

# DD Data Brief

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

## Health Insurance Coverage and Health Care Experiences of Persons with Disabilities in the NHIS-D

### Introduction

In 1994 and 1995, a special Disability Supplement was fielded with the ongoing National Health Interview Survey (NHIS-D) to provide a national picture of the physical, emotional, functional, and health status, and social and economic circumstances of Americans with disabilities, including those with intellectual or developmental disabilities (IDD). Few studies of persons with IDD have been census-based household surveys. As a result, we have little information about the characteristics, needs, and service use patterns of persons with IDD who are not included in formal service systems.

As people with disabilities are given the opportunity to use public health care programs to purchase private insurance, care must be taken to assure that their unique needs are met.

Health insurance coverage is an area in which little information has been available on “non-institutionalized” people with IDD. This *DD Data Brief* provides information on health insurance coverage and related experiences among a representative sample of 2,988 non-institutionalized persons with IDD who responded to the Health Insurance and Access to Care Supplements and the Disability Follow-back Survey to the 1994/1995 NHIS-D. Topics covered in this report include type of insurance, items covered by insurance plans, overall satisfaction with care, and the impact of insurance coverage on four health-related outcomes.

### About This *Data Brief*

In 1994 and 1995 the National Health Interview Survey included a Disability Supplement (NHIS-D) that collected extensive information about disabilities among the individuals sampled as part of the annual census-based household interview surveys. The NHIS describes demographic characteristics, health status, functional limitations, and supports and services used by persons in the civilian, non-institutionalized population in the United States.

Earlier *DD Data Briefs* described our methodology for identifying people with intellectual and/or developmental disabilities (IDD) in the NHIS-D. The NHIS-D asked 202,560 people, including 3,076 people with IDD, about their coverage status and experiences with health insurance. This *DD Data Brief* describes the experiences with public and private health insurance coverage for people with functional limitations, people with IDD, and people who do not have IDD or functional limitations. This *Brief* also examines the variations in these outcomes by gender and age.



The College of Education  
& Human Development  
UNIVERSITY OF MINNESOTA

## Methodology

In 1994 and 1995 the National Health Interview Survey (NHIS) gathered nationally representative information on a sample of the non-institutionalized population in the United States. In each of those years the annual NHIS sample included approximately 108,000 persons in 48,000 households. In 1994 and 1995, a special Disability Supplement (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 also included several other supplemental surveys (e.g., Health Insurance, Access to Health Care, Healthy People 2000 Objectives).

Identification of persons with IDD was based on items from the Core Survey, the Condition File, and the Phase 1 Disability Supplement. The category IDD 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 or developmental disabilities, were also included in these analyses (see Larson, Lakin, Anderson & Kwak, 2001 for detailed operational definitions). The health coverage data were drawn primarily from the 1994 and 1995 Health Insurance supplement with a few questions each pulled from the Access to Care Supplement and the Adult Disability Follow-back Survey.

People’s insurance status was categorized in one of four ways. People who were identified as uninsured were included only in the general descriptive analysis of insurance status. Those who were insured were placed into one of three categories: 1) those who were insured by fee-for-service plans for part or all of their insurance coverage, regardless of how the premiums were paid (i.e., private pay or paid through public monies; called fee-for-service in this paper); 2) those who were insured solely by HMO plans, regardless of how the premiums were paid (i.e., private pay or paid through public monies; referred to as HMO only); and 3) people who had their medical expenses covered directly through

a public program such as Medical Assistance, Medicare, or Military benefits whose benefits were not used to pay premiums on a private fee-for-service or HMO health insurance plan (referred to as public other). Individuals who were insured by both fee-for-service and HMO plans were included in the fee-for-service group.

An important strength of the NHIS-D was its supplementation of the NHIS. This allowed a sample of sufficient size to reliably represent low incidence disabilities such as IDD. 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 both for the weighting of data and for the complex sampling design used in the NHIS-D. Standard error is presented as relative standard error (RSE). 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 that the group was 85% less likely than the referent group to experience the dependent variable ( $1 \text{ divided by } .54 = 1.85$ ). For space reasons, betas and t-test statistics are not presented for analyses using logistic regression. Those statistics are available from the second author upon request.

## Results

Based on data elements in the NHIS “core” survey and the disability supplement, including the Health Insurance, Access to Care, and Adult Disability Follow-back supplements, we examined factors associated with the presence of health insurance coverage, the types of health coverage received, and satisfaction with health care. Differences in health insurance coverage and types of health plans for persons with and without IDD were examined, as were experiences in HMOs and Non-HMOs for persons with IDD. Satisfaction with care provided was also examined. The focus of this paper is to examine the relationship between different types of health

**Table 1: Sample Sizes for Insurance Plans by Disability Group**

Group	No FL	FL Only	ID not DD	ID and DD	DD not ID	Total
HMO only	47,654	2,037	98	99	222	50,110
Fee for service/mixed	79,789	5,289	172	156	356	85,762
Other public health care	23,082	4,587	362	521	682	29,234
No insurance	27,712	1,303	92	55	164	29,326
Single-purpose private only	1,179	39	--	3	6	1,227
Status unknown or missing	6,452	361	27	26	35	6,901
<b>Total</b>	<b>185,868</b>	<b>13,616</b>	<b>751</b>	<b>860</b>	<b>1,465</b>	<b>202,560</b>

insurance and the quality of and access to health care; therefore, people without insurance coverage are not included, except for on the first two tables. In presenting the findings, the following abbreviations were used: “ID” refers to people with intellectual disabilities (often referred to as mental retardation), “DD” refers to people with developmental disabilities, and “FL only” refers to persons who have substantial functional limitations in one or more of seven life areas but who do not meet the criteria for having ID or DD.

HMO plan; 85,762 people reported having a fee-for-service or mixed plans; 29,234 reported having another public plan only; 29,326 reported having neither public nor private health plans; 1,227 reported having only a single purpose private plan; and 6,901 did not report the type of health plan they had. The only types of single purpose plans used by more than 100 respondents were catastrophic care (156 people), dental care (173 people), accident (188 people), and hospitalization only (568 people).

### Type of Health Care Coverage

Table 1 shows the sample sizes for the various disability and insurance group combinations. Overall, 50,110 people reported having only an

HMO plan; 85,762 people reported having a fee-for-service or mixed plans; 29,234 reported having another public plan only; 29,326 reported having neither public nor private health plans; 1,227 reported having only a single purpose private plan; and 6,901 did not report the type of health plan they had. The only types of single purpose plans used by more than 100 respondents were catastrophic care (156 people), dental care (173 people), accident (188 people), and hospitalization only (568 people).

