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Disability Statistics User Guide Series

# **A Guide to Disability Statistics from the National Health Interview Survey - Disability Supplement**

Elaine Maag  
The Urban Institute

**For additional information about this paper contact:**

Elaine Maag  
The Urban Institute  
2100 M Street, NW  
Washington, DC 20037

202-261-5594 (phone)  
202-833-4388 (fax)

EMaag@ui.urban.org

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**The Co-Principal Investigators are:**

**Susanne M. Bruyere** -- Director, Employment and Disability Institute, ILR School, Extension Division, Cornell University

**Richard V. Burkhauser** -- Sarah Gibson Blanding Professor, Department of Policy Analysis and Management, College of Human Ecology, Cornell University

**Andrew J. Houtenville** -- Senior Research Associate, Employment and Disability Institute, ILR School, Extension Division, Cornell University

**David C. Stapleton** -- Director, Cornell University Institute for Policy Research, Washington DC.

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## **Introduction**

The Cornell StatsRRTC seeks to bridge the divide between the sources of disability data and the users of disability statistics. One product of this effort is a set of *User Guides* to national survey data that collect information on the disability population.

The User Guides provide disability data users with:

1. An easily accessible guide to the disability information available in the major nationally representative surveys;
2. A set of estimates on persons with disabilities from the dataset, including estimates on the size of the population, the prevalence rate, the employment rate and measures of economic well-being;
3. A description of the unique features of the survey; and
4. A set of estimates that highlight the unique features of the survey.

This User Guide contains information on the National Health Interview Survey – Disability supplement (NHIS-D) that was fielded in 1994 and 1995. Other guides contain information on the American Community Survey (ACS), Census 2000, 2004 Current Population Survey (CPS), 2002 National Health Interview Survey (NHIS), 2001 Survey of Income and Program Participation, and the 2001 Panel Survey of Income Dynamics (PSID).

The NHIS-D was a supplement to the National Health Interview Survey (NHIS) in 1994 and 1995 and is one of the more comprehensive data sources regarding people with disabilities in the United States. In addition to the broader disability questions used in the NHIS, the supplement contains additional questions that can help identify disability including questions about health conditions (both physical and mental), service receipt and program participation (e.g. SSI), activity limitations, and participation restrictions. The supplement also contains extensive information about the different facets of the lives of people with disabilities including the types of services people with disabilities receive, transportation issues facing working age adults with disabilities, social activities of

people with disabilities, vocational rehabilitation services, and disability accommodations.

The highlight of the NHIS-D is its breadth of information about disability. All individuals in the NHIS are asked many detailed questions that can be useful in defining various populations of people with disabilities. Questions include those that identify activity limitations, mental health issues, and particular conditions.

Data from the two years the supplement was fielded can be combined in order to produce larger sample sizes of people with disabilities. This can aid in studying sub-populations of interest or typically low-prevalence populations. The data can also be linked to data in the Core NHIS for the respective years and other supplements – for example, the Family Resource Supplement which collects information about a family's access to care, health insurance and detailed income information.

The timing of the NHIS-D makes it an excellent data source to understand disability in a post- Americans with Disabilities Act (ADA) environment. This is not to say that all changes that occurred as a reaction to the ADA are reflected in survey respondent's answers to the survey. It is likely that some reactions to the ADA could take many years to implement, in which case the NHIS-D information might only reflect initial responses. For example, structural building changes such as accessible elevators may have not had time to fully be incorporated prior to the survey being fielded. And indeed, Loprest and Maag (2001) use the NHIS-D to document that worksite features (accessible parking or transportation stop, elevators, or specially designed work stations) are the most common type of accommodation people with disabilities report that they need. Worksite features are also the most likely accommodations to be reported as an unmet need. Over time, we might expect that more worksites will become fully accessible, which would make the information from the NHIS-D an overestimate of the current level of unmet need for these accommodations.

The primary limitation of the NHIS-D is that it is now over 10 years old. The supplement was last included in the NHIS in 1994 and 1995. Many potentially significant policy changes have occurred since this time, responses of which obviously cannot be studied using these data. For example, data in the NHIS-D do not indicate how people

with disabilities responded to the Social Security Administration's (SSA) Ticket to Work and Work Incentives Improvement Act enacted in 1999.

Another limitation to the NHIS-D is that Phase 2 of the survey (the Disability Followback Survey or DFS) collects information germane to the entire population (such as detailed employment information) only for people identified in Phase 1 as having a disability. This limits the user's ability to make comparisons of people with disabilities to those without disabilities on a variety of dimensions. In contrast, information in Phase 1 is collected for people with disabilities as well as those without disabilities.

Similar to other household surveys, the NHIS-D surveys only the non-institutionalized population of the United States. Members of the active duty military service, people living in prison, and those in nursing homes or long-term care facilities are the primary groups of people not included in the survey. The latter may be of particular importance to some disability related questions. However, interviewers did attempt to interview individuals who met the criteria for being included in the DFS, even if they had moved into an institution between the time of the initial survey and the time the DFS was conducted.

### **Conceptual Model of Disability**

The User Guides describe the information on disability available in the various national surveys. This requires an operational definition of disability. Unlike age and sex, that are for the most part readily identifiable individual attributes, disability is usually defined as a complex interaction between a person's health condition and their social and physical environment. An environment that provides accommodation may allow a person with a health condition to function at the level of a person without a health condition. In this instance, the person may not consider her health condition a disability.

The two major conceptual models of disability are the World Health Organization's (WHO 2001) International Classification of Functioning, Disability, and Health (ICF) and the disability model developed by Saad Nagi (1965, 1979). Both of these conceptual models recognize disability as a dynamic process that involves the interaction of a person's health condition, personal characteristics, the physical environment and the social environment. Changes to any one of these factors over time

can have an impact on a person's ability to function and participate in activities. A detailed description of these models, as well as a comparison of these models, is in Jette and Badley (1998).

The Cornell Stats RRTC uses the ICF concepts to create operational definitions of disability. The concepts used include *impairment*, *activity limitation*, *participation restriction*, and *disability* (see WHO 2001). A prerequisite to each of these concepts is the presence of a health condition. Examples of health conditions are listed in the International Classification of Diseases, Tenth Edition (ICD-10) and they encompass diseases, injuries, health disorders, and other health related conditions. An *impairment* is defined as a significant deviation or loss in body function or structure. For example, the loss of a limb or vision loss may be classified as impairments. In some surveys, impairments are defined as long lasting health conditions that limit a person's ability to see or hear, limit a person's physical activity, or limit a person's mental capabilities. An *activity limitation* is defined as a difficulty an individual may have in executing activities. For example, a person who experiences difficulty dressing, bathing or performing other activities of daily living due to a health condition may be classified as having an activity limitation. Similar to other surveys, the NHIS-D identifies activity limitations based upon a standard set of activities of daily living questions (ADLs)<sup>1</sup>. A *participation restriction* is defined as a problem that an individual may experience in involvement in life situations. For example, a working-age person with a severe health condition may have difficulty participating in employment as a result of the physical environment (e.g., lack of reasonable employer accommodations) and/or the social environment (e.g., discrimination). Participation restrictions in the NHIS-D are identified by using questions that ask whether the person has a long lasting health condition that limits his or her ability to work, or whether a health conditions affects his or her ability to go outside his or her home. The NHIS-D also provides additional information on certain health conditions that are likely to result in disability. These questions are identified in this report, but are

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<sup>1</sup> In the NHIS-D, bathing or showering, dressing, eating, getting in and out of bed or chairs, using the toilet including getting to the toilet, and getting around inside the home are considered ADLs.

not included when calculating prevalence rates of disability, since they do not themselves measure any interaction with a person's environment.

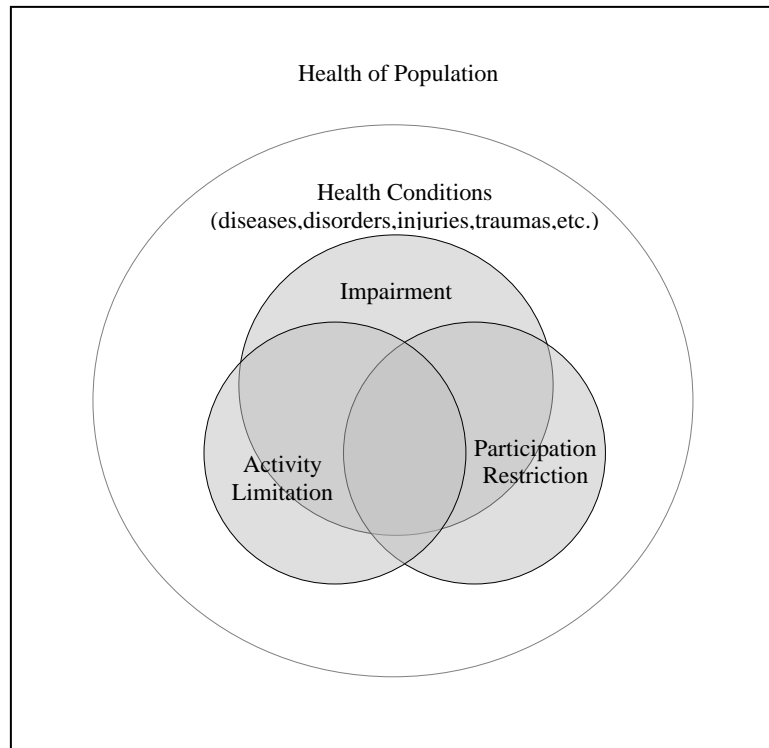
The final ICF concept used in the User Guides is *disability*. The term disability describes the presence of an impairment, an activity limitation, and/or a participation restriction. This concept is similar to the definition used in the Americans with Disabilities Act of 1990 (ADA). The ADA defines a disability as “a *physical or mental impairment that substantially limits one or more of the major life activities*, a record of such an impairment, or being regarded as having such an impairment.” (U.S. Department of Justice, 1990).

While these concepts may seem to follow a progression—that is, an impairment leading to an activity limitation leading to a participation restriction—it is not necessarily the case. It is possible that a person may have a participation restriction in the absence of an activity limitation or impairment. For example, a person diagnosed as HIV positive may not have an evident impairment or activity limitation but may be unable to find employment due to discrimination resulting from his health condition. Similarly, a person with a history of mental illness, but who no longer has a loss in capacity or activity limitation, may also be unable to find employment due to discrimination resulting from his health condition.

Figure 1 provides a useful summary of the ICF concepts. It illustrates that while these concepts overlap, it is possible that one of them can occur in the absence of the others. The universe of the ICF is the health of the population as a whole. The shaded area of Figure 1 illustrates the ICF concept of a disability.



*Figure 1. Simplified Conceptual Model of Disability Using ICF Concepts*



### *Operational Issues Defining Disability*

Translating the ICF concepts into operational definitions in surveys can be complicated. Decisions to classify the questions into one of the three specific ICF categories were made based upon judgments and are not based upon well-defined rules from the ICF. In some cases, the classification is straightforward. In other cases the survey questions may be interpreted as both an activity limitation and participation restriction. The User Guides attempt to make clear and consistent judgments to ease comparisons across the datasets, but users of each dataset may find alternate classifications useful.

### **NHIS-D Data Description**

Since 1957, the National Health Interview Survey (NHIS) has provided annual information on the health of the noninstitutionalized population of the United States. The

National Center for Health Statistics (NCHS) surveys a portion of the population each month of the year. Often, respondents answer supplemental questions on special topics of interest. The 1994 and 1995 NHIS contained supplemental questions on disability, which came to be known as the NHIS-D (sometimes referred to as the Phase 1 and Phase 2 Disability supplements). Everyone in the NHIS sample was asked to provide additional information on disability in the NHIS-D for Phase 1. This information can be linked to information contained in the core survey of those years and to other supplements (e.g. family resource supplement).

Individuals meeting a predetermined disability criteria using the NHIS-D Phase 1 questions were targeted to receive a follow-up survey, called the Disability Followback Survey (DFS) (also referred to as the Phase 2 disability supplement). Together, information from the NHIS-D phase 1 supplement and the DFS make up the entire NHIS-D. While all NHIS respondents answered questions in the NHIS-D phase 1 supplement, only a fraction of the population determined to have a disability during phase 1 interviewing answered questions in Phase 2 (see appendix A for a list of criteria for the Phase 2 survey). This approach was used to reduce respondent burden (persons who did not meet the criteria did not have to answer a lengthy series of questions). However, it also means that some information provided for people with disabilities is not available for people without disabilities, which limits the ability to make comparisons across the two groups.

Responses to Phase 1 questions were used to identify the sample of persons to be interviewed in Phase 2. Because the criteria for selection into Phase 2 are so broad, more people were identified in Phase 1 interviewing than originally projected. Due to funding constraints, not everyone identified by the original criteria could be issued a phase 2 questionnaire. NCHS attempted to survey those people thought to have the most severe disabilities. Appendix A contains the criteria, as published by NCHS, for inclusion into Phase 2. Note that a positive response to one of these questions was not always sufficient to guarantee a Phase 2 interview.

## *Survey Objectives*

The NCHS and other participating agencies strived to meet several objectives in the design of the NHIS-D. They sought to provide policy-relevant data on the many facets of disability in response to the passage of the ADA. They wanted to develop a series of questionnaires that would provide a useful set of measures of disability that included social, medical, and administrative considerations. Finally, they aimed to provide descriptive baseline statistics regarding the effects of disability on employment, participation in social activities, and service usage and need (Hendershot et. al, 2003).

## *Development of NHIS-D*

The development of the NHIS-D began in the early 1990s in response to the passage of the ADA and a dearth of disability related information, particularly at the national level. Several organizations<sup>2</sup> planned to survey people with disabilities in order to better understand the population. Their efforts were combined into the NHIS-D.

The multifaceted data needs from the various contributing agencies made it clear that one survey would be insufficient to collect all the necessary data. Therefore, the agencies decided that people with disabilities would be surveyed in two phases. The first phase collected information that would help identify populations with disabilities, along with information on services and benefits, special health needs of children, early child development, and children's educational experiences.

A complex set of eligibility criteria was used to select respondents for the second phase. First, 13 policy-relevant groups important to disability research were created, one for children and 12 for adults. These are listed in Table 1 below. Then, specific criteria for each group was developed using the questions in Phase 1 (and some information in

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<sup>2</sup> In the early 1990s, four offices from three federal agencies – the US Department of Health and Human Services, the Social Security Administration, and the Health Resources Administration – all planned disability related surveys. From the plans, a cooperative effort was born which resulted in the NHIS-D. Later, additional government entities joined the effort including the Centers for Disease Control and Prevention, National Institute of Child Health and Human Development, Substance Abuse and Mental Health Services Administration, US Department of Education, Health Care Financing Administration, and US Department of Transportation, along with the Robert Wood Johnson Foundation.

the core and Family Resource supplement), including over 251 individual variables and combinations of variables. Any person selected into one of the policy groups based on their answers to Phase 1 was included in Phase 2 of the NHIS-D. In 1994 and 1995 combined, almost a quarter of the adults screened and 15 percent of children screened for the DFS were eligible.

For the adult sample of persons with disabilities identified in Phase 1, the most prevalent of the groups were those with an (8) ADL/IADL/Functional Limitation (41 percent). Almost one-quarter of the adults were identified as being mentally ill, 15 percent of the sample reported a sensory impairment and 14% of the sample were SSDI applicants. (Disability Statistics Center)

The broad selection criteria for phase 2 of the disability survey means that analysts can choose to study a wide array of disability populations. However, because of the wide variety of ways individuals could be screened into phase 2, simply analyzing the entirety of the phase 2 population is unlikely to form a meaningful analysis group. Researchers may use this information to identify subpopulation of persons with disabilities that are relevant for their analysis. The various definitions in this report illustrate the flexibility of the dataset.

### *Sample Design*

Each year, a sample of households are identified to be surveyed in the National Health Interview Survey (NHIS). Information is collected on all members of the household. An adult knowledgeable about the other people in the household responds for the household. Research using the NHIS showed that differences in responses exist when a person with a disability answers questions for themselves versus when a proxy respondent answers questions (Iezzoni, McCarthy, Davis, and Siebens 2000). During interviewing for phase 2 of the survey, NCHS made a high priority of providing special training on interviewing people with disabilities to interviewers. Each interviewer attempted to have the person identified in phase 1 of the survey as having a disability respond for themselves during phase 2.

NCHS employs a multistage area probability design for the NHIS – though changes were made between the two years of the survey. This does not prevent

researchers from being able to combine data from the two years. A key feature of the new design in 1995 was the inclusion of an oversample of Black persons and Hispanic persons.

### *Administration of the NHIS-D*

The survey designers planned to have the NHIS administered using Computer Assisted Personal Interview (CAPI) technology. However, the technology was not fully tested prior to the need to implement the survey so it was not used. Ultimately, the NHIS-D was fielded as a traditional pencil and paper interview. This change resulted in some questions appearing on the survey in up to seven places for various sub-populations, which can make the data a bit confusing to work with. Though NCHS created summary variables for many of these questions, researchers must still be careful that they are including the entire population of interest.

### *Weighting*

The NHIS-D contains weights for each observation that total the noninstitutionalized population of the United States. The disability supplements contain weights that are distinct from the NHIS, which users should employ in their analysis. These weights in the NHIS-D take account of non-response that occurred between the core survey and the supplement. A third set of weights is included in phase 2 for analysis of that data. Again, NCHS corrected for additional non-response between the two surveys.

### *Combining Years of Data*

The designers of the NHIS-D intended users to be able to combine data from both years of the survey in order to have larger analysis groups. This is particularly important when analyzing small groups. Combining years of data allow users to have a sample sufficiently large to produce more reliable estimates. However, one must adjust the weights of each sample when combining data. One method recommended by NCHS is to simply divide the weights from each year by 2. This allows users to get an estimate of the midpoint between the two years of the survey.

