	***
R²	0.263	***	0.058	***

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

Marital Status. Table 9 shows the marital status of adults with disabilities in four age and gender groups. Across all age and gender combinations, the largest group of adults with ID/DD was never married. Because the sample sizes were so small, the population estimates for adults with ID/DD who were widowed must be considered unreliable (the relative standard error exceeded 30%) except among women 35 and older with ID/DD, 12.2% of whom were widowed. Among young women with FL only, 42.3% had never married and 46.3% were currently married. Among young men with FL only, 65.1% had never married and 30.4% were currently married. Among older adults with FL only, a very different pattern emerged. Among older women with FL only, 40.0% were married, but 39.5% were widowed. Among older men with

FL only, 67.3% were married, while only 11.2% were widowed. The proportion that reported their current marital status to be separated or divorced ranged from 21.7% among women with ID/DD who were 35 years old or older to 4.5% among men ages 18 to 34 with FL only.

Table 10 summarizes variables associated with marital status of adults with disabilities in the non-institutionalized U.S. population. Disability type, gender, age, health status, race, and economic status accounted for more than 26% of the variability in having never been married. Adults with ID/DD were 8.7 times less likely to have ever married than adults with FL only. Adult women with disabilities were 55% less likely to have ever married than men with disabilities. Older adults were 11 times more likely to have been married than younger adults. Adults reporting good, fair, or poor health were 72% more likely to have married than those in excellent health. Blacks were more than twice as likely as Whites to have never married. Adults living below the poverty level were 42% more likely to have never been married than those above the poverty level.

Disability group, race, and economic status accounted for 5.8% of the variability in whether adults with disabilities reported their current marital status as divorced or separated. After controlling for the other variables, adults with ID/DD were 2.7 times more likely than adults with FL only to report that their current marital status was divorced or separated. Blacks were 72% more likely than Whites to be either separated or divorced. Adults living below the poverty level were more than three times more likely than those in households with incomes at or above the poverty level to report their current marital status as separated or divorced.

Discussion

Previous *DD Data Briefs* have described some of the differences among non-institutionalized persons identified as experiencing one or more significant functional limitations and persons with intellectual or developmental disabilities. Here, that work is elaborated as younger adults aged 18 to 34 years of age are compared

to older adults aged 35 years and older, and men and women are compared.

There are some important demographic differences between these two age groups. Adults aged 18-34 with FL only are nearly equally split between males and females. For persons with ID/DD in this age group, there are a much larger number of males. Among older adults with FL only, there are a significantly larger number of females. However, in the ID/DD group, there again are a much larger number of males than females.

To better examine the effects of age and disability, non-institutionalized adults aged 35 and older were divided into two new groupings: those aged 35 to 54 and those 55 years old and older. For those aged 35 to 54 with FL only, women outnumbered men, but among adults with ID/DD, there were significantly more males than females. Among adults 55 and older with FL only, there were twice as many women as men. However, among adults 55 and older with ID/DD, gender distributions more closely resembled the FL only group.

Several possible hypotheses might be advanced for these gender differences. For example, because the NHIS samples only non-institutionalized persons, differences might be observed because females with ID/DD might be institutionalized at a higher rate than males. However, considerable evidence suggests that this is not the case (Karon & Beutel, 2000; Lakin, Larson, Prouty & Coucouvanis, 2003). Another explanation is that large differences between males and females in the younger age groups might be due to a greater tendency for males to be identified as having ID/DD in childhood or adolescence, with this difference carrying over into adulthood. This hypothesis is partially supported by an age distribution of males and females with ID/DD in the 55 years and older group that is much more similar to that of persons with FL only. Of course, the change associated with age could also be due to a higher mortality rate among non-institutionalized men with ID/DD in the older age groups.

While there are some similarities among adults with FL only and with ID/DD, direct comparisons yield mostly a picture of groups

with substantially different limitations and needs. The greatest support needs for women ages 18 to 34 years with FL only were with regard to IADLs. They also experienced learning and self-direction limitations that are likely directly related to limitations in economic self-sufficiency. Still, similarly-aged female adults with ID/DD reported substantially greater limitations. They required support with both ADLs and IADLs. They also were likely to have learning and self-direction limitations to a much larger degree than those with FL only and to have more pronounced communication limitations. This combination likely limits their economic self-sufficiency more than for women with FL only.