Figure 1 and Table 2 (see page 4) show the population estimates for each disability by health insurance status group. An estimated 14.1% of persons with no functional limitations, 9.5% of persons with FL only, 12.0% of persons with ID

**Figure 1: Health Care Plans Used by Various Disability Groups**

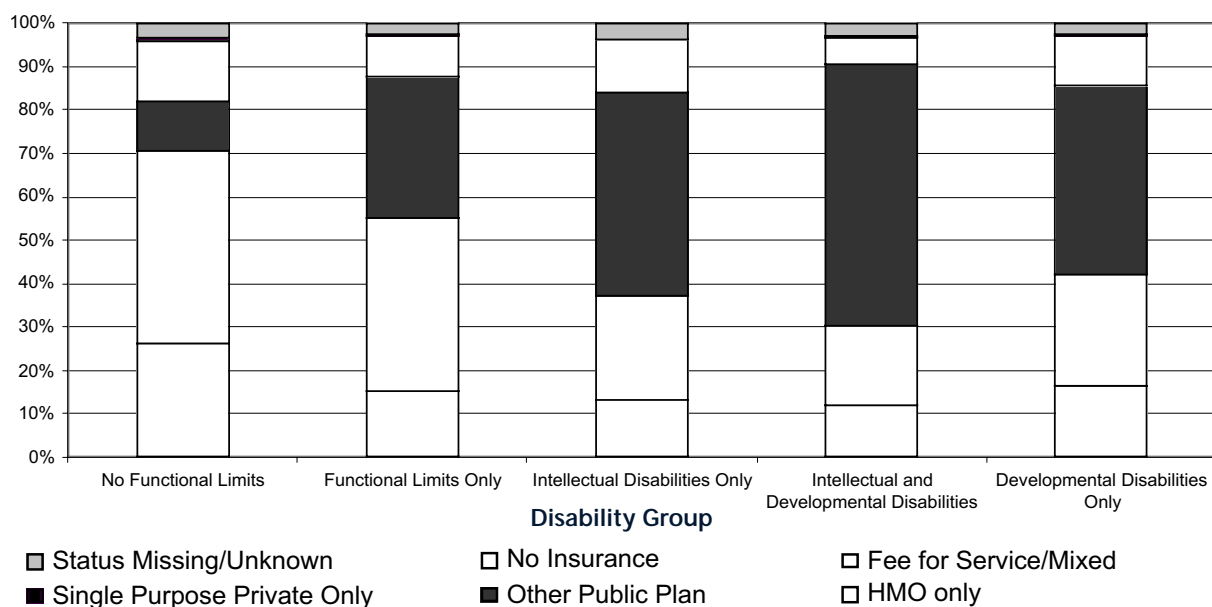


Table 2: Health Coverage Status by Disability Group

	No Functional Limits			Functional Limits Only			Intellectual Disabilities Only			Intellectual and Developmental Disabilities			Developmental Disabilities Only		
	Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE
HMO only	58,568	26.4%	1.7%	2,465	15.4%	3.0%	114	13.1%	11.2%	121	12.1%	12.5%	284	16.6%	7.3%
Fee for service/mixed	98,239	44.3%	1.3%	6,417	40.0%	2.0%	210	24.1%	8.9%	186	18.5%	8.7%	438	25.6%	6.1%
Other public health care	24,960	11.3%	2.0%	5,162	32.2%	2.1%	409	47.1%	6.1%	603	59.5%	5.3%	743	43.4%	5.2%
No insurance	31,348	14.1%	1.6%	1,523	9.5%	3.6%	105	12.0%	12.4%	64	6.3%	16.3%	195	11.4%	9.2%
Single-purpose private only	1,403	0.6%	5.1%	50	0.3%	22.9%	0	0.0%	0.0%	**	**	58.9%	**	**	44.1%
Status unknown or missing	7,393	3.3%	3.4%	428	2.7%	7.4%	32	3.7%	19.8%	28	2.9%	23.1%	42	2.5%	21.7%

X<sup>2</sup> = 2,394.63

p < .001

\*\* RSE greater than 30%

only, 11.4% of persons with DD only, and 6.3% of persons with both ID and DD lacked insurance coverage. For individuals with no significant functional limitations and those with functional limitations only (FL only), the most common form of health care coverage was fee-for-service (44.3% of persons with no FL and 40.0% of persons with FL only). Among persons with IDD, the most common form of health care coverage was another public health care plan (47.1% of people with ID only, 43.4% of people with DD only, and 59.9% of people with both ID and DD). Differences between disability groups in type of insurance coverage were statistically significant ( $X^2 = 2,394.63, p < .001$ ). People with intellectual disabilities were least likely to have HMO health care coverage. Approximately 114,000 people with ID only (13.1%), 284,000 people with DD only (16.6%), and 121,000 people with both ID and DD (12.1%) were in an HMO. People with FL only were less likely to depend on public health care coverage than those with IDD, but more likely to do so than those with no functional limitations. An estimated 2,456,000 people with FL (15.4%) were reported to be in HMOs, while 5,162,000 (32.2%) were reported to have public health care. Fewer than 1% of respondents reported having only a single purpose private plan. Between 2.5% and 3.7% of the respondents in each group did not provide information about their health coverage.

Table 3 (see page 6-7) depicts type of insurance coverage by selected demographic characteristics. Among children, those with no functional limitations were most likely to be in fee-for-service or HMO plans. Children with FL only were nearly equally divided across the three types of health plans. Children with IDD were more likely to be on other public health care plans. Among young adults with no functional limitations, the most common health care type was fee-for-service (51.5%). Young adults with FL only were fairly equally divided between fee-for-service (44.5%) and other public health care plans (35.5%). Young adults with IDD were most likely to be in other public health care plans. The patterns for adults ages 36 and older were similar to those for young adults, except that older adults with no FL or with FL only were somewhat less likely than those 35 and younger to be in HMO care and slightly more likely to be in a fee-for-service plan. Adults ages

**Table 4: Health Coverage Status of People Age 36 and Older With and Without Disabilities**

	No Functional Limits			Functional Limits Only			ID and/or DD			X <sup>2</sup>
	Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE	
<b>Gender</b>										
<b>Male</b>										<b>931.91**</b>
HMO only	12,771	31.3%	1.8%	599	14.5%	4.8%	19	6.0%	22.7%	
Fee for service/mixed	24,454	59.8%	1.3%	1,999	48.5%	2.7%	71	22.3%	15.0%	
Other public health care	3,635	8.9%	2.3%	1,520	36.9%	3.3%	229	71.8%	8.4%	
<b>Female</b>										<b>1,284.78**</b>
HMO only	13,319	29.7%	1.7%	1,016	14.8%	3.8%	25	8.9%	23.3%	
Fee for service/mixed	26,779	59.6%	1.2%	3,334	48.7%	2.5%	69	24.5%	13.5%	
Other public health care	4,799	10.7%	2.3%	2,501	36.5%	2.6%	188	66.7%	8.9%	
<b>X<sup>2</sup></b>	<b>88.62**</b>			<b>0.25</b>			<b>2.19</b>			<b>1,784.60**</b>

36 years and older with FL only were more likely than those with no functional limitations to use other public health care. As Table 4 shows, among adults ages 36 and older, while there were differences in health care status depending on disability group, for those with FL only and for those with IDD, there were no gender differences in the type of health care coverage (X<sup>2</sup> = 0.25, ns; and X<sup>2</sup> = 2.19, ns; respectively).

People who identified themselves as black were more likely to have public health care coverage that was not provided through a private fee-for-service company or HMO than those identified as white or of another race. For example, 67.5% of blacks with FL only used public health care as opposed to 31.7% of those identified as white. The same holds true for people with ID only (79.7% v. 48.4%), DD only (79.8% v. 43.6%), and both ID and DD (79.4% v. 61.3%). Finally, people with household income levels below the poverty level were much more likely to receive public health care regardless of their disability group.