For the purpose of calculating standard errors around each estimate, it is necessary to treat each year of data as a distinct strata. This is necessary because of the changes to the sample design that occurred between the two years the NHIS-D was fielded.

### *Response Rates*

Overall response rates for the NHIS-D were quite high (see Table 2). It is important to note that there were fewer respondents who were eligible to receive the Phase 2 survey in 1995 than in 1994. This occurred because the NCHS reserves approximately one quarter of the NHIS sample in particular years (including 1995) for the Medical Expenditure Panel Survey (MEPS). In addition, the sample size from 1994 and 1995 decreased as a result of a redesign of the NHIS sample that occurs every ten years which incorporates new population information gained from the decennial census. Finally, during 1995 there was a brief government furlough, which interfered with data collection further limiting the 1995 sample size.

### **Uses of the NHIS-D**

Data from the NHIS-D provide information useful in multiple disability related research efforts. A compilation of research using the NHIS-D was published in “Research in Social Science and Disability Volume 3, Using Survey Data to Study Disability: Results from the National Health Interview Survey on Disability” (Altman et al 2003). A wide range of topics featured in the book show some of the breadth of uses for these data. Topics include (1) work and health among adults with disabilities; (2) developmental disabilities, measurement and outcomes; and (3) special populations. Articles related to work and health in the special volume include: job search and work accommodations, preventive services for working-age adults with mobility limitations, and access to health care and insurance. Developmental disabilities topics included support services used by children with disabilities, the effect on a non-disabled sibling of having a disabled sibling, economic costs of conditions found in childhood such as mental retardation, cerebral palsy, hearing loss and vision impairment, and defining intellectual disabilities for children. Special populations discussed in the volume including women aging with

disabilities, duration and onset of disability, and disability among Native Americans. Even this wide variety of topics does not fully cover the breadth of information available in the NHIS-D.

The Research and Training Center on Community Living and the Institute on Community Integration, College of Education and Human Development at the University of Minnesota commissioned Gerry Hendershot to compile a comprehensive bibliography of analyses using the NHIS-D and a discussion of findings from various papers that illustrates the breadth of information available in these data (Hendershot, 2005). This resource can be found at <http://rtc.umn.edu/pdf/NHIS-DBibliography.pdf>

### *Accessing the NHIS-D Data*

The NHIS-D is public-use data that can be ordered on CD from the National Center for Health Statistics at a nominal cost. Information about obtaining the data can be found at [http://www.cdc.gov/nchs/products/elect\\_products/subject/nhis.htm#order](http://www.cdc.gov/nchs/products/elect_products/subject/nhis.htm#order).

Documentation for the survey is located at

[http://www.cdc.gov/nchs/about/major/nhis\\_dis/nhis\\_dis.htm](http://www.cdc.gov/nchs/about/major/nhis_dis/nhis_dis.htm).

### **Definitions**

The analysis below relies primarily on information contained in the NHIS-D, though some information linked to the Core NHIS is also included. These data differ from data in other guides because they are from an earlier period – 1994 and 1995. Because of this, comparisons to other national datasets are not included in this guide as they are in the other User Guides.

A description of the survey questions and a description of the methods used to produce data on disability, demographics, employment, and economic well-being are shown in Tables 3 through 7 and Appendix B. Consistency with other data sets explored in the User Guides is maintained where appropriate. Additional information on health and disability is available as part of the annual National Health Interview Survey. A separate User Guide focusing on these data is available.

*Disability.* Authors of the NHIS-D attempted to define disability as broadly as possible, capturing a variety of dimensions related to disability. Users may select to narrow the criteria to more closely match their needs. The information in the disability supplement augments the information contained in the core of the NHIS. The core NHIS survey asks a variety of questions regarding activity limitations, restricted activities, health indicators, and specific conditions. These questions are discussed in the Users Guide for the NHIS. For the most part, Table 3 contains a description of the conceptualizations unique to the disability supplement – with the exact questions included in Appendix B. Since many disability-related questions are not appropriate for identifying disability in children, questions were sometimes asked of only a subset of the population. The age range to which each question applied is noted in the tables and the appendix. Separate questions identified disability in very young children and school-age children.

Users should note that all people surveyed in phase 1 of the NHIS-D also answered the core NHIS questions so information from the NHIS can be used to identify populations of interest in the NHIS-D. Although information on health conditions was included in the NHIS-D, this information is not typically thought of as sufficient for determining that an individual has a disability. However, because many people with the identified health conditions are likely to experience disability at some point, and because the information may be useful to researchers, these questions are included in Table 3 and Appendix B. These questions on health conditions are not used to define disability in subsequent tables.

The NHIS-D allows for great flexibility in determining a definition of disability. For purposes of the tables in this report, disability is defined as a positive indicator to any of the questions in Table 3 - except the condition questions – and indication that the participation restriction, activity limitation, or impairment is a result of a physical, mental, or emotional condition and is expected to last at least 12 months.

#### *Comparing Disability Definitions Between Phase 1 and 2*

The Disability Followback Survey (DFS), Phase 2 of the NHIS-D, also contains disability related information about activity limitations, and participation restrictions. All of these questions were only asked of those individuals who qualified for the DFS, so



they do not represent the entire universe of non-institutionalized people. For the most part, these questions mimic the information collected in Phase 1 – though the information gathered is less comprehensive. For “activity limitation – self-care”, the questions are slightly different. Respondents still answer questions about bathing or showering, dressing, eating, getting in and out of bed or chairs, and using the toilet including getting to the toilet. Rather than also answering questions about getting around inside the home, respondents answer questions about walking and getting outside. Participation restriction questions are also different. In addition to the questions asked in Phase 1, respondents answered questions about managing meals (classified as Participation Restriction – Inside the Home) and getting to places outside of walking distance (classified as Participation Restriction – Go Outside the Home). These questions are shown in Table 4.

Researchers must exercise caution when comparing data on impairments, participation restrictions, and disability between Phase 1 and Phase 2. The introduction to the questions on impairments and participation restrictions, as noted in tables 3 and 4, was changed from “Because of a physical, mental, or emotional problem” to “Because of a health or physical problem” in Phase 2. This could potentially capture different groups of people. It is also important to note that there was a time lag between when respondents were asked Phase 1 and Phase 2 varying from 7 months to 11 months – with an average of 9 months. It is possible for a person’s response to change over time due to changes in either his health or his environment.

Additional questions that are sometimes used to define disability are also available in the NHIS-D. These include questions on use of specialized services, receipt of disability benefits, and indicators of poor health (including high numbers of days in hospital or “bed days” away from school or work). For children, the additional list of indicators of disability is particularly extensive. Phase 1 includes a section for identifying children with special health care needs (Part G) and a section on early childhood development (section H). In phase 2 of the survey there are sections on specific limitations in physical activity relevant to children, mental health concerns for children, and use of specialized services. A number of alternative definitions of child disability using NHIS data exist in the literature (Davidoff 2004; Maag 2003).

*Demographics.* Data on demographics are drawn from the core NHIS, but are replicated in every file produced – including the Disability supplement. The information includes sex, age, race, and ethnic origin. Between 1994 and 1995, questions regarding race and ethnicity were moved from being asked toward the end of the NHIS to the beginning, in order to assist in identifying an over-sample of some individuals based on their race. Demographic information is also available on geographic region (Northeast, Midwest, South, West) and place of residence (inside or outside a metropolitan statistical area – those inside are further classified as inside a central city or outside a central city).<sup>3</sup> Table 5 lists the questions and information the survey gathers on demographics.

After recording basic household information (e.g. address), interviewers identify all household members, and then Question 1 requires interviewers to indicate a sex for each household member. If not obvious, interviewers query “Are you / is [name] male or female?”. Question 2 identifies the relationship of survey respondents to the primary reference person in the household, and question 3 identifies the age of respondents by asking “What is your / this person’s date of birth?”. In 1995, these questions were followed with Questions 5a and 5b that inquired about an individual’s ancestry, or ethnicity. Then respondents were asked Questions 6a and 6b “What is the number of the group or groups which represents [name] race? Circle all that apply”. Respondents were then handed a card that included multiple responses, identified in table 5. For those who indicated multiple races, they were asked to identify which of those selected races best represented their race. In 1994, these questions on ethnicity and race were contained in a later section of the survey. In both cases, NCHS used responses to construct whether a person was of Hispanic origin and also various race classifications, detailed in table 5.

Information on education for each household member is gathered in the demographic background section of the survey. The NHIS core asks the question “What is the highest grade or year of regular school [name] has ever attended? This information for each individual – as well as for the responsible adult family member is contained on each person record in the NHIS-D. NCHS categorizes responses into seven categories (1)

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<sup>3</sup> A metropolitan statistical area generally consists of a county or group of counties containing at least one city having a population of 50,000 or more plus adjacent counties that are metropolitan in character and are economically and socially integrated with the central city.

none, kindergarten only; (2) 1-8 years, elementary school; (3) 9-11 years, high school; (4) 12 years, high school graduate; (5) 1-3 years college, college; (6) 4 years, college graduate; (7) 5+ years college, post-college. These classifications may introduce some errors. For example, many students now attend college for more than 4 years in order to become a college graduate.

*Employment Measures.* Employment measures can be constructed from questions in the NHIS core survey, the Family Resources supplements, and the Phase 2 survey. The employment measures used are described in Table 6.

The NCHS definition of currently employed includes persons 18 years of age and older who report that at any time during the 2-week reference period covered by the interview they either worked at or had a job or business (Core Section D, Q1a). Current employment includes paid employment at a job or business as well as paid or unpaid work in a family farm or business. NCHS considers those people who are temporarily absent from work to be employed if they report having a job or business (Core Section D, Q1b). The definition of employment does not include people who only report that they perform unpaid housework.

Employment levels calculated by NCHS using the NHIS differ in three key ways from those measured by the Census bureau using the Current Population Survey (CPS). First, NHIS employment covers only those individuals 18 or older, while the CPS includes individuals as young as 16. The NHIS relies on a 2-week reference period, but the CPS relies on a more compressed 1-week reference period. Finally, the NHIS is a continuous survey that has separate samples that are taken weekly. The CPS is a monthly sample that always includes the week in which the 12<sup>th</sup> of the month falls.

In addition, information on employment in the past month is collected in the Family Resource supplement for all respondents and in Phase 2 of the NHIS-D. In the Family Resource supplement, respondents 15 and older are asked if they had a job or business in the past month. If yes, they are also asked about the usual hours per week worked, the length of time working on that job, how many of the last 12 months the respondent had at least one job or business, and income received from the job or business. Unfortunately, the supplement does not ask any additional questions of those

who report they did not have a job or business last month. Therefore, we cannot create a measure of labor force attachment over the prior year for all respondents, only for those working in the past month. We can use the usual hours of work information to create a measure of full-time/part-time work for those currently employed.

Phase 2 contains a detailed work history and employment section (Section D) which gathers information about current and past work, work limitations related to disability, job search activities and disability-related limitations, retirement, volunteer work, and need for and use of accommodations. These questions are only asked of individuals ages 18 and older who met the screener for inclusion in phase 2. Comparable employment measures for those without disability cannot be developed using these data. However, these data do provide detailed insight into employment and limitations in employment for those with disabilities. The skip pattern of the section is complex, so a single question may be asked multiple times to different groups. In part, this occurred when the NCHS changed the survey instrument from the planned computer-assisted devices to a personal interview using traditional paper surveys. For example, to create a measure of the percent of all adults in phase 2 that report needing handrails or ramps at the worksite in order to work the analyst needs to combine answers from 7 different variables in the dataset. Figure 2 provides a schematic of the accommodations questions which illustrates the complex nature of the skip patterns involved in this section of the survey.

*Income and Poverty Data.* The economic well-being measures use information from the NHIS Core and the Family Resources supplement on monthly income, family size, age, family composition and household composition. Table 7 describes the income measures.

A first measure of economic well-being is median family income. The Family Resources supplement Section D “Income and Assets” collects information on income received in the past month (i.e., the month prior to the survey) from each individual household member age 15 and older. Questions collect information on the following sources of income: earnings from all jobs (before deductions including tips, bonuses, overtime pay, and commissions); self-employment income (net income after business expenses) from own business(es) (including business, professional practice, or farm);

Social Security or Railroad Retirement (including SSDI); Supplemental Security Income (SSI); other disability pension; other retirement or survivor pension; public assistance or welfare payments from the state or local welfare office; interest; dividends, net rental property income, royalties, estates, or trusts; and any other sources of income received regularly such as Veterans' (VA) payments, unemployment compensation, child support or alimony (not including lump sum payments such as money from an inheritance or the sale of a home). Total person income is the sum of all of the income sources for the household member. Total family income is the sum of all person income for those 15 and older in the family. NCHS does extensive editing and imputing of the income information creating edited variables for monthly person and family income.

Another measure of economic well-being is percent of persons below the poverty line. This measure adjusts for family size and composition to take into account the fact that the economic well-being of two families with the same income but different numbers of family members is not the same. The NHIS-D does not report poverty statistics. A poverty measure can be computed by comparing annualized family income to the poverty thresholds for 1994 and 1995.<sup>4</sup> The poverty thresholds are tables listing income levels by family size, composition, age of householder for one-member families and two member families, and the number of related children under the age of 18. Persons with family income under the listed threshold income for their specific family composition are considered to have income below the poverty line. These thresholds use the family as the income sharing unit and family income is the sum of total income from each family member living in the household. In some cases, members of the household may be unrelated to the head. The poverty threshold for these members is based upon the person's own total income. The poverty measure uses a different threshold for a member of a household who is unrelated to the householder. In Appendix C, Appendix Table C-1 shows the 1994 poverty thresholds and Appendix Table C-2 shows 1995 poverty thresholds.

To create a measure of poverty, we need a measure of annual family income. Since the NHIS-D does not collect this information, we create an estimate by annualizing

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<sup>4</sup> These are reported by the Census Bureau <http://www.census.gov/hhes/poverty/threshld.html>.

monthly income (i.e. multiplying monthly family income by 12). More refined estimates can be created by considering months of the past year a person has been working and using these to annualize income from work. However, those who did not work in the past month are not asked how many months they worked in the past year. For individuals not working in the past month, we cannot avoid including a zero value for annual income from work. Other refinements that aim to mimic the distribution of income found in other national data sets are also possible. For our purposes in this guide, we use this simple estimate to compare poverty rates across groups. The creation of a poverty measure using monthly income follows past work (McKernan and Ratcliffe 2005, Ruggles 1990).

A third measure used to examine economic well-being is the median family income-to-needs ratio. The family income-to-needs ratio is defined as a family's income divided by the income level associated with the poverty line for the family. It is referred to as the income-to-needs ratio because the income level associated with the poverty line represents the amount required to purchase the basic needs of the family. A value above 1 represents family income that is greater than the poverty line. For example, a value of 1.5 represents family income that is 1.5 times the income level associated with the poverty line for the family. A value below 1 represents family income that is less than the poverty line. For example, a value of 0.5 represents family income that is half of the income associated with the poverty line for the family. Lower values are associated with lower levels of economic well-being. The median family income-to-needs ratio sorts persons in a defined group by their family income-to-needs ratio from the lowest value to the highest value, and uses the value of the person who is in the middle (i.e., at the 50<sup>th</sup> percentile). While the poverty measure shows the percentage of the distribution below the poverty line (i.e., the percentage in the lower tail of the distribution), the median family income-to-needs ratio shows how the middle person in the distribution is doing relative to the poverty line. It therefore provides another way to characterize the family size adjusted economic well-being of different groups.

Poverty statistics and the income-to-needs ratio do not adjust for expenses that are the result of a health condition or a disability (e.g., personal assistance, equipment, medications, etc.). They also do not adjust for in-kind benefits, such as health insurance, food stamps, housing, transportation, child-care, etc. For both reasons, household income

relative to the poverty line is substantially limited as an indicator of a household's poverty if the household contains a person with a disability.

A final measure of well-being is family size adjusted income. It assumes that the income needed to achieve a level of economic well-being is lower for those who live in the same household than it is to live in separate households. That is, by sharing housing and other resources, less income is needed to achieve a certain level of economic well-being. The measure is usually described by the following formula.

$$\text{Household Adjusted Income} = \frac{\text{Household Income}}{(\text{Household Size})^e}$$

Where  $e$  is a parameter with a value between 0 and 1 and represents the degree of sharing (i.e., economies of scale) within the household. When  $e$  equals 0, the measure assumes that income needed is independent of household size. For example, the measure assumes a household with 5 members needs the same income as a household with one member to achieve a certain level of economic well-being. When  $e$  equal 1, the measure assumes that there is no sharing of resources within the household. For example, the measure assumes that a household with 5 members needs 5 times the income as a household with one member to achieve the same level of economic well-being. While there is no universal agreement on the value of the  $e$  parameter, there is empirical evidence that shows that setting  $e=0.5$  makes a reasonable adjustment for the degree of sharing within the household (see Ruggles 1990 p. 77; and Citro and Michael, 1995). Citro and Michael (1995) provide a good description of household adjusted income and economic well-being measures. This paper uses a value of  $e$  equal to 0.5 in the computation of household size adjusted income.

The measure is usually based on household size, that is, all persons living together in one residence. However, in the NHIS we have family size, defined as individuals living together that are related by blood, marriage, or adoption. Family size will be smaller than household size in some instances, but the adjustment still takes into account economies of scale for larger families compared to smaller families. Our reported measure is family adjusted income, using family income and family size.