The implications for policy seem noteworthy, particularly for policy reforms that would offer an overly simplistic view of disability as a unitary concept. For example, simply expending equal amounts of financial resources to meet the support needs of all individuals with disabilities without considering the nature and severity of disability would make little sense. As the population ages, persons with FL only and those with ID/DD experience more limitations. Furthermore, individuals with ID/DD have substantially more limitations than individuals with only FL in major life areas including ADLs, learning, communication, self-direction, and economic self-sufficiency. In fact, women 35 years and older with ID/DD are twice as likely as older women with FL only to have limitations in economic self-sufficiency, controlling for other factors.

While there is substantial variability among adults with ID, DD, or both ID and DD, adults with ID/DD as a group are markedly different than adults with FL only. Adults with ID/DD have more learning limitations than those with FL only. Most people with ID/DD have more significant functional limitations than adults with FL only. The number and severity of these limitations translates into substantially different social outcomes and needs for support. Given the level and quality of support needed by persons with ID/DD to experience improved social outcomes in areas such as those examined in this study, living in their own homes,

marrying, and obtaining and retaining employment will require continued recognition of the substantially greater need of persons with ID/DD throughout their adult years.

References

Karon, S.L., & Beutel, P. (2000). *ICF-MR facilities, clients and quality: A national overview, 1999*. Madison: University of Wisconsin, Center for Health Systems Research and Analysis.

Lakin, K.C., Larson, S.A., Prouty, R.W., & Coucouvanis, K. (2003). Characteristics and movement of residents in large state facilities. In R.W. Prouty, G. Smith, & K.C. Lakin (Eds.). *Residential services for persons with developmental disabilities: Status and trends*

through 2002. Minneapolis: University of Minnesota, Research and Training Center on Community Living, Institute on Community Integration.

Larson, S.A., Lakin, K.C., Anderson, L., & Kwak, N. (2001). Demographic characteristics of persons with MR/DD living in their own homes or with family members: NHIS-D analysis. *MR/DD Data Brief* 3(2). Minneapolis: University of Minnesota, Research and Training Center on Community Living.

Larson, S.A., Lakin, K.C., Anderson, L., Kwak, N., Lee, J.H., Anderson, D. (2001). Prevalence of mental retardation and developmental disabilities: Estimates from the 1994/1995 National Health Interview Survey Disability Supplements. *American Journal on Mental Retardation*, 106, 231-252.

DD Data Brief

January 2004, Vol. 6, No. 1

Issue Authors —

Robert Doljanac, Ph.D.
Sheryl Larson, Ph.D.
Charlie Lakin, Ph.D.

*Research and Training Center on Community Living,
Institute on Community Integration, University of Minnesota*

DD Data Brief is published periodically by the Research and Training Center on Community Living and Institute on Community Integration (UCEDD), College of Education and Human Development, University of Minnesota. Funding for this data analysis was provided by the National Institute on Disability and Rehabilitation Research, U.S. Department of Education through a grant to the Research and Training Center (RTC) on Community Living at the University of Minnesota (Cooperative Agreement No. H133G980082), a NIDRR-funded Field Initiated project (Cooperative Agreement No. H133G020037), and a subcontract from the NIDRR-funded RTC on Aging and Developmental Disabilities at the University of Illinois at Chicago (Cooperative Agreement No. H133B980046). Supplemental funding for printing was provided by the Administration on Developmental Disabilities (Grant #90DH006401). All analyses, interpretations, and conclusions are those of the authors.

Inquiries about *DD Data Brief* can be directed to —

**Publications Office
Institute on Community
Integration
University of Minnesota
109 Pattee Hall
150 Pillsbury Drive S.E.
Minneapolis, MN 55455**

**phone: 612-624-4512
fax: 612-624-9344
email: publications@icimail.umn.edu
Web: <http://rtc.umn.edu/nhis>**

DD Data Brief is available in alternative formats upon request from the address above.

The University of Minnesota is an equal opportunity employer and educator.

**Institute on Community Integration
University of Minnesota
109 Pattee Hall
150 Pillsbury Dr. S.E.
Minneapolis, MN 55455**

Address Service Requested

Non Profit Org.
U.S. Postage
PAID
Minneapolis, MN
Permit No. 155