### Overall Health Status

A series of analyses examined the extent to which the health care plan an individual had impacted a variety of health care outcomes and experiences once basic demographic and disability characteristics were accounted for. The first of these analyses examined factors associated with people's own (or their proxy respondents') report of their overall health status (see Table 5). People who reported being in excellent or very

**Table 5: Overall Health Status Excellent or Very Good**

	Beta	T-Test	Sig.	Odds Ratio
<b>Intercept</b>	1.49	64.56	***	4.45
<b>Age</b>				
Birth-17	0.53	22.57	***	1.69
18 to 35	0.00			1.00
36 and older	-0.89	-19.05	***	0.41
<b>Gender</b>				
Male	0.00			1.00
Female	0.16	13.55	***	1.18
<b>Economic Status</b>				
Above poverty level	0.00			1.00
Below poverty level	-0.49	-14.52	***	0.61
<b>Race</b>				
White	0.00			1.00
Black	-0.40	-13.77	***	0.67
Other	-0.22	-4.95	***	0.81
<b>Disability Group</b>				
No functional limits	0.00			1.00
Functional limits only	-1.70	-58.55	***	0.18
ID only	-1.29	-12.29	***	0.28
ID and DD	-1.66	-15.00	***	0.19
DD only	-1.34	-19.75	***	0.26
<b>Coverage Status</b>				
HMO	0.00		***	1.00
Fee for service/mixed	-0.07	-3.76	***	0.93
Public health care	-0.85	-26.37	***	0.43
<b>R<sup>2</sup> without coverage status</b>		<b>0.120</b>	<b>***</b>	
<b>R<sup>2</sup> with coverage status</b>		<b>0.140</b>	<b>***</b>	

\*\*\* p < .001



**Table 3: Health Coverage Status by Selected Characteristics of People With and Without Disabilities**

	No Functional Limits			Functional Limits Only			Intellectual Disabilities Only		
	Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE
<b>Age</b>									
<b>Under 18</b>									
HMO only	16,416	32.6%	2.0%	449	31.7%	5.5%	81	19.1%	13.0%
Fee for service/mixed	22,421	44.5%	1.7%	505	35.7%	5.2%	135	31.7%	11.0%
Other public health care	11,502	22.9%	2.5%	464	32.7%	6.0%	209	49.2%	9.2%
<b>18 to 35</b>									
HMO only	16,062	35.5%	1.9%	401	24.7%	7.2%	25	15.7%	21.9%
Fee for service/mixed	24,585	54.4%	1.8%	578	35.6%	5.6%	34	21.4%	21.8%
Other public health care	4,541	10.0%	2.9%	644	39.7%	5.0%	99	62.9%	11.6%
<b>36 and Older</b>									
HMO only	26,090	30.4%	1.3%	1,615	14.7%	3.4%	**	**	40.8%
Fee for service/mixed	51,234	59.7%	1.2%	5,333	48.6%	21.3%	41	28.1%	17.4%
Other public health care	8,434	9.8%	2.0%	4,022	36.7%	2.3%	97	66.5%	10.9%
<b>Gender</b>									
<b>Male</b>									
HMO only	28,725	32.8%	1.7%	1,123	19.5%	3.6%	57	13.8%	16.4%
Fee for service/mixed	48,495	55.4%	1.4%	2,611	45.3%	2.4%	129	31.0%	11.2%
Other public health care	10,243	11.7%	2.1%	2,028	35.2%	2.9%	229	55.2%	8.1%
<b>Female</b>									
HMO only	29,842	31.8%	1.7%	1,123	19.5%	3.6%	57	13.8%	16.4%
Fee for service/mixed	49,745	53.0%	1.2%	3,806	46.1%	2.3%	81	25.8%	13.4%
Other public health care	14,235	15.2%	2.1%	3,102	37.6%	2.3%	176	56.2%	8.5%
<b>Race</b>									
<b>White</b>									
HMO only	49,408	32.3%	1.8%	2,211	49.8%	3.2%	95	17.5%	13.1%
Fee for service/mixed	87,289	57.1%	1.4%	5,960	49.8%	2.1%	186	34.1%	9.0%
Other public health care	16,155	10.6%	2.2%	3,792	31.7%	2.5%	263	48.4%	7.7%
<b>Black</b>									
HMO only	6,179	29.8%	3.3%	183	10.9%	9.3%	18	10.8%	25.8%
Fee for service/mixed	7,670	37.0%	3.5%	364	21.6%	7.1%	**	**	40.9%
Other public health care	6,880	33.2%	3.6%	1,137	67.5%	4.6%	131	79.7%	11.3%
<b>Other</b>									
HMO only	2,980	38.7%	6.7%	71	19.4%	18.9%	**	**	39.4%
Fee for service/mixed	3,280	42.6%	6.9%	92	25.3%	14.5%	**	**	100.0%
Other public health care	1,442	18.7%	7.2%	202	55.2%	11.5%	**	**	32.7%
<b>Economic Status</b>									
<b>Above Poverty Level</b>									
HMO only	54,810	35.5%	1.7%	2,157	21.8%	3.3%	108	24.6%	11.5%
Fee for service/mixed	89,640	58.0%	1.3%	5,384	54.4%	2.1%	171	39.0%	9.3%
Other public health care	10,176	6.6%	3.1%	2,350	23.8%	3.0%	159	36.3%	9.6%
<b>Below Poverty Level</b>									
HMO only	1,816	10.9%	4.8%	161	6.1%	10.2%	**	**	50.4%
Fee for service/mixed	3,992	24.0%	4.3%	423	15.9%	6.4%	31	14.6%	28.7%
Other public health care	10,856	65.1%	2.8%	2,072	78.0%	3.4%	180	83.9%	9.2%

++ p < 0.01

\*\* RSE greater than 30

Intellectual and Developmental Disabilities			Developmental Disabilities Only			X <sup>2</sup>
Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE	
82	20.8%	15.4%	233	22.1%	7.9%	244.07++
104	26.4%	11.8%	341	32.3%	6.5%	
209	52.9%	8.9%	483	45.7%	6.4%	
31	11.4%	21.8%	23	12.8%	28.1%	569.17++
43	15.5%	17.7%	37	20.6%	20.5%	
201	73.1%	9.3%	119	66.7%	11.3%	
**	**	39.0%	60	26.4%	15.6%	1,843.48++
39	17.1%	19.0%	29	12.6%	23.1%	
182	79.5%	9.8%	139	61.2%	11.5%	
83	15.2%	16.0%	186	20.2%	9.1%	1,217.76++
111	20.3%	11.4%	303	32.9%	7.7%	
352	64.5%	6.2%	433	46.9%	6.3%	
83	15.2%	16.0%	186	20.2%	9.1%	1,526.81++
75	21.3%	13.8%	134	24.9%	10.6%	
240	67.9%	8.3%	307	56.9%	7.0%	
104	15.6%	13.8%	245	21.4%	7.7%	1,469.32++
155	23.2%	9.4%	402	35.1%	6.5%	
409	61.3%	6.3%	500	43.6%	6.2%	
16	8.3%	26.8%	29	10.8%	21.2%	473.59++
24	12.3%	23.2%	25	9.4%	21.7%	
155	79.4%	10.8%	213	79.8%	10.8%	
**	**	46.5%	**	**	42.9%	106.00++
**	**	100.0%	**	**	36.4%	
28	76.7%	24.6%	27	57.2%	23.7%	
111	19.4%	13.5%	246	26.5%	7.6%	1,054.00++
156	27.3%	8.8%	385	41.4%	6.5%	
305	53.3%	7.4%	299	32.1%	8.5%	
**	**	53.0%	19	4.5%	25.8%	292.36++
18	7.7%	29.4%	35	8.1%	20.3%	
212	91.0%	9.4%	374	87.4%	6.5%	