## **Dissemination**

The NCHS disseminates a wide variety of information to the public via its website <http://www.cdc.gov/nchs/>. The “Series 10” publications “Vital and Health Statistics” contain numerous tables from each NHIS core. As part of the NHIS website, NCHS maintains a webpage specifically on the NHIS-D, [http://www.cdc.gov/nchs/about/major/nhis\\_dis/nhis\\_dis.htm](http://www.cdc.gov/nchs/about/major/nhis_dis/nhis_dis.htm). This website includes a description of the survey, bibliography, downloadable copies of questionnaires, and downloadable public use microdata files.

## **NHIS-D Description of Disability Population**

Disability can have different implications for employment and economic well-being at different ages. In this paper, we first identify different age groups that reflect differences in activities. These age groups are: primary and secondary school age persons between the ages of 5 to 17, school-to-work transition age persons between the ages of 18 and 24, working age persons between the ages of 25 to 61, early Social Security retirement age persons between the ages of 62 and 64, and normal Social Security retirement age persons ages 65 and older. Generally, we use the same questions to create the definition of disability for all of these age groups.<sup>5</sup> In this paper, estimates of the employment rate and economic well-being of the population are based upon working age persons between the ages of 25 and 61.

Population estimates and prevalence estimates from the NHIS-D are presented in Table 8. The rows are broken down into sections for the population ages 5 and older and for each of the age categories identified in the previous paragraph. The columns identify the persons without a disability, those with a disability, and persons who report each one of the seven disability types identified in the disability definition section of this paper. The disability types will not sum to the total population with a disability because individuals may report more than one disability type (i.e., the types are not mutually exclusive).

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<sup>5</sup> The NHIS-D does collect data on certain aspects of health and disability for household members under the age of 5 years old. Estimates of the population under 5 year old are not included in these tables.



The column labeled disability shows that in 1994/95 an estimated 39,917,000 people age 5 and older, or 16.6 percent of that population, reports a disability. Of the three participation restrictions which are asked of all people ages 18 and older, approximately 21,341,000 people report an employment disability, 11,526,000 report an inside-the-home disability, and 4,607,000 report an go-outside the home disability for prevalence rates of 11.2 percent, 6.1 percent and 2.4 percent, respectively. Of the activity limitations and impairments which are asked for all people ages 5 and older, an estimated 4,518,000 people report a self-care disability, 12,208,000 people report a physical disability and 12,644,000 report a sensory disability. The prevalence rates are 1.9 percent, 5.1 percent, and 5.3 percent, respectively. The mental health impairment questions are asked only for those ages 18 and older. Of this group, 7,685,000 people report a mental impairment and the prevalence rate is 4.0 percent.

The results by age group show that approximately 21,457,000 people report a disability out of the working age population between the ages of 25 and 61. The table also shows that the prevalence of disability increases with age from 2.7 percent of the population between the ages 5 to 17 to 41.4 percent of the population ages 65 and older. While this increase in disability with age is robust to many different definitions of disability, we should note that the prevalence of disability among young people ages 5 to 17 is particularly sensitive to the definition of disability used here. Alternative definitions of disability among children ages 5 to 17 using data from the NHIS-D result in an 8.0 percent prevalence rate for (Maag 2003).

The table also shows that there are some differences in the composition of disability type across age groups. For all age groups over 18 and less than 65, an employment participation restriction is the most prevalent disability across types. The second most prevalent type varies, from mental disabilities for those 18 to 24 (3.0 percent), to a tie between mental and sensory impairments for those ages 25 to 61 (4.2 percent), to sensory impairments for those ages 62 to 64 (10.4 percent). For those ages 65 and over, physical impairments are the most prevalent (19.0 percent), with participation restrictions inside the home the second most prevalent disability type (18.9 percent).

The distribution of age, gender, race and education characteristics within each disability group are shown in Table 9. The first section of the Table shows that the

population without disabilities tends to be younger than the population with disabilities. The first column shows that a majority of the population without a disability is age 34 or younger, with 19.0 percent of the population between ages 5 and 14, 16.9 percent between 15 and 24, and 18.3 percent between 25 and 34. In sum, 54.1 percent of persons without a disability are between ages 5 and 34. The corresponding percent of the population with disabilities in the 5 to 34 age range is only 21.3 percent (2.8 percent + 6.3 percent + 12.2 percent). This suggests that disability increases with age. The age differences are similar for the specific disability categories shown in the remaining columns, with the notable exception of mental disabilities. For this group (where the measure includes only persons 18 and older), 41 percent of the population with a mental disability is between the ages of 18 and 34, compared to 18 percent of persons with the broad disability measure and 45 percent of all persons.

The next section of Table 9 shows differences by gender. A similar percent of the population with and without disabilities are female, 51.2 percent and 51.7 percent respectively. However, there are gender compositional differences among the specific disability categories. A far greater percentage of persons with inside the home participation restrictions (64.1 percent) and outside the home participation restrictions (60.4 percent) are female than the population without disabilities. On the other hand, only 42.0 percent of persons with sensory impairments are female.

The NHIS-D data show the population with disabilities tends to have a greater share of whites and Native Americans, and a smaller share of Asians, compared to the population without a disability. There is little difference in the percent of blacks with disabilities. Approximately 82.6 percent of the population with disabilities is white and 1.4 percent is Native Americans compared to corresponding percentages of 80.2 percent and 0.9 percent of the population without a disability. The population with disabilities that is Asian is 1.9 percent compared to the 3.8 percent of the population without disabilities who are Asian. The share of individuals with disabilities that report Hispanic ethnicity is 7.5 percent, which is lower than the percentage of people without disability who report Hispanic ethnicity (10.4 percent).

Finally, the table shows that the population with a disability consists of a greater share of people with low levels of education compared to the population without

disabilities. This section of the table focuses on the working age population, those between the ages of 25 and 61, in order to reduce age-related differences in educational level and to provide a context for the working age population tables in the next section. An estimated 25.3 percent of the working-age population with disabilities has less than a high school education, and another 38.6 percent has only a high school education. Corresponding numbers for those without a disability show that 11.9 percent have less than a high school education and 36.9 percent have only a high school education. The share of persons without a disability is larger than the corresponding share for persons with a disability.

Table 10 displays demographic information in an alternative way. Here we see that in most cases, the majority of people do not have a disability. The exception is people aged 85 or older. Here, 29.2 percent of people report no disability while 70.8 percent indicate the presence of some disability. Not surprisingly, very few children have disabilities, and the percentage of people in any given age category with a disability increases as age increases.

### **Employment and Economic Well Being Estimates**

The 1995/1995 NHIS-D shows that the employment rates for persons with a disability are lower than the employment rates for persons without a disability. Table 11 shows result for the percentage of the population in question that is employed in the past two weeks prior to the interview for all of our disability measures. The first section shows that while 83.8 percent of the population without a disability was employed during the reference week, only 53.8 percent of the population with a disability was employed during the period. Among the six disability types, the highest employment rates are for the population with sensory disabilities.

The rest of the table shows differences across all of the disability categories for gender, race and education level subgroups. The employment rates are lower for women than they are for men, are lower for minorities than they are for whites, and are lower for those with less education.

The economic well-being of the working-aged population with disabilities (ages 25 to 61) is substantially worse than that of the population without disabilities based upon

the four measures presented in Table 12. The first row of the table shows that 10.4 percent of the population without a disability is below the poverty line compared to 23.0 percent of the population with a disability. Among the six separate measures of disability types, the poverty rates are lowest for those with a sensory impairment, with a rate of 18.1 percent, and highest for those with a mental disability, with a rate of 31.8 percent.

The median income to needs ratio shows a similar pattern. The median family income for persons without disabilities is 3.2 times the needs standard used for the poverty line. For those with a disability, the median family income is 2.2 times the poverty line. Differences across disability type show the highest median family income-to-needs ratio for persons with a sensory disability, with a family income level 2.5 times the poverty line, and the lowest median family income-to-needs ratio for persons with an go-outside the home participation restriction, with a family income level only 1.6 times the poverty line. Median family income among those without a disability is approximately \$39,700 per year compared to \$26,100 among the population with a disability. Median family income is again lowest for those with a go-outside the home participation restriction at \$18,200, and highest for those with a sensory disability, \$29,700.

Finally, adjustments for family size show similar disparities. The last row shows that the median family size adjusted income is approximately \$23,900 for persons without disabilities and \$16,200 for persons with disabilities. This difference is smaller than the unadjusted median family income, but still a sizeable difference. Adjusting for family size has a larger impact on the population without disabilities because persons without disabilities tend to live in families with more members compared to persons with disabilities. Median adjusted family income is highest for persons with a sensory disability at \$18,100 and is lowest for persons with a go-outside the home participation restriction at \$11,900.

The rest of the table shows that economic well-being also differs by gender, race and education level. While poverty differentials exist among those without disabilities across gender, race, and education level, these differences are even larger among those with disabilities. And for all subgroups with disabilities, the absolute rates of poverty are higher than for their counterparts without disability. The poverty rate for women with

disabilities is 25.5 percent compared to 12.2 percent for women without disabilities. The similar rates for men are 20.4 and 8.6 percent, respectively. Poverty rates are highest for men and women among those with mental impairments.

Poverty is much higher among blacks, Native Americans, and Hispanics with disabilities than among whites with disabilities. More than a third of blacks and Hispanics with disabilities (43.3 percent and 36.8 percent) live in poverty and almost a third of Native Americans with disabilities (30.4 percent). These poverty rates are even higher among certain disability types. For example, over half of blacks with a mental impairment, 54.2 percent, live in poverty. These groups also have much lower median family income-to needs ratios, median household income, and median household size adjusted income.

Finally, economic well-being is lower among those with disabilities who have less education compared to those with higher levels of education. The poverty rate of those with disabilities and less than a high school education is 39.6 percent. Median family income is only approximately \$15,500. This is compared to the poverty rate of those with disabilities who have more than a high school education is 13.9 percent and median family income is \$36,600.

### **Unique Features of the NHIS-D**

Tables 13 through 17 show unique features of the NHIS-D. In all cases, Phase 2 was used to calculate items of interest, utilizing populations defined with Phase 1. Each of these tables uses the Phase 2 weight. Because the NCHS Phase 1 definition of disability includes some individuals not included in the disability conceptualizations of the User Guides, the group “disability” is not a total of all people in Phase 2, it is the total of all people identified as having a disability for purposes of this guide. Information for people without a disability is not included because only individuals with disabilities were answered Phase 2 questions.

The NHIS-D contains several questions on supportive services both used and needed by children with disabilities. “Needed” services represent those services that a child receives none of, but the respondent felt they needed. In fact, need may be much

greater than displayed in this table since some children receiving services may not be receiving enough of that service – and hence would also need that service.

Table 13 describes use and demand for support services among children with disabilities in 1994 - 1995. It shows physical therapy services were the most likely services reported as being used – and those with an activity limitation were most likely to use the services (43.2 percent). In general, children with activity limitations were most likely to use any service, followed by those with a physical impairment, and then those with a sensory impairment. The exception to this is audiologist services, which children with a sensory impairment were more likely to use than those with other impairments.

Transportation services are an important issue, particularly for working-age adults. After all, if a person is unable to get to work, they are unable to keep a job. Table 14 uses the NHIS-D data to show that slightly over half of the population of people with disabilities drive a car frequently – though 16 percent never drive a car because of a limitation associated with their impairment. Only 2 percent of people with disabilities use special equipment in their cars. Over half of individuals with disabilities report having special transportation services available. If transportation is a barrier for these people, it may be that the special services available are not geared toward daily employment, but rather are geared toward specialized trips. It may be that the services available are not designed to meet specific needs. Many people with disabilities use local public transportation. The additional columns of the table show how transportation services vary by disability type.

Table 15 highlights information about social activities for adults with disabilities. People with self-care limitations and “outside the home” participation restrictions are less likely to get together with friends, making a potentially valuable network for finding employment unavailable to them. Clearly the telephone provides an important tool for social interaction. The NHIS-D data show that the telephone is utilized by only three-quarters of people with disabilities. Finally, the NHIS-D data show that about one-quarter of people with disabilities report going to shows, sports, movies, or other events. Unfortunately, we cannot compare these numbers to people without disabilities because people without disabilities are not included in phase 2 of the disability supplement.

Vocational rehabilitation services can provide assistance to people with disabilities seeking work. Table 16 shows the extent to which people with disabilities report using vocational rehabilitation services. The most popular service, physical therapy, is utilized by 8.8 percent of people with disabilities. Less than one percent of people with disabilities report using supported employment services. Usage patterns could reflect the availability of services or they could reflect demand for services. Usage patterns vary across disability type. People with an employment participation restriction are most likely to use medical treatments (6.2 percent) and on-the-job training (5.6 percent) rather than physical therapy – which is the most often used service for all other disability classifications identified in the table.

Interestingly, the NHIS-D asks individuals whether or not the services they received helped them to get a job for those who were not working or get a better job for those who were working. This important information could help analysts understand what types of services are most likely to lead to employment. The bottom of table 16 shows that 4.3 percent of persons with a disability got a job through the use of VR services and 2.5 percent of people with disabilities got a better job as a result of VR services.

Table 17 illustrates the need and use of work accommodations. As shown in figure 2, only some individuals were asked accommodation questions. For example, if a person indicated they were neither limited nor prevented from working due to health or disability, the survey assumes they do not need any accommodations. Thus, the numbers in table 17 could underestimate the true need for accommodations.

Table 17 shows that 2.5 percent of people with disabilities are not working and need some sort of accommodation to work; 4.2 percent of people with disabilities use at least one accommodation to work. Those accommodations that are reportedly being used do not differ drastically from those accommodations that are needed for work. This is important because it shows that the services being provided are the ones that people need. If a mismatch between the two existed, it might be necessary to focus resources on developing new services rather than just increasing the availability of current services. It may be that these relatively low reports of need are a result of people being unaware of services that are available or unaware that the services could help them. Because of this, these estimates are likely lower bounds of the true need for accommodations.

## Summary and Conclusions

The National Health Interview Survey – Disability Supplement (NHIS-D) provides an important data source for understanding the lives of people with disabilities. The supplement was added to the National Health Interview Survey (NHIS) in both 1994 and 1995. The survey provides a wealth of information that enables users to conceptualize disability in multiple ways. Along with the broad disability questions asked annually in the NHIS, the NHIS-D includes information on health conditions (both physical and mental), limitations in numerous activities such as bathing, eating, and getting around, and program participation such as Vocational Rehabilitation (VR).

Unfortunately, as of this writing, the data are now 10 years old – making it difficult to answer many contemporary policy questions regarding people with disabilities such as questions surrounding the effects of the recent Ticket to Work and Work Incentives Improvement Act legislation and the full effects of the American with Disabilities Act. In addition, some information was collected only for people with disabilities, making it impossible to compare people with and without disabilities. For example, many analysts believe that social networks form an important connection to the labor force and are key to employment for some people. From the NHIS-D, we know about social interactions of people with disabilities (highlighted in Table 15), but we do not know how these compare to people without disabilities. This information could be important for policy makers trying to understand ways to improve access to jobs for people with disabilities.

In addition, the complex skip patterns of the NHIS-D mean that not all individuals with disabilities were asked the same questions – and in some cases, the same question appeared in the survey in multiple places making it difficult for the analyst to use the data. This is true of questions surrounding work accommodations. If an individual indicated that they were neither limited nor prevented from work due to their health or disability, they did not answer questions on accommodations. While it may be reasonable to assume that these individuals do not need accommodations, it is also possible that they could benefit from an accommodation that they are unaware of, or feel like the reason they are limited in work is because a particular accommodation is unavailable – not because of their disability. So, while we can construct a lower bound for the extent to



which people with various disabilities or limitations need accommodations (Table 17), we cannot tell the full extent with the NHIS-D.

Despite these limitations, the wealth of information provided about people with disabilities in the NHIS-D is unparalleled in other surveys. Analysts can use the data to understand many important aspects of the lives of people with disabilities – some of which are highlighted in this paper. Many researchers are hopeful that the National Center for Health Statistics and other agencies involved in the design of the NHIS-D will consider adding the disability supplement to a future NHIS, improving on the initial supplement. This would provide more recent data to answer current research questions. It would also allow researchers to understand how the lives of people with disabilities have changed over time. Are people with disabilities becoming more integrated into their communities? Have the types of disabilities people report changed over time? Are more work places becoming fully accessible with the passage of time? Answers to these and other questions would help both public and private agencies know how to better allocate resources directed towards people with disabilities.

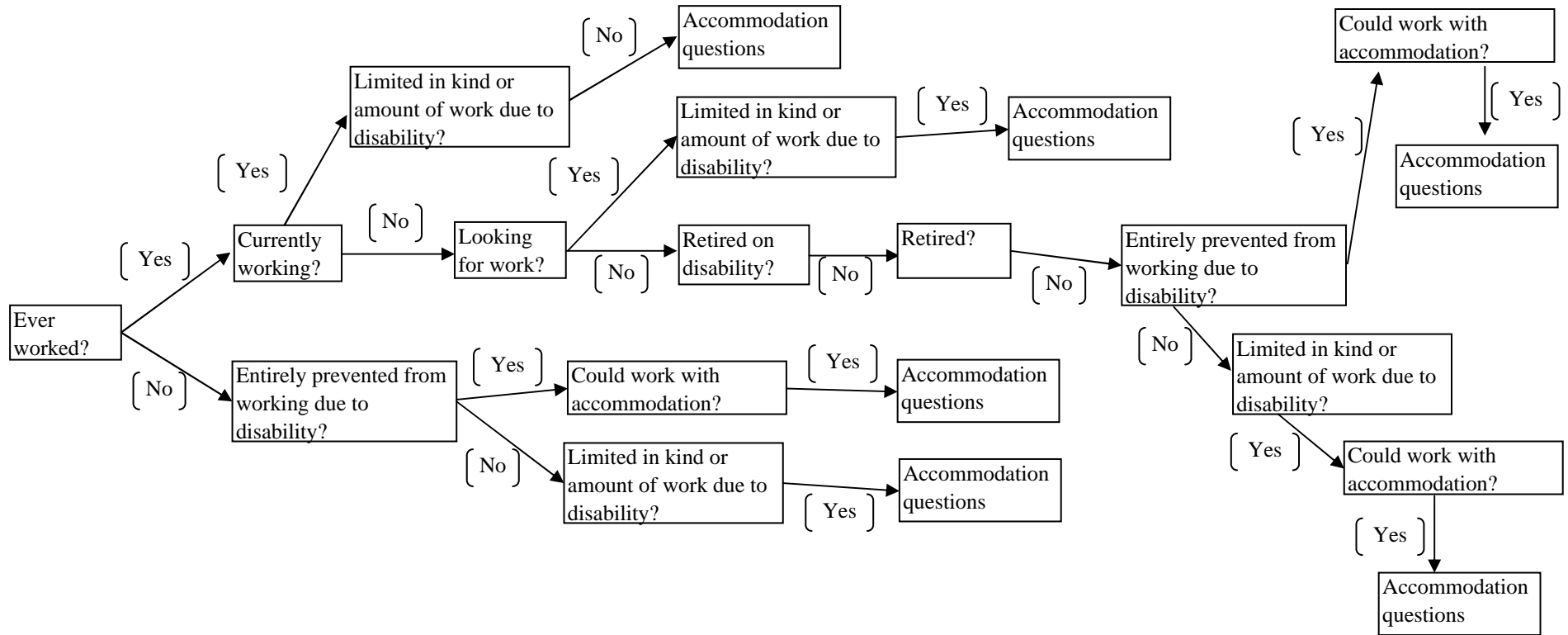
Even if a large-scale supplement such as the one described in this paper were not possible due to cost or other constraints, an alternative would be to pare down the NHIS-D into a smaller disability supplement that could be fielded more frequently. Analysts could discuss what aspects of disability research are most critical, and gear the questions toward changing needs. For example, as “baby boomers” age and need additional disability related services, questions about the types of disabilities this group and others have and their needs may be most critical. Or, it may be most critical to understand employment issues facing growing SSI and DI populations if the government hopes to stem program growth in favor of providing better employment opportunities for individuals with disabilities. Not all of the data contained in the NHIS-D needs to be collected every time, but some of the data collected consistently over time could prove to be quite useful.

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**Figure 2. Who answers questions on work accommodations?**



Note: This figure is slightly simplified from the actual survey. Some questions are removed for clarity.

## Tables

**Table 1. Policy Relevant Categories for Selection into Phase 2 of the NHIS-D**

<b>Category</b>	<b>Description</b>
1	Disabled Child
2	Polio
3	Mentally Retarded/Developmentally Disabled
4	Sensory Impaired
5	Assistive Devices
6	Mentally Ill
7	Cognitively Impaired
8	ADL/IADL/Functional Limitation
9	Supplemental Security Income (SSI) Recipients
10	Supplemental Security Income (SSI) Applicants
11	Social Security Disability Insurance (SSDI) Recipients
12	Social Security Disability Insurance (SSDI) Applicants
13	Residual Category

Source: Author's adaptation from NHIS-D microdata.

**Table 2. Eligible Sample Persons, Completed Interviews, and Response Rates by Year and Phase: National Health Interview Survey – Disability Supplement**

<b>Year and Phase</b>	<b>Eligible Persons</b>	<b>Completed Interviews</b>	<b>Response Rate (%)</b>
1994			
Phase 1	116,179	107,469	92.5
Phase 2	22,081	20,410	92.4
1995			
Phase 1	102,467	95,091	92.8
Phase 2	13,927	12,378	88.9
Both years			
Phase 1	218,646	202,560	92.6
Phase 2	36,008	32,788	91.1

Source: (Hendershot, et al. 2003)

**Table 3: Definitions of disability related concepts**

NHIS Categorization	Question description
Health Conditions	Each family member is asked about the following nine conditions (1) learning disability (2) cerebral palsy (3) cystic fibrosis (4) Down syndrome (5) mental retardation (6) muscular dystrophy (7) spina bifida (8) autism (9) hydrocephalus
Impairment: Sensory	Includes respondents who report having difficulty or using equipment seeing, hearing, and communicating <sup>a</sup> .
Impairment: Physical	Includes persons age 18 and over who report difficulty in their ability to lift groceries, walking up 10 steps without resting, walking a quarter of a mile, standing for about 20 minutes, bending down from a standing position, reaching overhead, using fingers to grasp an object, holding a pen or pencil.
Impairment: Mental	Persons age 18 and over were asked if they had one of the following problems and it had seriously interfered with life: were frequently depressed or anxious; had trouble making or keeping friendships; had trouble getting along with others; had trouble concentrating long enough to complete everyday tasks; had serious difficulty coping with day-to-day stresses; were frequently confused, disoriented, or forgetful; had phobias or unreasonably strong fears; had one of the following conditions: schizophrenia, paranoid or delusional disorder, manic episodes, major depress, anti-social personality, Alzheimer’s disease, or alcohol or drug abuse disorder.
Activity Limitation: Self-Care	Persons age 5 and older were asked if due to a physical, mental, or emotional condition they got help from another person, needed reminding, needed someone close by, or needed special equipment or if they had difficulty with any of the following activities: bathing or showering, dressing, eating, getting in and out of bed or chairs, using the toilet, or getting around inside the home.
Participation Restriction: Outside the home	Persons age 18 and older were asked if they got help or supervision or had difficulty shopping for personal items or managing money.
Participation Restriction: Inside the home	Persons age 18 and older were asked if they got help or supervision or had difficulty preparing their own meals, using the telephone, doing heavy housework, or doing light housework.
Participation Restriction: Employment	Persons ages 18 – 69 were asked if they were unable to work or limited in the kind or amount of work they could do or if they were unable to work or had trouble finding or keeping a job because of a mental or emotional condition.
Disability	For the tables in this report, disability is defined as a positive answer to any of the above questions – except the condition questions – and indication that the participation restriction, activity limitation, or impairment is a result of a physical, mental, or emotional condition and is expected to last at least 12 months. <sup>b</sup>

Source: Author’s adaptation of NHIS-D questions and ICF classifications.

<sup>a</sup> Communication questions asked only of persons at least age 5.

<sup>b</sup> Impairment: Sensory does not have to be the result of a physical, mental, or emotional condition expected to last at least 12 months.

**Table 4. Disability Definitions from the 1994 and 1995 NHIS-D – Phase 2**

NHIS Categorization	Question	Ages
Impairment: Physical	Persons ages 18 and older are asked if they have difficulty walking for a quarter of a mile, walking up 10 steps without resting, standing or being on your feet for about 2 hours, sitting for about 2 hours, stooping, crouching or kneeling, reaching up over your head, reaching out (as if to shake someone’s hand), using your fingers to grasp or handle, lifting or carrying something as heavy as 25 pounds, (such as two full bags of groceries), lifting or carrying something as heavy as 10 pounds	Ages 18+
Activity Limitation: Self-Care	Persons age 18 and older are asked if they have difficulty bathing or showering, dressing, eating, getting in and out of bed or chairs, walking, getting outside, using the toilet including getting to the toilet.	Ages 18+
Participation Restriction: Employment (non-working)	Persons age 18 or over who indicated they had never worked at a job or business were asked if an ongoing health problem, impairment or disability entirely prevented them from working.	
Participation Restriction: Employment (working)	Persons age 18 or over who were working at a job or business or looking for work were asked if they were limited in the kind or amount of work you can do because of an ongoing health problem, impairment, or disability?	
Participation Restriction: Inside the home	Persons age 18 and over were asked if they had difficulty preparing their own meals, using the telephone, doing heavy housework, doing light housework like doing dishes, straightening up, or light cleaning, or managing medication. They were also asked the degree to which they were affected.	Ages 18+
Participation Restriction: Go Outside the home	Persons 18 or over were asked if they had difficulty shopping for groceries and personal items, such as toilet items or medicines, managing your money such as keeping track of expenses or paying bills, or getting to places outside of walking distance. They were also asked the degree to which they were affected.	Ages 18+
Disability	The questions in Phase 2 were not necessarily intended to be used to identify disability, but rather, to provide additional information about people identified in phase 1 as having a disability. They are included in this table in order to point out changes between the two phases of the survey and because of their similarity to phase 1 questions.	

Source: Author's adaptation of NHIS-D questions and ICF classifications.

Note: These questions are not used to define disability for the tables in this report.



**Table 5. Demographic Definitions from the 1994 and 1995 NHIS-D**

NCHS Term	Question	Ages
Gender	(Household Composition) Interviewers attempt to survey each individual in the household. After collecting information on who lives in the household, interviewer's are instructed to indicate what sex the individual is. If not apparent, they are instructed to ask "Are you / is [name] male or female?" as part of Q 1a.	All
Age	(Household Composition) Q3. What is [your / name's] date of birth?	All
Race	<p>(1994: Section L. Demographic Background; 1995: Section A. Household Composition) 1994: Section L, Q4a and 4b. 1995: Section A, Q6a and 6b. What is the number of the group or groups which represents [name] race? Circle all that apply. Which of those groups would you say best represents [name] race?</p> <ol style="list-style-type: none"> <li>(1) White</li> <li>(2) Black</li> <li>(3) Indian (American)</li> <li>(4) Eskimo</li> <li>(5) Aleut</li> <li>(6) Chinese</li> <li>(7) Filipino</li> <li>(8) Hawaiian</li> <li>(9) Korean</li> <li>(10) Vietnamese</li> <li>(11) Japanese</li> <li>(12) Asian Indian</li> <li>(13) Samoan</li> <li>(14) Guamanian</li> <li>(15) Other API – specify</li> <li>(16) Other race – specify</li> </ol> <p>The National Center for Health Statistics recoded to the following:</p> <ol style="list-style-type: none"> <li>(1) White</li> <li>(2) Black /African American (shown as Black, for convenience)</li> <li>(3) Indian (American)</li> <li>(4) Eskimo</li> <li>(5) Aleut</li> <li>(6) Chinese</li> <li>(7) Filipino</li> <li>(8) Hawaiian</li> <li>(9) Korean</li> <li>(10) Vietnamese</li> <li>(11) Japanese</li> <li>(12) Asian Indian</li> <li>(13) Samoan</li> <li>(14) Guamanian</li> <li>(15) Other API</li> <li>(16) Other race</li> <li>(17) Multiple race</li> <li>(18) Unknown</li> </ol>	All

Continued

**Table 5 (continued). Demographic Definitions from the 1994 and 1995 NHIS-D**

NCHS Term	Question	Ages
Race	<p>NCHS also recoded to the following simplified codes:                      Recode 1 (used in Current Estimates tables produced by NCHS)</p>	All
	(1) White	
	(2) Black	
	(3) Other	
	Recode 2	
	(1) White	
	(2) Non-White	
	Recode 3	
	(1) Black	
	(2) Non-Black	
Hispanic Origin	<p>(1994: Section L. Demographic Background; 1995: Section A. Household Composition) 1994: Section L, Q3a and 3b. 1995: Section A, Q5a and 5b. Are any of those groups [name] National origin or ancestry? (Where did [name] ancestors come from?)</p>	All
	(0) Multiple Hispanic	
	(1) Puerto Rican	
	(2) Cuban	
	(3) Mexican / Mexicano	
	(4) Mexican American	
	(5) Chicano	
	(6) Other Latin America	
	(7) Other Spanish	
	(8) Spanish, Don't Know Type	
(9) Unknown if Spanish Origin		
(10) Not Spanish origin		
Education	<p>(Demographic Background) Section L. Q2a. What is the highest grade or year of regular school [name] has ever attended?</p>	All
	2b. Did [name] finish the [number in 2a grade/year]?	
	(0) Never attended; kindergarten only	
	(01 – 12) Grades 1-12	
	<u>College</u>	
	(13) 1 year	
	(14) 2 years	
	(15) 3 years	
(16) 4 years		
(17) 5 years		
(18) 6 years or more		
(19) Unknown		
Note: Available for individual as well as responsible adult family member		

Continued

**Table 5 (continued). Demographic Definitions from the 1994 and 1995 NHIS-D**

<b>NCHS Term</b>	<b>Question</b>	<b>Ages</b>
	(0) None; kindergarten only	
	(1) 1-8 years – elementary	
	(2) 9-11 years – high school	
	(3) 12 years – high school graduate	
Education recode:	(4) 1-3 years – college	All
	(5) 4 years – college graduate	
	(6) 5+ years – post-college	
	(7) Unknown	

Note: Available for individual as well as responsible adult family member

Source: Author's adaptation from NHIS-D documentation

**Table 6. Employment Definitions from the 1994 and 1995 NHIS**

NCHS Term	Question	Ages	
Employment Status Questions in Core NHIS	<p>Section B Q1. What was [name] doing most of the past 12 months; working at a job or business, keeping house, going to school, or something else?</p> <p>Section D, Q1a. (This question refers to the prior 2-week reference period.) During those 2 weeks did [name] work at any time at a job or business not counting work around the house? (Include unpaid work in the family [farm/business].)</p> <p>For those who answer “no” to 1a. Q1b. Even though [name] did not work during those 2 weeks, did [name] have a job or business?</p> <p>Employment Status in Past 2 Weeks Recode</p> <p><u>In the Labor Force:</u> (1-7)</p> <p>Currently employed: (1-3)</p> <p>1. Worked in past 2 weeks</p> <p>2. Did not work, has job; not on lay-off and not looking for work</p> <p>3. Did not work, has job; looking for work</p> <p><u>Unemployed:</u> (4-7)</p> <p>4. Did not work, has job; on lay-off</p> <p>5. Did not work, has job; on lay-off and looking for work</p> <p>6. Did not work, has job; unknown if looking or on lay-off</p> <p>7. Did not work, has no job; looking for work or on lay-off</p> <p><u>Not in Labor Force:</u> (8)</p> <p>8. Not in Labor Force</p>	<p>Ages 18 – 69</p> <p>Ages 18 and older</p>	
	<p>Section D Q1a. In (past month) did [name] have a job or business?</p> <p>Q1b. In (past month), was [name] working for an employer, was [name] self-employed, or both?</p> <p>If answer to Q1b is employer only:</p> <p>Section D, Q2a. In (past month), how many hours per week did [name] usually work in MAIN job?</p> <p>Q2e. In (past month), how many hours per week did [name] usually work at all OTHER jobs?</p> <p>Q2g. In how many of the past 12 months did [name] have AT LEAST ONE job or business? (asked only of those working in last month)</p> <p>If answer to Q1b is self-employment only:</p> <p>Section D, Q3a. In (past month), how many hours per week did [name] usually work in MAIN business?</p> <p>Q3d. In (past month), how many hours per week did [name] usually work at all OTHER businesses?</p> <p>Q3g. In how many of the past 12 months did [name] have AT LEAST ONE job or business? (asked only of those working in last month)</p> <p>If answer to Q1b is both:</p> <p>Section D, Q4a. In (past month), how many hours per week did [name] usually work in MAIN job or business?</p> <p>Q4g. In (past month), how many hours per week did [name] usually work at all OTHER jobs or businesses?</p> <p>Q4k. In how many of the past 12 months did [name] have AT LEAST ONE job or business? (asked only of those working in last month)</p>	<p>Ages 15 and older</p> <p>Ages 15 and older</p>	
	Employment Status Questions in Family Resource Supplement	<p>Section D, Q2a. In (past month), how many hours per week did [name] usually work in MAIN job?</p>	<p>Ages 15 and older</p>
		<p>Q2g. In how many of the past 12 months did [name] have AT LEAST ONE job or business? (asked only of those working in last month)</p>	<p>Ages 15 and older</p>
		<p>Section D, Q3a. In (past month), how many hours per week did [name] usually work in MAIN business?</p>	<p>Ages 15 and older</p>
		<p>Q3g. In how many of the past 12 months did [name] have AT LEAST ONE job or business? (asked only of those working in last month)</p>	<p>Ages 15 and older</p>

**Table 6 (continued). Employment Definitions from the 1994 and 1995 NHIS**

<b>NCHS Term</b>	<b>Question</b>	<b>Ages</b>
Employed Definition:	The person is classified as Employed (codes 1-3 in recode above): based on core section D Q1a or Q1b. Person was working or has a job not at work in the past 2 weeks.	Ages 18 and older

Source: Author's adaptation from NHIS-D documentation.

**Table 7. Economic Well-Being Measures from the 1994 and 1995 NHIS Family Resources Supplement**

NCHS Term	Question	Ages
Income	Section D. For each person in the family, the survey asks for the amount of income received in the previous month from the following sources: earnings from all jobs (before deductions including tips, bonuses, overtime pay, and commissions); self-employment income (net income after business expenses) from own business(es) (including business, professional practice, or farm); Social Security or Railroad Retirement (including SSDI); Supplemental Security Income (SSI); other disability pension; other retirement or survivor pension; public assistance or welfare payments from the state or local welfare office; interest; dividends, net rental property income, royalties, estates, or trusts; any other sources of income received regularly such as Veterans' (VA) payments, unemployment compensation, child support or alimony (not including lump sum payments such as money from an inheritance or the sale of a home).	Ages 15 and older
Family Resources Supplement	NCHS puts out an edited/imputed person level and family level monthly income variable.	Ages 15 and older
Family Income	The sum of income for each family member age 15 and older in the household unit.	All ages
Family Size- Core Survey	The sum of all people within the household related to each other by blood marriage, or adoption. Unrelated individuals in the household are considered separately.	All ages
Poverty Definition	Using information on family income and size, along with standard poverty thresholds, researchers can construct a poverty measure. However, it should be noted that the survey provides measures of monthly not annual income and poverty thresholds apply to annual income. To calculate poverty rates across groups, we multiplied monthly family income by 12 and applied the poverty thresholds. More refined estimates could take into account the number of months worked and income from work. See the Census Bureau website <a href="http://www.census.gov/hhes/poverty/threshld.html">http://www.census.gov/hhes/poverty/threshld.html</a> for the poverty thresholds for 1994 and 1995. We reproduce these in Appendix C.	All ages
Family Adjusted Income Definition	Family income adjusted for sharing within the family unit based upon the size of the family. See text for further information.	All ages

Source: Author's adaptation from NHIS documentation.