good health were compared with those who reported being in good, fair, or poor health. (See Table 10 in the Appendix for the percentage of people in each group who reported very good or excellent health.) Overall, 12.0% of the variability in the number of people who reported being in excellent or very good health was accounted for by the variables examined. Health status was related to all of the variables examined. Children less than 18 years old were 69% more likely to be reported to be in very good or excellent health than adults ages 18 to 35. Adults older than 35 years were 2.43 times less likely to report being in very good or excellent health than younger adults. Men were 18% more likely to report being in excellent or very good health than women. Reported health status was also better for persons living in homes with incomes at or above the poverty level, persons who were white (rather than black or of another race), and people with no functional limitations. People with no functional limitations were 5.4 times more likely than people with FL only, 3.6 times more likely than people with ID, 5.2 times more likely than people with both ID and DD, and 3.8 times more likely than people with DD only to report very good or excellent health. Finally, people receiving HMO services were 7% more likely than people in fee-for-service and 2.3 times more likely than people on other public health care plans to report being in very good or excellent health, but overall coverage status accounted for only 2% of the variability in self-reported health status beyond the variability accounted for by gender, economic status, race and disability status.

Because overall health care status was related both to health care coverage status and to several of the other variables of interest in this project, it was included as a covariate in all subsequent analyses of health care experiences and outcomes. Other demographic and disability variables tested along with health care coverage status in the remaining analyses were age, gender, economic status, race, and disability group.

### Plan Coverage

Quality of health care coverage can be measured in a variety of ways. One method is to look at benefits provided by the health care organization. Table 6 depicts benefits provided under health coverage plans. Four benefits were chosen

for this analysis: choice of doctor, ability to access out-of-plan care, dental coverage, and access to well child care for people with children. (See Table 10 in the Appendix for the percentage of people in each group who had each type of coverage.) All of these benefits are of particular concern for people with disabilities. Dental care is often identified as difficult to obtain for people with disabilities. People with disabilities also often require specialized medical care, making continuity of care, choice of physician, and access out-of-plan care critical (U.S. Public Health Service, 2002).

Availability of choice of doctors was significantly related to age, economic status, race, disability group, and type of health care coverage. Overall, 22.4% of the variability in choice of doctor was accounted for by those variables. Once those variables were considered, gender and overall health status were not significantly associated with choice of doctors. Children were 14% more likely to report having a health care plan that allowed a choice of doctor than were young adults. Older adults were 52% more likely to report having a choice of doctor than younger adults. People with fee-for-service plans were nine times more likely to report that they had a choice of doctors than were those in HMOs. People in public health care programs were nearly four times as likely to report that they were able to choose doctors as those in HMOs. People with FL only were 30% more likely than people with no functional limits to report the ability to choose a doctor. Economic status and race were also predictors of reported opportunity to choose one's own doctor. People below the poverty level were 33% more likely to report being able to choose their own doctor than those above the poverty level, while whites were 59% more likely to report being able to choose their own doctor than minorities. Once the other factors were accounted for, there were no differences between men and women in their ability to choose their doctors.

The second aspect of plan coverage examined was access to out-of-plan care for people who had to choose from a list or group of doctors. Overall, 3.8% of the variability in access to out-of-plan care was accounted for by gender, poverty status, race, overall health status, and coverage status. Men were 4% more likely to have access to out-of-plan care. Those above the poverty level were



**Table 6: Plan Coverage**

	Choice of Doctor		Out-of-Plan Care		Dental Care		Well Child Care (for people with children)	
	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.
<b>Intercept</b>	0.23	***	0.82	***	0.80	***	4.78	***
<b>Age</b>								
Birth-17	1.14	***	1.00		0.99		0.97	
18 to 35	1.00		1.00		1.00		1.00	
36 and older	1.52	***	1.00		0.74	***	0.85	***
<b>Gender</b>								
Male	0.99		1.04	**	1.06	***	1.01	
Female	1.00		1.00		1.00		1.00	
<b>Economic Status</b>								
Above poverty level	1.00		1.00		1.00		1.00	
Below poverty level	1.33	***	0.54	***	0.94		0.85	
<b>Race</b>								
White	1.00		1.00		1.00		1.00	
Black	0.63	***	0.73	***	1.48	***	1.30	***
Other	0.63	***	0.67	***	1.04		1.80	***
<b>Overall Health Status</b>								
Excellent or very good	1.00		1.00		1.00		1.00	
Good, fair, or poor	0.98		0.90	**	0.82	***	0.99	
<b>Disability Group</b>								
No functional limits	1.00		1.00		1.00		1.00	
Functional limits only	1.30	***	0.91	***	0.65	***	0.97	
ID only	1.25		0.90		0.75		0.67	*
ID and DD	1.14		0.87		0.63	*	0.95	
DD only	1.00		0.84		0.99		1.07	
<b>Coverage Status</b>								
HMO	1.00		1.00		1.00		1.00	
Fee for service/mixed	9.03	***	2.11	***	1.03		0.31	***
Public health care	3.89	***	1.22	**	0.85	*	0.23	***
<b>R<sup>2</sup></b>	<b>0.224</b>	<b>***</b>	<b>0.038</b>	<b>***</b>	<b>0.016</b>	<b>***</b>	<b>0.070</b>	<b>***</b>

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

85% more likely to be able to choose a provider outside of their health care plan, while people identified as white were 37% more likely to report this benefit as those who were black and 49% more likely to report this benefit as those of another race. People in fee-for-service plans were more than twice as likely as those in HMOs to report the ability to seek out-of-plan care. People in other public health care plans were 19% more likely to have this benefit than those in HMOs. People with excellent or very good health were 11% more likely than those in good, fair, or poor health to be able to obtain out-of-plan care.

The third aspect of plan coverage examined was coverage for dental care. Overall, 1.6% of the variability in access to dental coverage was

accounted for by age, gender, race, health status, disability group, and coverage status. Economic status was not a predictor of dental coverage. Adults 36 years and older were 35% less likely to have dental coverage than younger adults. Men were 6% more likely to have dental coverage than women. People identified as black were 48% more likely to have dental coverage than were people who were white. People in excellent or very good health were 22% more likely to have dental coverage than people in good, fair, or poor health. People with FL only were 54% less likely to report dental coverage than were people without functional limitations, while people with both ID and DD were 59% less likely to report having dental coverage than were those with no

functional limitations. Public health care recipients were 18% less likely to report dental coverage than those in HMOs once the other characteristics were taken into account.