**Table 8. Population and Prevalence Estimates by Disability Definition**

	No Disability	Disability	Participation Restriction			Activity Limitation		Impairment	
			Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>All, Ages 5 to 99</i>									
Population Estimate	200,467,970	39,917,007	21,340,770*	11,525,524*	4,607,331*	4,518,300	7,685,200*	12,208,047	12,644,250
Prevalence Rate	83.4%	16.6%	11.2%	6.1%	2.4%	1.9%	4.0%	5.1%	5.3%
<i>Ages 5 to 17</i>									
Population Estimate	48,623,903	1,347,186	n/a	n/a	n/a	285,315	n/a	724,266	701,729
Prevalence Rate	97.3%	2.7%	n/a	n/a	n/a	0.6%	n/a	1.4%	1.4%
<i>Ages 18 to 24</i>									
Population Estimate	22,993,801	2,112,815	1,310,528	202,889	159,841	101,737	743,917	311,420	462,429
Prevalence Rate	91.6%	8.4%	5.2%	0.8%	0.6%	0.4%	3.0%	1.2%	1.8%
<i>Ages 25 to 61</i>									
Population Estimate	106,647,412	21,457,049	14,903,532	4,802,662	1,613,015	1,534,615	5,402,293	4,660,568	5,400,346
Prevalence Rate	83.3%	16.7%	11.6%	3.7%	1.3%	1.2%	4.2%	3.6%	4.2%
<i>Ages 62 to 64</i>									
Population Estimate	3,896,662	2,060,843	1,616,055	603,956	163,345	191,633	210,550	565,659	621,621
Prevalence Rate	65.4%	34.6%	27.1%	10.1%	2.7%	3.2%	3.5%	9.5%	10.4%
<i>Ages 65 and Older</i>									
Population Estimate	18,306,188	12,939,119	3,510,651	5,916,014	2,671,124	2,405,007	1,328,435	5,946,135	5,458,133
Prevalence Rate	58.6%	41.4%	11.2%	18.9%	8.5%	7.7%	4.3%	19.0%	17.5%

Source: Author's calculations from NHIS-D microdata.

\*defined only for population 18 and older.

**Table 9. Distribution of Demographic Characteristics for Persons With and Without Disabilities**

			Participation Restriction*		Activity Limitation		Impairment		
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental*	Physical	Sensory
<b>Age</b>									
% 5 to 14	19.0%	2.8%	n/a	n/a	n/a	6.3%	n/a	5.2%	4.9%
% 15 to 24	16.9%	6.3%	6.2%	2.0%	4.2%	3.7%	10.0%	4.3%	5.1%
% 25 to 34	18.3%	12.2%	14.1%	6.1%	8.7%	5.5%	21.1%	6.8%	8.5%
% 35 to 44	17.8%	16.7%	20.3%	12.8%	12.2%	10.5%	25.4%	11.9%	12.5%
% 45 to 54	12.0%	16.7%	21.1%	15.6%	12.1%	13.0%	18.5%	13.6%	15.4%
% 55 to 64	7.3%	16.4%	22.5%	17.8%	13.7%	15.3%	10.6%	15.6%	15.3%
% 65 to 74	6.0%	16.9%	14.1%	22.7%	19.9%	18.8%	7.8%	20.9%	20.1%
% 75 to 84	2.8%	12.1%	1.6%	23.1%	29.2%	26.9%	6.8%	21.8%	18.3%
<b>Total</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Gender</b>									
% Male	48.8%	48.3%	48.2%	38.9%	39.6%	43.5%	44.3%	44.7%	58.0%
% Female	51.2%	51.7%	51.8%	61.1%	60.4%	56.5%	55.7%	55.3%	42.0%
<b>Total</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b>Race (5 to 84)</b>									
% Asian	3.8%	1.9%	1.9%	1.6%	1.7%	1.5%	1.9%	1.4%	1.5%
% Black	12.5%	12.4%	15.1%	12.9%	16.6%	13.3%	12.9%	14.0%	8.7%
% Native American	0.9%	1.4%	1.5%	1.1%	1.3%	1.5%	2.0%	1.2%	1.7%
% White	80.2%	82.6%	79.3%	82.8%	78.5%	82.0%	81.2%	81.7%	86.5%
% Some Other Race	2.7%	1.9%	2.2%	1.7%	2.0%	1.7%	2.0%	1.6%	1.7%
<b>Total</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Continued



**Table 9 (continued). Distribution of Demographic Characteristics for Persons With and Without Disabilities**

	No Disability	Disability	Participation Restriction*		Activity Limitation	Impairment			
			Employment	Inside the Home	Outside the Home	Self-Care	Mental*	Physical	Sensory
<b><i>Ethnicity (5 to 84)</i></b>									
% Hispanic	10.4%	7.5%	8.3%	5.8%	6.6%	6.1%	8.8%	6.7%	6.6%
% non-Hispanic	89.6%	92.5%	91.7%	94.2%	93.4%	93.9%	91.3%	93.3%	93.4%
<b><i>Total</i></b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
<b><i>Education (25 to 61)</i></b>									
% Less than HS	11.9%	25.3%	29.5%	30.8%	38.9%	30.9%	27.7%	27.0%	24.5%
% HS/GED	36.9%	38.6%	38.4%	37.5%	37.2%	36.5%	35.9%	36.7%	39.7%
% Some College	22.8%	21.0%	19.5%	18.9%	15.8%	22.0%	22.4%	22.4%	20.4%
% 4-Year College Graduate or more	28.4%	15.2%	12.6%	12.8%	8.2%	10.7%	14.0%	14.0%	15.4%
<b><i>Total</i></b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Author's calculations from NHIS-D microdata.

Note: Totals may not equal 100.0% due to rounding.

\* These categories assume no person < 17 have the specified restriction or impairment due to data limitations.

**Table 10. Prevalence of Persons With and Without Disabilities by Demographic Characteristic**

			Participation Restriction*		Activity Limitation		Impairment		
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental*	Physical	Sensory
<b>Age</b>									
% 5 to 14	97.3%	2.7%	n/a	n/a	n/a	0.6%	n/a	1.5%	1.5%
% 15 to 24	93.4%	6.6%	3.6%	0.6%	0.4%	0.4%	2.1%	1.3%	1.6%
% 25 to 34	88.7%	11.3%	7.3%	1.5%	0.8%	0.5%	3.8%	1.8%	2.4%
% 35 to 44	84.9%	15.1%	10.3%	3.1%	1.1%	1.0%	4.5%	3.9%	3.5%
% 45 to 54	79.1%	20.9%	14.7%	5.3%	1.5%	1.7%	4.5%	4.9%	5.9%
% 55 to 64	70.0%	30.0%	23.0%	8.9%	2.5%	2.9%	3.8%	8.2%	8.6%
% 65 to 74	64.9%	35.1%	16.3%	12.8%	4.1%	4.0%	3.1%	12.4%	12.7%
% 75 to 84	55.0%	45.0%	3.4%	23.5%	10.9%	10.3%	5.0%	23.3%	20.9%
% 85 or Older	29.2%	70.8%	6.4%	43.5%	29.6%	23.2%	9.1%	47.8%	36.5%
<b>Gender</b>									
% Male	83.8%	16.2%	8.8%	3.5%	1.5%	1.6%	2.9%	4.5%	6.1%
% Female	83.0%	17.0%	9.0%	6.1%	2.3%	2.2%	3.5%	5.7%	4.5%
<b>Race</b>									
% Asian	91.1%	8.9%	4.9%	2.3%	1.0%	0.8%	1.8%	2.1%	2.3%
% Black	83.7%	16.3%	10.8%	4.8%	2.4%	1.9%	3.3%	5.5%	3.6%
% Native American	76.9%	23.1%	14.1%	5.4%	2.3%	2.7%	6.6%	6.3%	8.9%
% White	82.9%	17.1%	8.8%	5.0%	1.9%	1.9%	3.2%	5.2%	5.7%
% Some Other Race	88.2%	11.8%	7.7%	3.0%	1.3%	1.1%	2.5%	3.0%	3.3%
<b>Ethnicity</b>									
%Hispanic	87.7%	12.3%	7.4%	2.7%	1.2%	1.2%	2.8%	3.3%	3.4%

Continued  
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**Table 10 (continued). Prevalence of Persons With and Without Disabilities by Demographic Characteristic**

	No Disability	Disability	Participation Restriction*		Activity Limitation	Impairment			
			Employment	Inside the Home	Outside the Home	Self-Care	Mental*	Physical	Sensory
<i>Education (25 to 61)</i>									
% Less than HS	70.1%	29.9%	24.2%	8.1%	3.4%	2.6%	8.3%	6.9%	7.3%
% HS/GED	82.7%	17.3%	12.0%	3.8%	1.2%	1.2%	4.1%	3.6%	4.5%
% Some College	84.4%	15.6%	10.0%	3.1%	0.9%	1.2%	4.2%	3.6%	3.8%
% 4-Year College Graduate or more	90.3%	9.7%	5.6%	1.8%	0.4%	0.5%	2.3%	1.9%	2.5%

Source: Author's calculations from NHIS-D microdata.

\* These categories assume no person < 17 have the specified restriction or impairment due to data limitations.

**Table 11. Employment Rate Estimates, Ages 25 to 61**

	Participation Restriction			Activity Limitation		Impairment			
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>All</i>									
% Employed	83.8%	53.8%	42.5%	31.4%	17.2%	21.5%	44.2%	40.1%	64.4%
% Full-Time	73.3%	42.4%	30.8%	21.3%	8.8%	14.2%	32.8%	30.9%	55.5%
<i>Men</i>									
% Employed	92.9%	60.3%	46.5%	29.6%	18.4%	24.0%	46.9%	43.6%	72.4%
% Full-Time	88.0%	52.1%	37.5%	21.3%	9.8%	16.5%	37.9%	37.0%	65.6%
<i>Women</i>									
% Employed	75.1%	47.5%	38.8%	32.6%	16.2%	19.3%	42.0%	36.7%	52.2%
% Full-Time	59.3%	33.0%	24.7%	21.3%	7.9%	12.1%	28.5%	25.1%	39.8%
<i>White</i>									
% Employed	84.6%	57.4%	45.8%	34.2%	19.5%	23.6%	47.7%	43.4%	67.5%
% Full-Time	73.9%	45.4%	33.3%	23.6%	10.4%	15.3%	35.3%	33.7%	58.5%
<i>Black</i>									
% Employed	82.2%	35.4%	28.7%	18.5%	9.7%	14.6%	26.5%	25.5%	41.4%
% Full-Time	73.4%	26.8%	20.6%	11.6%	4.3%	10.4%	19.1%	18.5%	33.2%
<i>Hispanic</i>									
% Employed	76.7%	43.7%	33.5%	25.0%	10.6%	11.3%	35.1%	35.3%	57.3%
% Full-Time	67.0%	33.9%	23.6%	15.3%	7.4%	6.4%	26.7%	28.1%	50.6%

Continued

**Table 11 (continued). Employment Rate Estimates, Ages 25 to 61**

			Participation Restriction		Activity Limitation		Impairment		
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>Native American</i>									
% Employed	75.7%	45.1%	34.4%	24.1%	*	*	36.7%	32.2%	52.9%
% Full-Time	66.7%	33.6%	21.6%	16.3%	*	*	27.8%	26.2%	39.5%
<i>Asian</i>									
% Employed	78.8%	56.5%	44.1%	38.0%	*	*	48.2%	*	64.0%
% Full-Time	69.7%	47.4%	34.4%	22.9%	*	*	39.9%	*	60.3%
<i>LT High School</i>									
% Employed	70.9%	32.3%	24.9%	15.3%	13.2%	12.8%	24.4%	18.9%	42.5%
% Full-Time	60.7%	23.6%	16.7%	8.9%	7.2%	7.6%	16.6%	11.4%	34.2%
<i>High School</i>									
% Employed	82.9%	54.9%	43.9%	31.0%	17.9%	20.8%	46.7%	40.6%	67.4%
% Full-Time	72.3%	43.4%	31.7%	19.8%	8.5%	12.4%	34.6%	31.6%	59.0%
<i>MT High School</i>									
% Employed	87.4%	67.2%	56.5%	47.1%	21.9%	30.1%	56.6%	55.0%	75.9%
% Full-Time	77.0%	54.3%	42.4%	34.8%	11.5%	22.0%	43.3%	44.5%	65.9%

Source: Author's calculations from NHIS-D microdata.

Note: Employed-- Full-time applies to individuals employed and working at least 35 hours per week.

\* Cell has less than 50 observations

**Table 12. Economic Well-Being Measures, Ages 25 to 61**

	Participation Restriction			Activity Limitation		Impairment			
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>All</i>									
% Below Poverty Line	10.4%	23.0%	27.5%	26.2%	30.4%	28.1%	31.8%	25.4%	18.1%
Median Inc.-to-Needs	3.19	2.21	1.85	1.86	1.61	1.76	1.73	1.97	2.48
Median Family Income	\$39,720	\$26,100	\$22,560	\$21,888	\$18,240	\$20,832	\$20,028	\$23,160	\$29,736
Median Size-Adj. Inc.	\$23,951	\$16,191	\$13,856	\$13,746	\$11,939	\$12,855	\$12,847	\$14,616	\$18,125
<i>Men</i>									
% Below Poverty Line	8.6%	20.4%	25.5%	24.2%	27.1%	24.1%	28.9%	22.9%	14.4%
Median Inc.-to-Needs	3.33	2.33	1.90	1.82	1.71	1.80	1.83	2.07	2.77
Median Family Income	\$41,400	\$27,960	\$23,100	\$21,360	\$18,768	\$21,588	\$20,508	\$24,000	\$32,736
Median Size-Adj. Inc.	\$24,633	\$17,157	\$14,280	\$13,407	\$12,480	\$13,100	\$13,680	\$15,562	\$20,365
<i>Women</i>									
% Below Poverty Line	12.2%	25.5%	29.4%	27.4%	33.1%	31.7%	34.3%	27.8%	24.0%
Median Inc.-to-Needs	3.08	2.06	1.82	1.90	1.54	1.73	1.66	1.89	2.08
Median Family Income	\$38,400	\$24,288	\$22,008	\$22,428	\$17,508	\$19,824	\$19,440	\$21,900	\$24,060
Median Size-Adj. Inc.	\$22,836	\$15,242	\$13,500	\$14,001	\$11,328	\$12,600	\$12,318	\$13,873	\$15,426
<i>White</i>									
% Below Poverty Line	8.6%	19.0%	23.0%	21.9%	25.4%	24.8%	27.5%	21.5%	15.2%
Median Inc.-to-Needs	3.37	2.42	2.11	2.11	1.83	1.96	1.94	2.23	2.66
Median Family Income	\$42,000	\$28,800	\$24,600	\$24,072	\$21,012	\$22,716	\$22,032	\$25,200	\$31,200
Median Size-Adj. Inc.	\$24,942	\$17,736	\$15,450	\$15,274	\$13,200	\$14,849	\$14,544	\$16,200	\$19,399

Continued

**Table 12 (continued). Economic Well-Being Measures, Ages 25 to 61**

	Participation Restriction			Activity Limitation		Impairment			
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<b>Black</b>									
% Below Poverty Line	18.7%	43.3%	45.9%	45.6%	46.6%	42.2%	54.2%	42.5%	40.3%
Median Inc.-to-Needs	2.42	1.21	1.12	1.10	1.10	1.13	0.91	1.19	1.31
Median Family Income	\$30,000	\$14,616	\$13,512	\$13,440	\$12,240	\$14,868	\$10,872	\$14,256	\$15,336
Median Size-Adj. Inc.	\$18,013	\$9,000	\$8,364	\$8,113	\$7,959	\$8,694	\$6,927	\$8,818	\$10,046
<b>Hispanic</b>									
% Below Poverty Line	23.6%	36.8%	41.6%	39.7%	43.1%	49.0%	46.7%	36.0%	29.0%
Median Inc.-to-Needs	1.97	1.38	1.18	1.22	1.12	1.01	1.10	1.45	1.89
Median Family Income	\$27,600	\$19,140	\$16,332	\$16,992	\$13,908	\$13,008	\$14,400	\$18,224	\$24,204
Median Size-Adj. Inc.	\$15,026	\$10,440	\$8,965	\$9,300	\$8,694	\$8,157	\$8,485	\$10,810	\$13,856
<b>Native American</b>									
% Below Poverty Line	21.9%	30.4%	34.4%	33.3%	*	*	34.3%	29.1%	33.1%
Median Inc.-to-Needs	2.09	1.60	1.43	1.46	*	*	1.31	1.73	1.57
Median Family Income	\$28,632	\$20,880	\$16,968	\$18,624	*	*	\$14,280	\$23,388	\$16,800
Median Size-Adj. Inc.	\$15,576	\$11,879	\$11,304	\$10,753	*	*	\$9,612	\$12,132	\$12,117
<b>Asian</b>									
% Below Poverty Line	12.1%	20.5%	26.2%	24.3%	*	*	34.2%	*	16.4%
Median Inc.-to-Needs	3.25	2.66	2.26	2.19	*	*	2.19	*	2.70
Median Family Income	\$44,400	\$34,800	\$30,000	\$25,944	*	*	\$26,076	*	\$38,424
Median Size-Adj. Inc.	\$24,256	\$20,424	\$15,935	\$15,055	*	*	\$15,055	*	\$21,914

Continued

**Table 12 (continued). Economic Well-Being Measures, Ages 25 to 61**

	Participation Restriction			Activity Limitation			Impairment		
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<b><i>LT High School</i></b>									
% Below Poverty Line	26.9%	39.6%	42.5%	39.8%	39.2%	36.4%	49.1%	43.4%	32.7%
Median Inc.-to-Needs	1.70	1.27	1.19	1.24	1.29	1.40	1.02	1.19	1.52
Median Family Income	\$23,532	\$15,564	\$14,400	\$15,120	\$15,252	\$17,292	\$12,000	\$14,028	\$18,000
Median Size-Adj. Inc.	\$12,880	\$9,600	\$8,747	\$9,014	\$9,561	\$10,263	\$7,680	\$8,744	\$11,031
<b><i>High School</i></b>									
% Below Poverty Line	11.2%	21.0%	24.9%	24.1%	27.1%	27.3%	28.1%	23.2%	16.7%
Median Inc.-to-Needs	2.78	2.18	1.92	1.93	1.71	1.85	1.83	2.04	2.42
Median Family Income	\$35,460	\$25,896	\$23,640	\$22,800	\$19,620	\$21,048	\$21,144	\$23,580	\$29,172
Median Size-Adj. Inc.	\$20,780	\$15,983	\$14,280	\$14,314	\$12,382	\$13,164	\$13,576	\$14,861	\$17,548
<b><i>MT High School</i></b>									
% Below Poverty Line	6.2%	13.9%	17.2%	15.8%	22.0%	21.5%	22.4%	14.3%	9.9%
Median Inc.-to-Needs	3.99	3.17	2.76	2.63	2.03	2.24	2.42	2.95	3.55
Median Family Income	\$48,600	\$36,588	\$31,920	\$31,128	\$23,436	\$24,300	\$27,468	\$32,412	\$41,712
Median Size-Adj. Inc.	\$29,741	\$23,733	\$20,399	\$19,579	\$15,333	\$16,281	\$18,000	\$21,213	\$26,549

Source: Author's calculations from NHIS-D microdata.