The final aspect of plan coverage examined was access to well-child care. Overall, 7.0% of the variability in access to well child care for adults with children under age 18 was associated with age, race, disability group, and coverage status. Adults 36 years and older with children under age 18 were 18% less likely to have health plans that covered well child care than younger adults with children under age 18. Adults with children who were identified as black were 30% more likely and adults who were of another race were 80% more likely to have well child care coverage

than adults who were white once the other factors were taken into account. Adults with ID only were 49% less likely to have well child care coverage than adults who did not have functional limitations. Finally, adults in HMO plans were 3.2 times more likely to have well child care coverage than adults in fee-for-service plans, and 4.3 times more likely than adults on other public health care plans.

### Unmet Health Care Needs

Another measure of health care access is unmet health care needs. Table 7 shows variables associated with differences in reported unmet needs for health care, mental health care,

**Table 7: Unmet Health Care Needs**

	Needed Health Care		Needed Mental Health Care		Needed Prescription Medication		Needed Dental Care	
	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.
<b>Intercept</b>	0.01	***	0.00	***	0.01	***	0.07	***
<b>Age</b>								
Birth-17	0.51	***	0.39	***	0.31	***	0.41	***
18 to 35	1.00		1.00		1.00		1.00	
36 and older	0.71	**	0.44	***	0.64	***	0.56	***
<b>Gender</b>								
Male	0.83	***	0.68	***	0.78	***	0.92	***
Female	1.00		1.00		1.00		1.00	
<b>Economic Status</b>								
Above poverty level	1.00		1.00		1.00		1.00	
Below poverty level	1.53	***	1.35		1.66	***	1.52	***
<b>Race</b>								
White	1.00		1.00		1.00		1.00	
Black	0.72	***	0.58	**	1.00		0.99	
Other	0.71	*	1.08		0.75	*	0.95	
<b>Overall Health Status</b>								
Excellent or very good	1.00		1.00		1.00		1.00	
Good, fair or poor	2.31	***	2.51	***	2.81	***	1.61	***
<b>Disability Group</b>								
No functional limits	1.00		1.00		1.00		1.00	
Functional limits only	2.19	***	3.33	***	2.41	***	1.73	***
ID only	1.89	*	2.19		1.17		1.37	
ID and DD	1.13		3.02	**	1.09		0.96	
DD only	3.44	***	9.40	***	2.69	***	2.11	***
<b>Coverage Status</b>								
HMO	1.00		1.00		1.00		1.00	
Fee for service/mixed	0.75	***	1.06		0.98		0.90	**
Public health care	1.41	***	1.45	*	2.29	***	1.39	***
<b>R<sup>2</sup></b>	<b>0.009</b>	<b>***</b>	<b>0.003</b>	<b>***</b>	<b>0.015</b>	<b>***</b>	<b>0.016</b>	<b>***</b>

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

prescription medication, and dental care. (Table 10 in the Appendix shows the percentage in each group who had unmet needs.) All of the factors examined were associated with differences in unmet health care needs. The only exception was that race was not related to unmet needs for prescription medications and for dental care. Together, the factors examined accounted for less than 2% of the variability in the outcomes. This suggests that while these factors are important, there are likely other factors not measured in the NHIS or not included in these analyses that also contribute to people having their health care needs met.

The pattern of results was similar across each of the four unmet health care needs examined. Young adults were 2.0 to 3.2 times more likely to report various unmet health care needs than children and 41% to 2.27 times more likely to report unmet health care needs of different types than adults ages 36 years and older. Women were 9% to 47% more likely to report unmet health care needs than were men. People whose household incomes were below the poverty level were 35% to 66% more likely to report unmet health care needs than were people whose household incomes were above the poverty level. People who were black were 39% more likely to report unmet health care needs and 72% more likely to report unmet mental health care needs than people who were white. People who were of other races were 41% more likely to report unmet health care needs and 33% more likely to report unmet needs for prescription medication than people who were white. People in good, fair, or poor health were 61% to 2.8 times more likely to report unmet needs in the four areas than people in very good or excellent health. People with FL only were between 73% and 3.3 times more likely to report unmet needs than people with no functional limitations in the four areas. People with ID only were 89% more likely to report unmet health care needs than those with no functional limitations. People with both ID and DD were 3 times more likely to report unmet mental health needs than people with no functional limitations. People with DD only were between 2.1 and 9.4 times more likely to report unmet needs in the four areas than people with no functional limitations. People in HMOs were 11% more likely than people in fee-for-service plans to report unmet health care needs and 33%

more likely to report unmet dental care needs. They were also between 1.4 and 2.3 times less likely to report unmet needs in the four areas than people in other public plans.

### Satisfaction with Medical Care

The NHIS-D interviews asked adults with disabilities who participated in the Disability Follow-back Survey about their satisfaction with health care. Adults included in the Disability Follow-back Survey met certain criteria, such as receiving SSI or a disability-related program, having functional limitations, or being identified as having a categorical condition or disability. Adults with no disabilities were not included. This analysis examines a sub-sample of all adults who responded to the Disability Follow-back Survey comparing adults with FL only to adults with ID, DD or both (called IDD in this section). Age, gender, economic status, race, health status, and health care coverage were also examined. Because of the inclusion criteria for the Follow-back Survey and missing data, sample size for analyses in this section ranged from 5,069 to 6,091 with an average of 5,748 responses per item. The selected satisfaction variables included: respect and privacy, thoroughness of exam, physician interest in the person and their condition, availability in an emergency, ability to get answers over the phone, time waiting for an appointment, time waiting to see the provider, and availability of transportation to the clinic. These questions were asked about the respondent's identified primary health care provider. The original scale asked respondents to rate their provider as excellent, good, fair, or poor. These variables were recoded into a dichotomous variable of excellent versus good, fair, or poor. (See Table 11 in the Appendix for the percentage of people in each group who reported their providers were excellent.)

While a significant proportion of the variability in whether a primary health care provider was considered excellent was accounted for by the variables examined, the variables examined only predicted between 0.7% and 2.5% of the overall variability in the ratings (see Table 8, page 12). Older adults were 26% more likely to report their primary care physician provided excellent services in the thoroughness of the exam, 19% more likely to report that their physician was interested in them and their

**Table 7: Satisfaction with Primary Health Care Provider for Adults (Phase 2)**

	Respect and Privacy		Thoroughness of Exam		Interest in Person and Condition		Availability in an Emergency		Able to Get Answers Over Phone		Time Waiting for Appointment		Time Waiting to see Doctor		Availability of Transportation to Clinic	
	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.	Odds Ratio	Sig.
<b>Intercept</b>	1.59	**	0.93		1.10		0.84		0.64	***	0.47	***	0.45	***	1.10	
<b>Age</b>																
18 to 35	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
36 and older	1.08		1.26	**	1.19	*	1.18		1.21	*	1.41	***	1.17		1.16	
<b>Gender</b>																
Male	0.86	**	0.94		0.92		0.95		0.99		0.93		0.89		0.95	
Female	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
<b>Economic Status</b>																
Above poverty level	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Below poverty level	0.82	*	0.79	**	0.83	*	0.86		0.85		0.79	**	0.81	*	0.80	*
<b>Race</b>																
White	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Black	0.72	***	0.80	*	0.79	*	0.82	**	0.91	**	0.82		0.85		0.76	**
Other	0.62	**	0.58	**	0.63	*	0.57	**	0.52	**	0.70		0.75		0.72	
<b>Overall Health Status</b>																
Excellent or very good	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Good, fair or poor	0.82	*	0.83	**	0.91		0.87		0.84	*	0.92		0.93		0.68	***
<b>Disability Group</b>																
Functional limits only	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
ID and/or DD	0.95	^^	0.96		1.00	^^	0.98		0.95		0.91		0.93		1.00	^
<b>Coverage Status</b>																
HMO	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
Fee for service/mixed	1.09		1.17		1.16		1.24	*	1.23	*	1.10		1.03		1.19	
Public health care	0.84		1.00		0.94		1.01		0.96		0.95		0.90		0.83	
<b>R<sup>2</sup></b>	<b>0.018</b>	<b>***</b>	<b>0.013</b>	<b>***</b>	<b>0.012</b>	<b>***</b>	<b>0.011</b>	<b>***</b>	<b>0.012</b>	<b>***</b>	<b>0.012</b>	<b>***</b>	<b>0.007</b>	<b>***</b>	<b>0.025</b>	<b>***</b>