\* Cell size less than 50



**Table 13. Supporting Services Used by Children (5 to 17)**

	Disability	Activity Limitation		
		Self-Care	Physical	Sensory
<b><i>Physical Therapist</i></b>				
Received	17.16%	43.42%	24.79%	13.18%
Needed	1.79%	2.10%	3.10%	0.77%
<b><i>Occupational Ther.</i></b>				
Received	14.30%	35.19%	19.13%	12.87%
Needed	1.29%	4.56%	1.26%	1.48%
<b><i>Audiologist</i></b>				
Received	10.78%	11.88%	7.95%	16.07%
Needed	1.08%	1.17%	0.74%	1.61%
<b><i>Speech Therapist</i></b>				
Received	28.90%	46.67%	28.08%	36.89%
Needed	1.49%	2.52%	1.89%	1.86%
<b><i>Recreational Ther.</i></b>				
Received	4.53%	13.21%	5.89%	4.14%
Needed	1.11%	2.09%	1.92%	1.04%
<b><i>Visiting Nurse</i></b>				
Received	1.67%	5.08%	2.13%	1.10%
Needed	0.09%	0.45%	0.17%	0.18%
<b><i>Personal Care Att.</i></b>				
Received	1.80%	6.34%	2.50%	2.01%
Needed	0.77%	2.26%	1.25%	1.10%
<b><i>Reader or Interp.</i></b>				
Received	3.26%	4.68%	2.09%	4.91%
Needed	0.48%	2.33%	0.78%	0.74%
<b><i>Home Dr. Visits</i></b>				
Received	0.41%	0.60%	0.35%	0.43%
Needed	0.00%	0.00%	0.00%	0.00%
<b><i>Center for Ind. Liv.</i></b>				
Received	0.81%	0.90%	1.00%	0.63%
Needed	0.33%	0.46%	0.63%	0.44%

Continued

**Table 13 (continued). Supporting Services Used by Children (5 to 17)**

	Disability	Activity Limitation		
		Self-Care	Physical	Sensory
<i>Respiratory Ther.</i>				
Received	1.75%	2.23%	2.42%	1.65%
Needed	0.34%	0.99%	0.65%	0.66%
<i>Social Work Serv.</i>				
Received	10.19%	23.45%	12.16%	8.75%
Needed	0.74%	3.40%	0.49%	0.86%
<i>Transport Serv.</i>				
Received	11.44%	31.96%	12.66%	12.16%
Needed	0.85%	5.22%	1.14%	0.58%

Source: Author's calculations from NHIS-D microdata.

**Table 14. Use of Transportation Services by People with Disabilities, Adults (>17)**

	Disability	Participation Restriction		Activity Limitation	Impairment			
		Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>Drive a Car</i>								
Frequently	53.16%	52.35%	38.39%	10.90%	20.29%	51.87%	36.91%	54.28%
Occasionally	11.04%	12.43%	12.80%	8.24%	11.53%	10.29%	12.81%	9.91%
Seldom	4.33%	5.20%	5.04%	5.37%	4.75%	5.44%	5.06%	3.62%
Never, due to impair.	16.05%	16.38%	25.54%	51.14%	44.56%	18.00%	26.39%	19.00%
<i>Special Equip. in Car</i>								
Yes	2.22%	3.00%	3.99%	6.81%	9.88%	1.68%	5.23%	1.20%
<i>Special Comm. Bus</i>								
Available	51.84%	51.04%	53.82%	56.18%	56.60%	51.12%	54.49%	51.93%
Of those w/ service available, used in last 12 mos	10.96%	11.32%	15.20%	23.36%	20.32%	11.68%	16.34%	11.32%
Of all, used in last 12 mos.	5.68%	5.78%	8.18%	13.12%	11.50%	5.97%	8.90%	5.88%
<i>Local Public Trans.</i>								
Frequently	18.92%	20.91%	12.81%	17.73%	12.66%	22.85%	15.51%	16.75%
Occasionally	41.84%	42.88%	43.89%	46.95%	43.06%	41.26%	43.16%	41.33%
Seldom	35.70%	32.81%	38.24%	30.13%	36.98%	33.70%	37.44%	37.87%
Difficulty Using	14.58%	16.54%	22.30%	30.36%	41.31%	13.39%	26.86%	14.67%

Source: Author's calculations from NHIS-D microdata.

**Table 15. Social Activity (>17)**

	Participation Restriction				Activity Limitation	Impairment		
	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<b><i>Get Together with Friends</i></b>								
Yes	66.91%	65.20%	61.27%	54.00%	55.16%	66.59%	60.62%	66.02%
Average # times if yes	4.77	4.80	4.75	5.08	4.86	4.98	4.92	4.64
<b><i>Talk with Friends on Telephone</i></b>								
Yes	75.21%	73.39%	72.50%	60.98%	64.91%	71.61%	72.53%	71.57%
Average # times if yes	9.53	9.55	9.72	9.58	9.87	9.75	9.93	9.05
<b><i>Get Together with Relatives</i></b>								
Yes	69.45%	67.85%	69.79%	66.78%	67.87%	63.90%	68.52%	71.12%
Average # times if yes	4.56	4.60	4.79	5.07	4.80	4.44	4.78	4.64
<b><i>Talk with Relatives on Telephone</i></b>								
Yes	80.87%	78.88%	80.06%	69.53%	74.38%	77.11%	79.82%	78.40%
Average # times if yes	7.48	7.70	8.04	8.18	8.16	7.11	7.96	7.23
<b><i>Church, Temple, Other place of Worship</i></b>								
Yes	37.58%	35.61%	36.69%	27.77%	28.52%	30.94%	33.82%	38.18%
Average # times if yes	2.60	2.62	2.59	2.56	2.43	2.51	2.56	2.62
<b><i>Show, Movie, Sports Events, Other</i></b>								
Yes	25.90%	25.13%	20.22%	14.89%	14.84%	28.72%	18.67%	24.38%
Average # times if yes	2.59	2.56	2.42	2.48	2.56	2.87	2.57	2.39
<b><i>Eat at a Restaurant</i></b>								
Yes	58.35%	55.10%	51.50%	38.80%	41.56%	55.79%	49.22%	59.88%
Average # times if yes	3.64	3.46	3.38	2.88	3.10	3.62	3.31	3.85

Source: Author's calculations from NHIS-D microdata.

**Table 16. Vocational Rehabilitation Services Received (>17)**

	Participation Restriction				Activity Limitation	Impairment		
	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>Type of Activity Received</i>								
On-the-job training	4.9%	5.6%	6.1%	11.4%	7.1%	6.8%	5.7%	5.3%
Job placement	3.3%	3.9%	4.4%	7.9%	5.0%	4.3%	3.8%	3.6%
Training in job seeking skills	4.1%	4.9%	5.1%	8.1%	5.5%	6.3%	4.6%	4.0%
Vocational or business school training	4.4%	5.2%	5.9%	6.2%	5.8%	6.3%	5.7%	4.4%
College or university training	3.6%	4.1%	4.7%	4.7%	5.8%	5.0%	5.2%	2.9%
Personal adjustment training	1.9%	2.3%	2.9%	5.9%	4.7%	3.2%	2.3%	1.4%
Physical therapy	8.8%	1.1%	16.5%	15.6%	22.8%	8.7%	17.5%	6.4%
Occupational therapy	3.2%	4.0%	6.4%	7.7%	10.4%	3.7%	6.7%	2.1%
Other medical treatment	5.1%	6.2%	8.9%	9.2%	11.2%	6.9%	8.9%	3.6%
Special aids or technology such as wheelchairs, hearing aids, or computers?	2.4%	3.0%	5.2%	7.2%	10.4%	2.1%	6.1%	2.9%
Training in homemaking or in self-care	1.9%	2.5%	4.4%	10.1%	8.9%	1.5%	3.5%	1.8%
Sheltered workshop	1.1%	1.4%	1.8%	6.5%	3.4%	1.4%	0.8%	1.2%
Supported employment	0.8%	0.9%	1.0%	4.0%	1.8%	1.1%	0.8%	0.8%
Driver training	1.0%	1.0%	1.3%	2.7%	2.1%	1.2%	1.5%	1.0%
Any other rehabilitation services	1.4%	1.7%	2.2%	3.4%	2.3%	2.1%	1.7%	1.2%
<i>Did VR help to:</i>								
Get a job?	4.3%	4.9%	5.3%	7.7%	6.1%	5.7%	4.9%	4.6%
Get a better job?	2.5%	2.6%	2.6%	2.9%	2.7%	3.2%	3.0%	2.9%

Source: Author's calculations from NHIS-D microdata.

**Table 17. Accommodations Needed for Work and Used by Employed Persons**

	Participation Restriction				Activity Limitation	Impairment			
	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory	
<i>Any Accommodation</i>									
Needed for Work	2.5%	3.2%	5.1%	6.5%	5.1%	2.8%	3.7%	2.1%	
Used by Current Wrkrs	4.2%	4.7%	7.4%	5.6%	8.8%	3.6%	6.6%	3.9%	
<i>Accessible Parking or Transport Stop</i>									
Needed for Work	1.3%	1.7%	3.3%	4.4%	3.8%	1.3%	2.7%	1.1%	
Used by Current Wrkrs	1.6%	1.9%	3.3%	2.9%	5.7%	1.3%	3.5%	1.2%	
<i>Elevator</i>									
Needed for Work	1.2%	1.5%	2.8%	3.0%	3.5%	1.1%	2.4%	0.8%	
Used by Current Wrkrs	1.4%	1.6%	2.6%	1.6%	4.1%	1.2%	2.5%	0.9%	
<i>Modified Work Stat.</i>									
Needed for Work	1.1%	1.4%	1.4%	3.8%	3.2%	1.2%	2.2%	0.8%	
Used by Current Wrkrs	1.5%	1.7%	2.9%	2.4%	4.1%	1.3%	2.5%	1.3%	
<i>Handrails / Ramps</i>									
Needed for Work	0.7%	0.9%	1.8%	2.5%	2.8%	0.7%	1.8%	0.4%	
Used by Current Wrkrs	0.9%	1.1%	2.1%	2.0%	4.1%	0.7%	2.3%	0.5%	
<i>Automatic Door</i>									
Needed for Work	0.4%	0.5%	1.1%	1.5%	1.9%	0.4%	1.0%	0.2%	
Used by Current Wrkrs	0.5%	0.5%	1.1%	1.5%	2.6%	0.5%	1.0%	0.4%	

Continued

**Table 17 (continued). Accommodations Needed for Work and Used by Employed Persons**

	Participation Restriction				Activity Limitation	Impairment		
	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<b><i>Special Restroom</i></b>								
Needed for Work	0.3%	0.4%	0.9%	1.4%	1.8%	0.3%	1.0%	0.2%
Used by Current Wrkrs	0.6%	0.7%	1.6%	1.4%	3.6%	0.5%	1.7%	0.4%
<b><i>Increased Breaks</i></b>								
Needed for Work	0.8%	1.1%	1.9%	3.0%	2.3%	1.3%	1.6%	0.6%
Used by Current Wrkrs	0.7%	0.8%	1.2%	1.2%	1.7%	0.9%	1.2%	0.5%
<b><i>Reduced or PT hours</i></b>								
Needed for Work	0.9%	1.1%	1.7%	2.8%	2.2%	1.2%	1.5%	0.6%
Used by Current Wrkrs	0.8%	1.0%	1.5%	1.8%	2.0%	1.1%	1.2%	0.6%
<b><i>Job Redesign</i></b>								
Needed for Work	0.7%	0.9%	1.7%	2.9%	1.9%	1.1%	1.3%	0.6%
Used by Current Wrkrs	0.6%	0.7%	1.1%	1.4%	1.5%	0.9%	1.0%	0.5%
<b><i>Special Office Suppl.</i></b>								
Needed for Work	0.3%	0.4%	0.8%	1.2%	0.9%	0.5%	0.7%	0.2%
Used by Current Wrkrs	0.3%	0.4%	0.9%	0.7%	1.1%	0.5%	0.7%	0.2%
<b><i>Braille, Print, etc.</i></b>								
Needed for Work	0.1%	0.2%	0.2%	0.8%	0.3%	0.1%	0.2%	0.2%
Used by Current Wrkrs	0.1%	0.1%	0.2%	0.2%	0.2%	0.1%	0.2%	0.1%

Continued

**Table 17 (continued). Accommodations Needed for Work and Used by Employed Persons**

	Participation Restriction				Activity Limitation	Impairment		
	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i><b>Voice Synth., TDD, etc</b></i>								
Needed for Work	0.1%	0.1%	0.2%	0.4%	0.3%	0.1%	0.2%	0.3%
Used by Current Wrkrs	0.2%	0.1%	0.2%	0.1%	0.2%	0.1%	0.1%	0.6%
<i><b>Job Coach</b></i>								
Needed for Work	0.9%	1.2%	2.0%	3.7%	2.7%	1.4%	1.5%	0.7%
Used by Current Wrkrs	0.2%	0.3%	0.4%	1.6%	0.8%	0.3%	0.1%	0.2%
<i><b>Personal Assistant</b></i>								
Needed for Work	0.8%	1.2%	1.7%	3.2%	2.6%	1.3%	1.5%	0.7%
Used by Current Wrkrs	0.3%	0.4%	0.8%	1.3%	1.5%	0.3%	0.6%	0.3%
<i><b>Reader, Interpreter</b></i>								
Needed for Work	0.6%	0.8%	1.5%	2.4%	1.6%	1.0%	1.2%	0.6%
Used by Current Wrkrs	0.1%	0.1%	0.1%	0.2%	0.1%	0.0%	0.0%	0.1%

Source: Author's calculations from NHIS-D microdata.



## **Appendix A. Criteria for inclusion into the NHIS-D, Phase 2 interview**

Adults and children had to meet different criteria in order to be identified as eligible for the DFS. Although an indication of any of the criteria in Table A1 was originally deemed sufficient for inclusion in the DFS, NCHS quickly discovered that this would lead to the interviewing of more people than there was funding for. In response to this, NCHS determined that some items would need to be combined with at least one other screen in order to be considered sufficient for inclusion in the DFS. This allowed NCHS to restrict the sample of people in the DFS to those who likely had the most severe disabilities.

In addition, some people who would have been deemed eligible for the DFS were excluded from the DFS sample in order to be included in the Medical Expenditure Panel Survey (MEPS), which draws its sample from the NHIS. This reduced the total number of people who were asked to complete a DFS interview.