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

^ p < .05, ^^ p < .01. Wald F significant for variable as a whole even though the contrast between the control group and the other groups was not significant. This occurred when the significant difference was between the fee for service/mixed group and the public health care group.

condition, 21% more likely to report they were able to get their health care questions answered over the phone, and 41% more likely to report that their the waiting time for an appointment was excellent than younger adults. The only gender difference in satisfaction was for respect and privacy. Women were 16% more likely to report that their primary health care provider was excellent in respect and privacy than men. Economic status was related to satisfaction in six of the eight areas: adults with disabilities with incomes above the poverty level were between 20% and 26% more likely to report that their primary health care provider was excellent in respect and privacy, thoroughness of exam, interest in the person and condition, waiting time for appointments, waiting time to see the doctor, and availability of transportation to the clinic than adults with disabilities with incomes below the poverty level.

Adults with disabilities who were black were 25% to 39% less likely to report that their primary health care provider was excellent on four of the measures (respect and privacy, thoroughness of exam, interest in the person and condition, and availability of transportation to the clinic) than adults with disabilities who were white. Adults with disabilities of another race were 59% to 92% less likely than adults with disabilities who were white to report that their primary health care provider was excellent in five areas (respect and privacy, thoroughness of exam, interest in the person and condition, availability in an emergency, and ability to get answers over the phone).

Persons reported to be in good, fair, or poor health were between 19% and 47% less likely to be satisfied with respect and privacy, thoroughness of the exam, ability to get health care questions answered by phone, and availability of transportation to the clinic than those in excellent or very good health.

There were no significant differences in satisfaction with the primary health care provider between adults with IDD and adults with FL only. Finally, adults with disabilities in fee-for-service plans were 24% and 23% respectively more likely than adults with disabilities in HMO plans to report that their primary health care provider was excellent in availability in an emergency and ability to get answers over the phone. Fee-for-service plans were more likely

than other public plans to be considered excellent in regard to respect and privacy, interest in the person or condition, and availability of transportation to the clinic. With regard to these same areas, HMOs were not statistically more satisfactory than the other two types of plans.

## Service Outcomes

The final set of analyses examined three health care outcomes: a) the number of short hospital stays in the previous 12 months excluding baby delivery, b) the number of doctor visits in the past 12 months, and c) the number of days in which normal activities were restricted in the prior 14 days. These analyses examined whether these three health care outcomes were related to age, gender, poverty status, race, overall health status, disability group, or health care plan. They included NHIS respondents of all ages and in all five disability groups. As Table 9 (see page 14) shows, all of the independent variables were associated with the health outcomes except economic status.

**Hospital stays.** Overall, the mean number of short hospital stays in the previous 12 months averaged 0.089 per person. The independent variables examined accounted for 6.2% of the variability in the number of short hospital stays. The number of short hospital stays increased with age; was higher for men than for women; was higher for persons who were white; was more than twice as high for persons reporting good, fair, or poor health than those reporting very good or excellent health; was higher for people with FL only, people with both ID and DD, and people with DD only; and was higher for people covered by fee-for-service or other public health plans than for people covered by HMO plans.

**Doctor visits.** Overall, the number of doctor visits in the previous year was estimated to be 4.46 per person. The independent variables examined accounted for 6.7% of the variability in the number of doctor visits during the previous 12 months. Specifically, the number of doctor visits increased as age increased; was higher for women than for men; was higher for whites than for people of other races; was higher for people in good, fair, or poor health; and was higher for people with FL only and people with either ID or DD or both. People in fee-for-service plans had fewer doctor visits than those in HMOs, but



**Table 9: Service Outcomes**

	Short Hospital Stays in Past 12 Months (excluding delivery)				Doctor Visits in Past 12 Months				Days of Activity Restriction in Past 2 Weeks			
	Beta	T-Test	Sig.	Adj. Mean	Beta	T-Test	Sig.	Adj. Mean	Beta	T-Test	Sig.	Adj. Mean
<b>Intercept</b>	0.01	4.92	**		3.56	44.93	**		0.25	16.44	**	
<b>Age</b>												
Birth-17	-0.02	-8.03	**	0.056	-0.66	-8.71	**	3.94	-0.10	-6.74	**	0.478
18 to 35	0.00			0.073	0.00			4.59	0.00			0.577
36 and older	0.04	18.26	**	0.116	0.08	1.05		4.68	0.11	6.94	**	0.685
<b>Gender</b>												
Male	0.01	2.41	*	0.092	-1.09	-17.91	**	3.89	-0.09	-7.67	**	0.558
Female	0.00			0.087	0.00			4.99	0.00			0.645
<b>Economic Status</b>												
Above poverty level	0.00			0.089	0.00			4.46	0.00			0.597
Below poverty level	0.00	0.10		0.090	-0.63	-0.32		4.40	0.05	1.54		0.648
<b>Race</b>												
White	0.00			0.092	0.00			4.55	0.00			0.608
Black	-0.01	-3.50	**	0.080	-0.49	-3.45	**	4.06	-0.02	-1.08		0.584
Other	-0.03	-7.31	**	0.060	-0.94	-7.31	**	3.61	-0.06	-2.10	*	0.550
<b>Overall Health Status</b>												
Excellent or very good	0.00			0.058		0.00		3.49	0.00			0.399
Good, fair or poor	0.10	36.92	**	0.158	3.08	39.22	**	6.57	0.65	36.71	**	1.047
<b>Disability Group</b>												
No functional limits	0.00			0.071	0.00			3.80	0.00			0.452
Functional limits only	0.24	27.03	**	0.314	8.38	23.76	**	12.17	2.07	35.95	**	2.524
ID only	-0.02	-1.31		0.047	0.42	0.79		4.21	0.23	1.86		0.677
ID and DD	0.09	3.68	**	0.159	6.68	4.51	**	10.48	0.43	3.43	**	0.883
DD only	0.23	6.43	**	0.300	10.10	7.51	**	13.89	1.18	9.38	**	1.628
<b>Coverage Status</b>												
HMO	0.00			0.078	0.00			4.42	0.00			0.587
Fee for service/mixed	0.01	3.54	**	0.086	-0.23	-3.48	*	4.19	-0.04	-2.85	**	0.548
Public health care	0.05	9.79	**	0.130	1.10	6.97	**	5.53	0.26	8.30	**	0.845
<b>Overall Weighted Mean</b>				<b>0.089</b>				<b>4.46</b>				<b>0.603</b>
<b>R<sup>2</sup> with Coverage Status</b>		<b>0.062***</b>				<b>0.067***</b>				<b>0.093***</b>		

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

people in other public health plans had more visits than those in HMOs.