**Table A1. 1994-95 Disability Followback Survey Sample Selection Summary Of Flagged Variables**

<b>Flag Description</b>	<b>Children Ages 0-17 DFS-1</b>	<b>Adults Ages 18 and Over DFS-2</b>	<b>Child Single Item Exclusion*</b>
F1 = Unable To Work - Work Main Activity		Yes	Yes
F2 = Limited In Kind Or Amt Of Work - Work Main Activity		Yes	Yes
F3 = Unable To Do Housework - Hwk Main Activity		Yes	Yes
F4 = Limited In Kind Or Amt Housework - Hwk Main Activity		Yes	Yes
F5 = Unable To Work - Hwk Main Activity		Yes	Yes
F6 = Limited In Kind Or Amt Of Work - Hwk Main Activity		Yes	Yes
F7 = Any Other Activity Limitation		Yes	Yes
F8 = Needs Help For Eating, Bathing, Dressing (Adls)		Yes	Yes
F9 = Needs Help For Household Chores (Iadls)		Yes	Yes
F10 = Unable To Do Age Appropriate Play	Yes		Yes
F11 = Limited In Kind Or Amount Of Play	Yes		Yes
F12 = Unable To Attend School	Yes		Yes
F13 = Attends Special School	Yes		Yes
F14 = Needs To Attend Special School	Yes		Yes
F15 = Limited In School Attendance	Yes		Yes
F16 = Any Other Activity Limit Ages <18 & 70+	Yes	Yes	Yes
F17 = Needs Help Adls Some Ages 5-59 & All Ages 60-69	Yes	Yes	Yes
F18 = Needs Help Iadls Some Ages 5-59 & All Ages 60-69		Yes	Yes
F19 = Poor Self Rated Health Status	Yes	Yes	Yes
F20 = This Item Was Eliminated			
F21 = Medicare Coverage	Yes	Yes	Yes
F22 = Medicaid Coverage	Yes	Yes	Yes
F23 = Social Security Or Rr Retirement For Disability	Yes	Yes	Yes
F24 = Ever Applied For Social Security Benefits	Yes	Yes	Yes
F25 = Receive Supplemental Security Income	Yes	Yes	
F26 = Ever Applied For Ssi	Yes	Yes	Yes
F27 = Receive Any Other Disability Pension	Yes	Yes	Yes
F28 = Legally Blind	Yes	Yes	
F29 = Diff Seeing Expected To Last 12 Mos	Yes	Yes	
F30 = Hearing Aid	Yes		
F31 = Trouble Hearing Exp To Last 12 Mos	Yes	Yes	
F32 = Diff Communicating Outside Family Onset Age < 22	Yes	Yes	
F33 = Diff Comm Outside Family, Onset Age > 21 Or Unknown	Yes	Yes	
F34 = Diff Communicating So Family Members Understand	Yes	Yes	
F35 = Diff Communicating Basic Needs To Family	Yes	Yes	
F36 = Diff Understanding Others, Onset Age < 22	Yes	Yes	
F37 = Diff Understanding Others, Onset Age > 21 Or Unknown	Yes	Yes	
F38 = Difficulty With Age Appropriate Learning	Yes	Yes	
F39 = Cane	Yes	Yes	
F40 = Crutches	Yes	Yes	
F41 = Walker	Yes	Yes	
F42 = Medically Prescribed Shoes	Yes	Yes	
F43 = Manual Wheelchair	Yes	Yes	

Continued

**Table A1 (continued). 1994-95 Disability Followback Survey Sample Selection Summary Of Flagged Variables**

<b>Flag Description</b>	<b>Children Ages 0-17 DFS-1</b>	<b>Adults Ages 18 and Over DFS-2</b>	<b>Child Single Item Exclusion*</b>
F44 = Electric Wheelchair	Yes	Yes	
F45 = Scooter	Yes	Yes	
F46 = Expected To Use Brace 12+ Mos	Yes	Yes	
F47 = Artificial Leg/Arm	Yes	Yes	
F48 = Dizziness Lasting 3+ Mos		Yes	
F49 = Problem With Balance Lasting 3+ Mos		Yes	
F50 = Ringing, Roaring, Buzzing In Ears Lasting 3+ Mos		Yes	
F51 = Learning Disability	Yes	Yes	
F52 = Cerebral Palsy	Yes	Yes	
F53 = Cystic Fibrosis	Yes	Yes	
F54 = Down Syndrome	Yes	Yes	
F55 = Mental Retardation	Yes	Yes	
F56 = Muscular Dystrophy	Yes	Yes	
F57 = Spina Bifida	Yes	Yes	
F58 = Autism	Yes	Yes	
F59 = Hydrocephalus	Yes	Yes	
F60 = Polio			
F61 = Bath/Shower-Get Help	Yes	Yes	
F62 = Dress-Get Help	Yes	Yes	
F63 = Eat-Get Help	Yes	Yes	
F64 = Get In/Out Bed/Chair-Get Help	Yes	Yes	
F65 = Toilet-Get Help	Yes	Yes	
F66 = Getting Around In Home- Get Help	Yes	Yes	
F67 = Need Reminders Or Person Close By To Do F61-F66	Yes	Yes	
F68 = Need Special Equipment To Do F61- F66	Yes	Yes	
F69 = Bathing - A Lot Of Diff, Exp To Last 12+ Months	Yes	Yes	
F70 = Dressing - A Lot Of Diff, Exp To Last 12+ Months	Yes	Yes	
F71 = Eating - A Lot Of Diff, Exp To Last 12+ Months	Yes	Yes	
F72 = Transfer From Bed/Chair - A Lot Of Diff, Exp 12+ Mos	Yes	Yes	
F73 = Toileting - A Lot Of Diff, Exp To Last 12+ Mos	Yes	Yes	
F74 = Get Around Inside - A Lot Of Diff, Exp To Last 12+ Mos	Yes	Yes	
F75 = Bath-A Lot Of Diff-No Help/Remind Exp To Last 12 Mos	Yes	Yes	
F76 = Dress-A Lot Of Diff-No Help/Remind, Exp 12+ Mos	Yes	Yes	
F77 = Eat-A Lot Of Diff-No Help/Remind, Exp To Last 12+ Mos	Yes	Yes	
F78 = Transfer Bed/Chr-Lot Of Diff-No H/R, Exp 12+ Mos	Yes	Yes	
F79 = Toilet-A Lot Of Diff-No H/R, Exp To Last 12 +Mos	Yes	Yes	
F80 = Get Around Inside-Lot Of Diff-No H/R, Exp 12+ Mos	Yes	Yes	
F81 = Prepare Meals - Get Help Or Supervision		Yes	
F82 = Shopping - Get Help Or Supervision		Yes	
F83 = Managing Money - Get Help Or Supervision		Yes	
F84 = Using Telephone - Get Help Or Supervision		Yes	
F85 = Heavy Housework - Get Help Or Supervision		Yes	
F86 = Light Housework - Get Help Or Supervision (H/S)		Yes	

**Table A1 (continued). 1994-95 Disability Followback Survey Sample Selection Summary Of Flagged Variables**

<b>Flag Description</b>	<b>Children Ages 0-17 DFS-1</b>	<b>Adults Ages 18 and Over DFS-2</b>	<b>Child Single Item Exclusion*</b>
F87 = Prepare Meals - A Lot Of Diff, Exp To Last 12+ Mos		Yes	
F88 = Shop For Personal Items - A Lot Of Diff, Exp 12+ Mos		Yes	
F89 = Managing Money - A Lot Of Diff, Exp To Last 12+ Mos		Yes	
F90 = Using Phone - A Lot Of Diff, Exp To Last 12+ Mos		Yes	
F91 = Heavy Housework- A Lot Of Diff, Exp To Last 12+ Mos		Yes	
F92 = Light Housework - A Lot Of Diff, Exp To Last 12+ Mos		Yes	
F93 = Prepare Meals-A Lot Of Diff-No H/S, Exp 12+ Mos		Yes	
F94 = Shop-A Lot Of Diff-No H/S, Exp To Last 12+ Mos		Yes	
F95 = Manage Money-A Lot Of Diff-No H/S, Exp 12+ Mos		Yes	
F96 = Using Phone-A Lot Of Diff-No H/S, Exp 12+ Mos		Yes	
F97 = Heavy H/Work-A Lot Of Diff-No H/S, Exp 12+ Mos		Yes	
F98 = Light H/Work-A Lot Of Diff-No H/S, Exp 12+ Mos		Yes	
F99 = Lift 10 Pounds - Unable, Exp To Last 12+ Mos		Yes	
F100 = Lift 10 Pounds - Unable, No/Dk If Exp 12+ Mos		Yes	
F101 = Walk Up 10 Steps - Unable, Exp To Last 12+ Mos		Yes	
F102 = Walk 10 Steps - Unable, No/Dk If Exp 12+ Mos		Yes	
F103 = Walk 1/4 Mile- Unable, Exp To Last 12+ Mos		Yes	
F108 = Bending - Unable, No/Dk If Exp To Last 12+ Mos		Yes	
F109 = Reach Up Or Out - Unable, Exp To Last 12+ Mos		Yes	
F110 = Reach Up Or Out - Unable, No/Dk If Exp 12+ Mos		Yes	
F111 = Use Fingers To Grasp - Unable, Exp To Last 12+ Mos		Yes	
F112 = Use Fingers - Unable, No/Dk If Exp To Last 12+ Mos		Yes	
F113 = Hold Pen/Pencil - Unable, Exp To Last 12+ Mos		Yes	
F114 = Use Pen/Pencil - Unable, No/Dk If Exp 12+ Mos		Yes	
F115 = A Lot Of Diff With 2 Or More Of F99-F114		Yes	
F116 = Depressed		Yes	
F117 = Trouble With Friendships		Yes	
F118 = Trouble In Social Settings		Yes	
F119 = Trouble Concentrating		Yes	
F120 = Stress		Yes	
F121 = Confused		Yes	
F122 = Phobia		Yes	
F123 = Schizophrenia		Yes	
F124 = Paranoid Disorder		Yes	
F125 = Bipolar Disorder		Yes	
F126 = Major Depression		Yes	
F127 = Personality Disorder		Yes	
F128 = Senility		Yes	
F129 = Alcohol Abuse		Yes	
F130 = Drug Abuse		Yes	
F131 = Other Serious Mental Disorder		Yes	
F132 = Medication For Ongoing Mental Disorder		Yes	
F133 = Mental Cond Interfer With Getting/ Keeping Job		Yes	

**Table A1 (continued). 1994-95 Disability Followback Survey Sample Selection Summary Of Flagged Variables**

<b>Flag Description</b>	<b>Children Ages 0-17 DFS-1</b>	<b>Adults Ages 18 and Over DFS-2</b>	<b>Child Single Item Exclusion*</b>
F134 = Go To Sheltered Workshop, Etc. To Dev Skills		Yes	
F135 = Go To A Day Activity Center During Work Hours		Yes	
F136 = Get Phys Therapy For Cond Exp To Last 12+ Mos		Yes	
F137 = Get Occup Therapy For Cond Exp To Last 12+ Mos		Yes	
F138 = Use Vocational Rehabilitation Services		Yes	
F139 = Have A Case Manager		Yes	
F140 = Need But Did Not Have Case Manager		Yes	
F141 = Have A Court Appointed Legal Guardian		Yes	
F142 = Regular Visits To Dr For Cond Exp To Last 12+ Mos		Yes	
F143 = Problem/Delay In Physical Development	Yes		
F144 = Use Prescription Med For Cond Exp To Last 12+ Mos	Yes		
F145 = Hospital Stay Overnight For Cond Exp 12+ Mos	Yes		
F146 = Life-Threatening Allergic Reaction To Foods	Yes		
F147 = Physician Ordered Special Diet For Serious Condition	Yes		
F148 = Special Equip For Breathing Cond Exp 12+ Mos	Yes		
F149 = Received Counseling Exp 12+ Mos	Yes		
F150 = Get Phys Therapy For Cond Exp To Last 12+ Mos	Yes		
F151 = Get Occup Therapy For Cond Exp To Last 12+ Mos	Yes		
F152 = Med Proc At Home For Cond Exp To Last 12+ Mos	Yes		
F153 = Cognitive Or Mental Development Delays	Yes		
F154 = Speech/Language Development Delays	Yes		Yes
F155 = Emotional/Behavioral Development Delays	Yes		
F156 = Diff With Strenuous Activity For Age Exp 12+ Mos	Yes		
F157 = Diff Getting Along W Others Same Age Exp 12+ Mos	Yes		
F158 = Diff Chewing, Swallowing, Digesting Exp 12+ Mos	Yes		
F159 = Need Med Equip To Eat/Toilet, Cond Exp 12	Yes		
F160 = No Interest In Sights/Sounds, Unhappy W/ People	Yes		
F161 = Can Not Hold Up Head W/O Support	Yes		
F162 = No Interest In Sights/Sounds, Unhappy W/ People	Yes		
F163 = Can Not Sit Upright W/O Support	Yes		
F164 = Never Crawled/Crept	Yes		
F165 = Does Not Show Wants By Gestures Or Noises	Yes		
F166 = Does Not Respond To People With Sounds, Faces	Yes		
F167 = Does Not Pay Attention For Up To One Minute	Yes		
F168 = Does Not Seem Happy Seeing Favorite People	Yes		
F169 = Cannot Sit Upright W/O Support	Yes		
F170 = Does Not Walk W/O Holding On	Yes		
F171 = Does Not Show Needs By Actions Or Words	Yes		
F172 = Does Not Respond To People With Sounds, Faces	Yes		
F173 = Does Not Pay Attention For Up To One Minute	Yes		
F174 = Does Not Walk Rapidly Or Run	Yes		
F175 = Does Not Show Needs By Actions Or Words	Yes		
F176 = Does Not Talk In Phrases Or Is Deaf	Yes		

**Table A1 (continued). 1994-95 Disability Followback Survey Sample Selection Summary Of Flagged Variables**

<b>Flag Description</b>	<b>Children Ages 0-17 DFS-1</b>	<b>Adults Ages 18 and Over DFS-2</b>	<b>Child Single Item Exclusion*</b>
F177 = Does Not Show Likes/Dislikes By Actions	Yes		
F178 = Does Not Show Likes/Dislikes By Words	Yes		
F179 = Does Not Play Make Believe	Yes		
F180 = Does Not Play With Other People	Yes		
F181 = Permanently Expelled/Suspended From School	Yes		
F182 = Not In School Because Of Prob Exp To Last 12+ Mos	Yes		
F183 = Has Problems Understanding Materials	Yes		Yes
F184 = Has Problems Paying Attention	Yes		Yes
F185 = Has Prob Following Rules/ Controlling Behavior	Yes		Yes
F186 = Has Prob Comm With Teachers And Students	Yes		Yes
F187 = Receives Special Education Services	Yes		
F188 = Has Individual Education Plan	Yes		
F189 = Attends School/Camp For Chlrn With Spec Needs	Yes		Yes
F190 = Receives Early Intervention Services	Yes		
F191 = Has Individual Family Service Plan	Yes		
F192 = Attends School/Camp For Chlrn With Spec Needs	Yes		Yes
F193 = Respondent Perceived Disability-- Self Or Family	Yes	Yes	Yes
F194 = Others Perceived Disability Of Anyone In Family	Yes	Yes	Yes
F195 = Use Assistive Device For Visual Impairment	Yes	Yes	
F196 = Trouble Hearing W Hearing Aid, Cond Exp 12+ Mos	Yes	Yes	
F197 = Can'T Hear Loud Noises, No Aid, Cond Exp 12+ Mos	Yes	Yes	
F198 = Use Assistive Device For Hearing Impairmen	Yes	Yes	
F199 = Defn Of Blind Includes Flags 28, 19, Or 195	Yes	Yes	
F200 = Defn Of Deaf Includes Flags 196, 197 Or 198	Yes	Yes	
F201 = Composite Variable, Bathing Diff, Onset Age < 22	Yes	Yes	
F202 = Composite Var, Dressing Diff W Onset Age < 22	Yes	Yes	
F203 = Composite Var, Eating Diff W Onset Age < 22	Yes	Yes	
F204 = Comp Var, Diff W Bed/Chair W Onset Age < 22	Yes	Yes	
F205 = Comp Var, Diff Toileting W Onset Age < 22	Yes	Yes	
F206 = Comp Var, Diff Get Arnd Inside, Onset Age < 22	Yes	Yes	
F207 = Comp Var, Diff Prep Meals, Onset Age < 22	Yes		
F208 = Comp Var, Diff Shopping, Onset Age < 22		Yes	
F209 = Comp Var, Diff W Money Mgt, Onset Age < 22		Yes	
F210 = Comp Var, Diff Using Phone , Onset Age < 22		Yes	
F211 = Comp Var, Diff W Heavy Housework, Onset Age < 22		Yes	
F212 = Comp Var, Diff W Light Housework, Onset Age < 22		Yes	
F213 = Comp Var, Some Diff Bathing Exp To Last 12+ Mos	Yes	Yes	
F214 = Comp Var, Some Diff Dressing Exp To Last 12+ Mos	Yes	Yes	
F215 = Comp Var, Some Diff Eating Exp To Last 12+ Mos	Yes	Yes	
F216 = Comp Var, Some Diff W Bed/Chair Exp To Last 12+ Mos	Yes	Yes	
F217 = Comp Var, Some Diff Toileting Exp To Last 12+ Mos	Yes	Yes	
F218 = Comp Var, Some Diff Get Arnd Exp To Last 12+ Mos	Yes	Yes	
F219 = Comp Var Some Diff Prep Meals Exp To Last 12+ Mos		Yes	

**Table A1 (continued). 1994-95 Disability Followback Survey Sample Selection Summary Of Flagged Variables**

<b>Flag Description</b>	<b>Children Ages 0-17 DFS-1</b>	<b>Adults Ages 18 and Over DFS-2</b>	<b>Child Single Item Exclusion*</b>
F220 = Comp Var, Some Diff Shopping Exp To Last 12+ Mos		Yes	
F221 = Comp Var Some Diff Money Mgt Exp To Last 12+ Mos		Yes	
F222 = Comp Var Some Diff Using Phon Exp To Last 12+ Mos		Yes	
F223 = Comp Var, Some Diff Heavy Housework Exp 12+ Mos		Yes	
F224 = Comp Var, Some Diff Light Housework Exp 12+ Mos		Yes	
F225 = Comp Var, Lift Diff Onset <22 Or Unable Exp 12+ Mos		Yes	
F226 = Comp Var, Walk Steps Diff Onset <22, Unable 12+ Mos		Yes	
F227 = Comp Var, Walk 1/4 Mi Diff Onset <22, Unable 12+ Mos		Yes	

Source: National Center for Health Statistics, 1998.