**Days of Activity Restrictions Due to Illness or Injury.** Overall, the number of days of activity restriction in the past two weeks was estimated to be 0.603 per person. The independent variables examined accounted for 9.3% of the variability in the number of days a person's primary activity was limited due to illness or injury (i.e., missed work, missed school, cut back on activities, or stayed in bed). People who were older had more restricted activity days, as did females; persons who were white (as compared to

people of other races); people in good, fair, or poor health; people with FL only; and people with IDD. People in fee-for-service plans had fewer days of restricted activity than those in HMOs while people in other public health care plans had more days of restricted activity than those in HMOs.

## Discussion

### Age

Age was related to most of the outcomes examined in this paper. People 36 years and older were more likely to have a choice of doctors, but less likely to have dental care coverage or well

child care coverage than younger adults. People 36 years and older, however, were less likely to report unmet health care, mental health care, prescription medication, and/or dental care needs than were younger adults. The explanation may not lie in variations in access to health care coverage since only people with some form of medical coverage were included in the analyses, nor does it appear to be associated with the demographic and economic factors controlled in the analysis. The differences could be related to variability of health service quality within rather than across plan types. They could also be associated with differing levels of commitment to actually using the services available within health plans for younger versus older adults. The older adults were more satisfied with their health services, at least in thoroughness of exams and waiting times for appointments. However, they experienced poorer outcomes in terms of short hospital stays, doctor visits, days of activity restriction, and overall health status. This finding that increasing age is associated with poorer health is consistent with conventional wisdom and will surprise few people.

## Gender

While there were no gender differences in types of insurance coverage, there were several notable differences between males and females in health services and outcomes. Males were slightly more likely to have access to out-of-plan care and dental care than females. They were substantially less likely than females to report unmet needs for health care, mental health care, prescription medications, and dental care. But differences were found in only one area of satisfaction: males were less likely to be satisfied with the respect and privacy offered by their primary health care provider. After controlling for the other variables, females had more doctor visits, more days of activity restriction, and poorer overall health status than males. Because age was only divided into two groups, it is quite possible that a disproportionate number of women older than 65 or even 85 could have impacted these outcomes. Males, on the other hand, had more short hospital stays once stays for deliveries were excluded from the analysis. The differences in doctor visits, and to a lesser extent, days of activity restriction between males and females could have been affected by pregnancy-related medical care.

## Health Status

People in other public health plans were much less likely to report being in excellent or very good health than those in HMO or fee-for-service plans. After controlling for other demographic characteristics as well as disability status and type of health care plan, health status was a significant predictor of many of the outcomes measured in this study. People in poorer health had less access to out-of-plan care, were less likely to have dental care coverage, were much more likely to report unmet health care needs, were less satisfied with several components of health care, and had more hospital stays, doctor visits, and days of activity restriction. These findings are consistent with research on Medicare beneficiaries, which found that beneficiaries in the poorest health and those with the most severe disabilities reported more problems with the cost, quality and accessibility of their health care, regardless of health plan type (Jones, 2002; Beatty & Dhont, 2001).

## Disability Group

People with disabilities have different health care experiences than people who do not have disabilities. After controlling for various demographic variables (age, gender, poverty status, race, and health status), both disability group and health care plan coverage are related to a variety of health care indicators and outcomes. When compared to people without disabilities, persons with disabilities had poorer outcomes in every area except choice of doctors. Type of disability was also a consistent predictor of outcomes. People with FL only were more likely to report poor dental coverage and unmet health care needs than people with no functional limitations. People with DD only also reported higher levels of unmet needs than without functional limitations. People with FL only or both ID and DD were both less likely to have dental care coverage. The unmet dental care needs may be related to an increased dependence on public health care for coverage, since finding dental providers who accept patients with public dental coverage is often challenging. But finding dentists for persons with the most severe disabilities (both ID and DD) is recognized as a serious problem nationwide, irrespective of insurance coverage (U.S. Public Health Service,

2002). Mental health care was also an area of great unmet needs for people with disabilities. People with FL only, people with both ID and DD, and people with DD only were much more likely to report that they had unmet mental health needs. People with disabilities may have more difficulties in the health care system because of difficulties with physical accessibility or because they are more likely to receive public health care rather than employer-sponsored health care plans.

Disability status was not related to satisfaction with health care providers; however, the satisfaction items lacked sensitivity since most respondents reported that their provider was excellent on most items. Economic status and race were the most significant predictors of satisfaction with health care.

### Health Coverage Status

Coverage status was an important predictor of unmet health care needs and plan benefits after age, gender, poverty status, race, health status, and disability status were controlled. In general, recipients of fee-for-service plans reported better plan coverage (except well child care) and fewer unmet needs than did recipients of other public health plans or HMO plans. They were also more satisfied with their health care. In terms of service outcomes, people in fee-for-service plans had better outcomes than those in HMOs in number of doctor visits and number of days of activity restriction, but poorer outcomes in short hospital stays and overall health status. These findings are consistent with a recent study of people with cerebral palsy, multiple sclerosis, and spinal cord injury which found that people in fee-for-service plans were more likely to report having selected their primary care physician than people in managed care plans (96% versus 84%; Neri, Beatty, & Dhont, 2001).

Public health care showed mixed benefits. People reported better plan coverage than those enrolled in HMOs (e.g., choice of doctor and out-of-plan care), but worse access to dental care and well child care. People in other public health plans were less satisfied with health care than those in fee-for-service plans. They also reported more unmet health care needs, more hospital stays, more doctor visits, and more restricted activity days than people in either of the other plan types.

### Study Limitations

A major limitation of NHIS health service and quality data is that they are self-reported. Health insurance plans and health coverage are often complicated. People may not have a clear understanding of what is or is not covered. People may also have erroneous perceptions of their health status, unmet health care needs, or other aspects of their health care quality. It should also be noted that at the time this study was conducted, people with disabilities were much less likely to have access to private health coverage plans than were people without disabilities. Since 1995, there has been considerably greater use of public health care benefits to pay premiums on private health coverage plans, particularly HMOs.

Another important limitation in this study is that for many of the outcomes examined, the predictive power of the identified variables was relatively low. Less than 2% of the overall variability was explained in the analyses of unmet needs and satisfaction with primary health care providers. There are probably other variables that were either not measured in the NHIS or not included in this analysis that should be taken into account to explain those differences. In the case of the satisfaction variables, the lack of data for adults without disabilities was undoubtedly an important factor. On the positive side, the models examined in this study explained a considerable amount of the variability in choice of doctor and in overall health status (22.4% and 14.0%, respectively).

### Conclusions

Although there is a lot of concern about the quality of care of recipients of HMO health care, people in HMOs reported fewer unmet needs and greater satisfaction than did people in public health care. This may be because such programs provide better service. Or it may be that people in HMOs who were more healthy and less likely to have disabilities than those in public plans had different expectations or fewer needs, which affected their reported satisfaction. As people with disabilities are given the opportunity to use public health care programs to purchase private insurance, care must be taken to assure that the unique needs of people with disabilities are met.

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## Appendix

This *DD Data Brief* discussed several different health care outcomes. This Appendix provides additional details for readers who are interested in the prevalence estimates associated with those health care outcomes. The factors associated with differences in these outcomes were described and discussed earlier in this paper.

### Health Status

Table 10 shows the health care status, the plan coverage, and unmet needs of people in the non-institutionalized U.S. population in five disability groups. Health status was identified using an item from the Core Survey. Overall, 70.3% of people who do not have functional limitations reported excellent or very good health. This compares to 24.3% of people with functional limitations only, 43.7% of people with intellectual disabilities only, 43.7% of people with both intellectual and developmental disabilities, and 46.8% of people with developmental disabilities only.

### Plan Coverage

This paper examined four aspects of plan coverage as reported in the health insurance supplement to the NHIS-D. The first aspect was whether the person could choose any doctor or had to select from a group or list of doctors. Overall, 52.8% of people with no functional limitations were in a plan that allowed them to choose any doctor. This compares to 64.4% of people with functional limitations only, 57.9% of people with intellectual disabilities only, 52.4% of people with intellectual and developmental disabilities, and 49.0% of people with developmental disabilities only. The next outcome refers to people who were in a plan that forced them to choose a doctor from a group or list of doctors. Among that group, the proportion that could access covered care from a doctor not on the list ranged from 49.1% of persons with no functional limitations to 42.3% for people with intellectual disabilities only. The third outcome is whether the person had any health insurance plan that covered dental care. The highest proportions of people who had insurance covering dental care were people with developmental disabilities only, and persons with no functional limitations (42.7% and 41.3%, respectively). The proportions of people in the other three groups with coverage for dental care ranged from 38.3%

Table 10: Percentage Estimates for Health Care Outcomes by Disability Group

Outcome (Survey)	No Functional Limits		Functional Limits Only		Intellectual Disabilities Only		Intellectual and Developmental Disabilities		Developmental Disabilities Only	
	Population Estimate in 1000's	% of Population	Population Estimate in 1000's	% of Population	Population Estimate in 1000's	% of Population	Population Estimate in 1000's	% of Population	Population Estimate in 1000's	% of Population
<b>Health Status (Core)</b>										
Excellent or very good	154,666	70.3%	3,863	24.3%	374	43.7%	324	32.5%	786	46.8%
<b>Plan Coverage (Health Insurance)</b>										
Choose any doctor	88,345	52.8%	6,448	64.4%	262	57.9%	272	52.4%	457	49.0%
Out-of-Plan care paid	29,911	49.1%	1,298	46.1%	61	42.3%	88	43.9%	162	43.2%
Dental care	34,692	41.3%	1,336	27.6%	77	38.3%	84	34.3%	191	42.7%
Well child care*	57,110	68.0%	1,607	65.2%	141	56.3%	167	64.0%	463	68.5%
<b>Unmet Needs (Access to Care)</b>										
Health care	4,716	2.2%	1,000	6.4%	38	4.6%	39	3.9%	112	6.7%
Mental health care	764	0.4%	280	1.8%	9	1.1%	20	2.1%	58	3.4%
Prescription medication	3,853	1.8%	1,103	7.0%	27	3.2%	44	4.5%	88	5.2%
Dental care	15,226	7.0%	2,085	13.3%	94	11.2%	81	8.3%	217	12.9%

\* (for people with children)



**Table 11: Estimated Percentage Reporting Health Care Services Were Excellent by Disability Group (Phase 2)**

	Functional Limits Only			ID or DD		
	Population Estimate in 1000's	% of Population	RSE	Population Estimate in 1000's	% of Population	RSE
Respect and privacy	5,626	53.7%	3.0%	507	47.7%	7.9%
Thoroughness of exam	4,963	47.4%	3.2%	451	42.8%	8.4%
Interest in person and condition	5,379	51.2%	3.1%	485	45.5%	7.6%
Availability in an emergency	3,930	45.6%	3.4%	358	40.2%	8.9%
Able to get answers over phone	3,512	39.0%	3.3%	313	34.9%	9.5%
Time waiting for appointment	3,567	34.7%	3.4%	299	28.7%	10.1%
Time waiting to see doctor	3,104	29.7%	3.5%	268	25.6%	10.0%
Availability of transportation to clinic	4,055	44.4%	3.4%	388	40.9%	9.2%

for people with intellectual disabilities only to 27.6% for people with functional limitations only. The final plan coverage outcome was well-child care. Individuals who had children under the age of 18 reported whether the insurance plan covered well-child care. The percentages of parents who had well-child care coverage ranged from 56.3% of parents with intellectual disabilities only to 68.5% of parents with developmental disabilities only.

### Unmet Needs

The access to care supplement included several questions about care that people needed but could not get. The first item asked about unmet health care needs. An estimated 4.7 million people who had no functional limitations reported that they had unmet health care needs (22%). While the number of people with various limitations with unmet needs was much smaller (39,000 people with intellectual and developmental disabilities to 1 million people with functional limitations only) the proportion of people in those groups with unmet health care needs was much higher (ranging from 3.9% of people with intellectual and developmental disabilities to 6.7% of people with developmental disabilities only). A similar pattern was true regarding unmet mental health care needs. Overall, 0.4% of people with no functional limitations reported having unmet mental health care needs, as did 1.8% of people with functional limitations, 1.1% of people with intellectual disabilities only, 2.1% of people with intellectual and developmental disabilities, and 3.4% of people with developmental disabilities only. The proportion of people with unmet needs for prescription medication ranged from 1.8% of people

with no functional limitations to 7.0% of people with functional limitations only. Unmet needs for dental care were reported by 7.0% of people without functional limitations, 13.3% of people with functional limitations only, 12.9% of people with developmental disabilities only, 11.2% of people with intellectual disabilities only, and 8.3% of people with intellectual and developmental disabilities.

### Quality of Health Care Services

The quality of health care services was assessed on the Adult Phase 2 survey of the NHIS-D. Table 11 shows the percentage of people with functional limitations or with intellectual disabilities and/or developmental disabilities rating certain satisfaction measures as “excellent.” In all instances, less than half of the people with intellectual or developmental disabilities reported their health care quality was excellent. Only 25.6% thought the wait time to see their doctor was excellent, and only 28.7% thought the wait time for an appointment was excellent. On the other hand, 47.7% reported that the level of respect and privacy afforded them was excellent.

People with functional limitations were somewhat more satisfied than people with ID/DD in all areas. People with functional limitations rated the same satisfaction measures lowest. Among respondents with functional limitations, 29.7% rated the time waiting to see their doctor as excellent and 34.7% reported as excellent the time needed for an appointment. More than half of all respondents with functional limitations reported that respect and privacy (53.7%) and interest in person and condition (51.2%) as excellent.

## DD Data Brief

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### Issue Authors —

Lynda Anderson, M.A., M.P.H.  
Sheryl Larson, Ph.D.  
Charlie Lakin, Ph.D.  
Nohoon Kwak, Ph.D.

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

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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](mailto:publications@icimail.umn.edu)**

**Web: <http://rtc.umn.edu/nhis>**

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

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