\*Each Of These Variables Must Be Combined With At Least One Other Variable To Be Considered A Positive Screen.

## Appendix B. NHIS-D Disability Definition Questions

**Table B-1. Disability Definitions from the 1994 and 1995 NHIS-D – Phase 1**

NHIS Categorization	Question	Ages
Health Conditions	Section II, Part B. Q1a. I am going to read a list of medical conditions. Tell me if anyone in the family has any of these conditions, even if you have mentioned them before. Does anyone in the family, that is [names of all family members] have	All ages
	(1) A learning disability	
	(2) Cerebral palsy	
	(3) Cystic fibrosis	
	(4) Down syndrome	
	(5) Mental retardation	
	(6) Muscular dystrophy	
	(7) Spina bifida	
	(8) Autism	
(9) Hydrocephalus		
If “yes” to any of these, questions 1b and 1c identify specific persons.		
Impairment: Sensory	Section II, Part A Q1a. Does anyone in the family have serious difficulty seeing, even when wearing glasses or contact lenses? [Specific person/people identified in 1b.]	
	1c. What is the main problem or condition which causes [name] serious difficulty seeing?	
	1d. Is [name] legally blind?	
	1e. [Do you expect/Is (name) expected] to have serious difficulty seeing for at least the next 12 months?	
	Q2a. Does anyone in the family now use a hearing aid? [Specific person/people identified in 2b and c.]	
	2d. Does anyone in the family have any trouble hearing what is said in normal conversation (even when wearing a hearing aid)? [Specific person/people identified in 2e.]	All ages
	2f. What is the MAIN problem or condition which causes [name] to have trouble hearing?	
	2g. Is [name] able to hear loud noises?	
	2h. Do you expect [name] to have this trouble hearing for at least the next 12 months?	
	3. Besides a hearing aid, does [name] NOW use an amplifier for the telephone, a TDD, TTY, or teletype, close caption TV, assistive listening or signaling devices, and interpreter, or any other equipment for people with hearing impairments?	
	4a. Does [name] have serious difficulty communicating so that people outside the family understand? [Specific person/people identified in 4b and 4c.]	
	4d. Does [name] have difficulty communicating so that family members understand?	Ages 5 and older
4e. Does [name] have difficulty communicating her/his basic needs, such as hunger and thirst to family members?		
4f. Does [name] have serious difficulty understanding other people when they talk or ask questions? [Specific person/people identified in 4g and 4h.]		

Continued



**Table B-1 (continued). Disability Definitions from the 1994 and 1995 NHIS-D – Phase 1**

NHIS Categorization	Question	Ages
Impairment: Physical	<p>Section II. Part D. Do (names of 18+) have any difficulty</p> <p>1a. lifting something as heavy as 10 pounds, such as a full bag of groceries? [Specific person/people identified in 1b and 1c.]</p> <p>1d. How much difficulty does [name] have lifting 10 pounds, some, a lot, or is [name] completely unable to do this?</p> <p>1e. At what age did [name] first have difficulty doing this?</p> <p>1f. [Do you expect/Is [name] expected] to remain unable to this for at least 12 months longer?</p> <p>2a. walking up 10 steps without resting? [Specific person/people identified in 2b and 2c.]</p> <p>2d. How much difficulty does [name] have walking up 10 steps without rest, some, a lot, or is [name] completely unable to do this?</p> <p>2e. At what age did [name] first have difficulty doing this?</p> <p>2f. [Do you expect/Is [name] expected] to remain unable to this for at least 12 months longer?</p> <p>3a. walking a quarter of a mile – about 3 city blocks? [Specific person/people identified in 3b and 3c.]</p> <p>3d. How much difficulty does [name] have walking a quarter of a mile, some, a lot, or is [name] completely unable to do this?</p> <p>3e. At what age did [name] first have difficulty doing this?</p> <p>3f. [Do you expect/Is [name] expected] to remain unable to this for at least 12 months longer?</p>	Ages 18+
	<p>4a. standing for about 20 minutes? [Specific person/people identified in 4b and 4c.]</p> <p>4d. How much difficulty does [name] have standing for about 20 minutes, some, a lot, or is [name] completely unable to do this?</p> <p>4e. At what age did [name] first have difficulty doing this?</p> <p>4f. [Do you expect/Is [name] expected] to remain unable to this for at least 12 months longer?</p> <p>5a. bending down from a standing position to pick up an object from the floor, for example, a shoe? [Specific person/people identified in 5b and 5c.]</p> <p>5d. How much difficulty does [name] have bending down from a standing position, some, a lot, or is [name] completely unable to do this?</p> <p>5e. At what age did [name] first have difficulty doing this?</p> <p>5f. [Do you expect/Is [name] expected] to remain unable to this for at least 12 months longer?</p> <p>6a. reaching up over the head or reaching out as if to shake someone’s hand? [Specific person/people identified in 6b and 6c.]</p> <p>6d. How much difficulty does [name] have reaching up over the head or reaching out, some, a lot, or is [name] completely unable to do this?</p> <p>6e. At what age did [name] first have difficulty doing this?</p> <p>6f. [Do you expect/Is [name] expected] to remain unable to this for at least 12 months longer?</p> <p>7a. using fingers to grasp or handle something such as picking up a glass from a table? [Specific person/people identified in 7b and 7c.]</p>	

Continued

**Table B-1 (continued). Disability Definitions from the 1994 and 1995 NHIS-D – Phase 1**

NHIS Categorization	Question	Ages
Impairment: Physical	7d. How much difficulty does [name] have using fingers to grasp or handle something, some, a lot, or is [name] completely unable to do this?	Ages 18+
	7e. At what age did [name] first have difficulty doing this?	
	7f. [Do you expect/Is [name] expected] to remain unable to this for at least 12 months longer?	
	8a. holding a pen or pencil? [Specific person/people identified in 8b and 8c.]	
	8d. How much difficulty does [name] have holding a pen or pencil, some, a lot, or is [name] completely unable to do this?	
	8e. At what age did [name] first have difficulty doing this?	
	8f. [Do you expect/Is [name] expected] to remain unable to this for at least 12 months longer?	
	Section II, Part G. Q2a. Do you think that [names of persons under 18] have any significant problems or delays in physical development? [Specific persons identified in 2b.]	Ages < 18
	For those who indicate “yes” to 2a:	
	2c. Have any doctors or health care professionals discussed or mentioned [name] problem or delay in physical development?	All ages
Section II, Part A. Q5a. Does Anyone in the family now use any of these aids to get around? (A cane, crutches, walker, medically prescribed shoes, a wheelchair, or a scooter?)		
Individuals are identified in 5b and 5c.		
For those who indicate “yes”, 5d asks “Which aids does [name] use?”		
For each specific aid identified, 5e asks “Has [name] used or is [name] expected to use [aid] for 12 months or longer? (1) A cane; (2) Crutches; (3) A walker; (4) Medically Prescribed shoes; (5) A manual wheelchair; (6) An electric wheelchair; (7) A scooter		
Section II, Part A. Question 6a. Does Anyone in the family now use a brace of any kind?		
Individuals are identified in 6b and 6c.		
For those who indicate “yes”, 6d asks “Has [name] used or is [name] expected to use [this brace / these braces] for 12 months or longer?”		
Section II, Part A. Q7a. Does Anyone in the family now use an artificial leg, foot, arm, or hand?		
Individuals and type of brace are identified in 6b and 6c. (1) Artificial leg or foot; (2) Artificial arm or hand		
Impairment: Mental	Section II, Part E. Q1a. Are [names of persons 18+] frequently depressed or anxious?	Ages 18+
	2a. Do [any of/either of] you have a lot of trouble making or keeping friendships?	
	3a. Do [any or/either of] you have a lot of trouble getting along with other people in social or recreational settings?	
	4a. Do [any of/either of] you have a lot of trouble concentrating long enough to complete everyday tasks?	
	5a. Do [any of/either of] you have serious difficulty coping with day-to-day stresses?	

**Table B-1 (continued). Disability Definitions from the 1994 and 1995 NHIS-D – Phase 1**

NHIS Categorization	Question	Ages
Impairment: Mental	6a. Are [any of/either of] you frequently confused, disoriented or forgetful?	
	7a. Do [any of/either of] you have phobias or unreasonably strong fears, that is, a fear of something or some situation where most people would not be afraid?	
	9a. During the past 12 months, did [names of persons 18+] have: (specific people for conditions (1) – (8) identified in 9b).	
	(1) schizophrenia?	
	(2) paranoid or delusional disorder, other than schizophrenia?	
	(3) Manic episodes or manic depression, also called bipolar disorder?	Ages 18+
	(4) Major depression? Major depression is a depressed mood and loss of interest in almost all activities for at least 2 weeks.	
	(5) Anti-social personality, obsessive-compulsive personality, or any other severe personality disorder?	
	(6) Alzheimer’s disease or another type of senile disorder?	
	(7) Alcohol abuse disorder?	
	(8) Drug abuse disorder?	
	Section II, Part C. Q1a. Because of a physical, mental, or emotional problem, do [names of persons 5+] get help from another person in:	
	(1) Bathing or showering?	
	(2) Dressing?	
	(3) Eating?	
	(4) Getting in and out of bed or chairs?	
	(5) Using the toilet, including getting to the toilet?	
	(6) Getting around inside the home?	
	Section II, Part C. Q2a. Because of a physical, mental, or emotional problem, do [names of persons 5+] need to be reminded to do:	
	(1) Bathing or showering?	
	(2) Dressing?	
	(3) Eating?	
	(4) Getting in and out of bed or chairs?	
Activity Limitation: Self-Care	(5) Using the toilet, including getting to the toilet?	Ages 5 and older
	(6) Getting around inside the home?	
	Section II, Part C. Q3a. Do [names of persons 5+] use any special equipment to do any of the following activities:	
	(1) Bathing or showering?	
	(2) Dressing?	
	(3) Eating?	
	(4) Getting in and out of bed or chairs?	
	(5) Using the toilet, including getting to the toilet?	
	(6) Getting around inside the home?	
	Section II, Part C. Q4a. Does [name] have any difficulty bathing?	
	4b. How much difficulty does [name] have bathing – some, a lot, or is [name] unable to do it?	
	4c. Does [name] have any difficulty dressing?	
	4d. How much difficulty does [name] have dressing – some, a lot, or is [name] unable to do it?	

Continued

**Table B-1 (continued). Disability Definitions from the 1994 and 1995 NHIS-D – Phase 1**

NHIS Categorization	Question	Ages	
Activity Limitation: Self-Care	4e. Does [name] have any difficulty eating?		
	4f. How much difficulty does [name] have eating – some, a lot, or is [name] unable to do it?		
	4g. Does [name] have any difficulty getting in and out of bed or chairs?		
	4h. How much difficulty does [name] have getting in and out of bed or chairs – some, a lot, or is [name] unable to do it?		
	4i. Does [name] have any difficulty using the toilet, including getting to the toilet?		
	4j. How much difficulty does [name] have using the toilet, including getting to the toilet – some, a lot, or is [name] unable to do it?		
	4k. Does [name] have any difficulty getting around inside the home?		
	4l. How much difficulty does [name] have getting around inside the home – some, a lot, or is [name] unable to do it?		
	Section II, Part C. Q5a. Because of a physical, mental, or emotional problem, does [name] have any difficulty with any of the following activities?		
	(1) Bathing or showering		
	(2) Dressing		
	(3) Eating		
	(4) Getting in/out of bed or chairs		
	(5) Using the toilet, including getting to the toilet		
(6) Getting around inside the home			
	If yes: 5b. How much difficulty does [name] have bathing or showering – some, a lot, or is [name] completely unable to do it?	Ages 5 and older	
	5c. How much difficulty does [name] have dressing– some, a lot, or is [name] completely unable to do it?		
	5d. How much difficulty does [name] have eating – some, a lot, or is [name] completely unable to do it?		
	5e. How much difficulty does [name] have getting in and out of bed or chairs – some, a lot, or is [name] completely unable to do it?		
	5f. How much difficulty does [name] have using the toilet, including getting to the toilet – some, a lot, or is [name] completely unable to do it?		
	5g. How much difficulty does [name] have getting around inside the home – some, a lot, or is [name] completely unable to do it?		
	Core NHIS asks respondents ages 18 - 69:		
	Section B1, Question 1: What was [name] doing most of the past 12 months; working at a job or business, keeping house, going to school, or something else?		
	<i>Priority if 2 or more activities reported: (1) spent the most time doing; (2) consider the most important</i>		
Participation Restriction: Employment	If a respondent indicates working at a job or business, they are asked 2a. Does any impairment or health problem now keep [name] from working at a job or business?		Age 18 – 69
	If a respondent indicates “no” to 2a, they are asked:		
	5b. If [name] limited in the kind or amount of work [name] can do because of any impairment or health problem?		
	This information can be matched onto the NHIS-D.		

Continued

**Table B-1 (continued). Disability Definitions from the 1994 and 1995 NHIS-D – Phase 1**

NHIS Categorization	Question	Ages
Participation Restriction: Employment	Section II. Part E. Q12a. Because of [this/any of these] mental or emotional problem(s), is [name] unable to work or limited in the kind or amount of work [name] can do?	Age 18+ reporting
	Section II. Part E. Q12b. Because of [this/any of these] mental or emotional problem(s), does [name] have any trouble finding or keeping a job or doing job tasks?	“Impairment : Mental”
	Section II. Part C. Q10a. Because of a physical, mental, or emotional problem, do [names of person’s 18+] get help or supervision from another person with	
	(1) Preparing their own meals?	
	(4) Using the telephone?	
	(5) Doing heavy work around the house like scrubbing floors, washing windows, and doing heavy yard work?	
	(6) Doing light work around the house like doing dishes, straightening up, light cleaning, or taking out the trash?	
	Section II. Part C. Q12a. Because of a physical, mental, or emotional problem, does [name] have any difficulty with any of [these / the following] activities?	
	(1) Preparing meals	
	(4) Using the telephone	
	(5) Heavy housework	
	(6) Light housework	
Participation Restriction: Inside the Home	If yes, 12b, 12e, 12f, and 12 g ask “How much difficulty does [name of person identified in 12a] have [activity identified in 12a] – some, a lot, or is [name of person identified in 12a] completely unable?”	Ages 18+
	Section II. Part C. Q11a. Does [name] have any difficulty preparing [his/her] own meals? If yes:	
	11b. How much difficulty does [name] have preparing [his/her] own meals – some, a lot, or is [name] completely unable to do it?	
	Section II. Part C. Q11g. Does [name] have any difficulty using the telephone? If yes:	
	11h. How much difficulty does [name] have using the telephone – some, a lot, or is [name] completely unable to do it?	
	Section II. Part C. Q11i. Does [name] have any difficulty doing heavy work around the house? If yes:	
	11j. How much difficulty does [name] have doing heavy work around the house – some, a lot, or is [name] completely unable to do it?	
	Section II. Part C. Q11k. Does [name] have any difficulty doing light work around the house? If yes:	
	11l. How much difficulty does [name] have doing light work around the house – some, a lot, or is [name] completely unable to do it?	

Continued

**Table B-1 (continued). Disability Definitions from the 1994 and 1995 NHIS-D – Phase 1**

NHIS Categorization	Question	Ages
	<p>Section II. Part C. Q10a. Because of a physical, mental, or emotional problem, do [names of person’s 18+] get help or supervision from another person with</p> <p>(2) Shopping for personal items, such as toilet items or medicine?</p> <p>(3) Managing money, such as keeping track of expenses or paying bills?</p> <p>Section II. Part C. Q12a. Because of a physical, mental, or emotional problem does [name] have any difficulty with any of [these / the following] activities?</p> <p>(2) Shopping</p> <p>(3) Managing money</p>	
<p>Participation Restriction: Go Outside the home</p>	<p>If yes, 12c and 12d ask “How much difficulty does [name of person identified in 12a] have [activity identified in 12a] – some, a lot, or is [name of person identified in 12a] completely unable?</p> <p>Section II. Part C. Q11c. Does [name] have any difficulty shopping for personal items? If yes:</p> <p>11d. How much difficulty does [name] have shopping for personal items – some, a lot, or is [name] completely unable to do it?</p> <p>Section II. Part C. Q11e. Does [name] have any difficulty managing money? If yes:</p> <p>11f. How much difficulty does [name] have managing money – some, a lot, or is [name] completely unable to do it?</p>	Ages 18+
Disability	<p>For the tables in this report, disability is defined as a positive answer to any of the above questions – except the condition questions – and indication that the participation restriction, activity limitation, or impairment is a result of a physical, mental, or emotional condition and is expected to last at least 12 months.<sup>a</sup></p>	

Source: Author's adaptation of NHIS-D questions and ICF classifications.

<sup>a</sup>Impairment: Sensory does not have to be the result of a physical, mental, or emotional condition expected to last at least 12 months.

**Table B2. Disability Definitions from the 1994 and 1995 NHIS-D – Phase 2**

NHIS Categorization	Question	Ages	
Impairment: Physical	<p>Section H. (Assistance with Key Activities) Q1: By yourself and not using aids, do you have any difficulty –</p> <ul style="list-style-type: none"> <li>a) Walking for a quarter of a mile, (that is about 2 or 3 blocks)</li> <li>b) Walking up 10 steps without resting</li> <li>c) Standing or being on your feet for about 2 hours</li> <li>d) Sitting for about 2 hours</li> <li>e) Stooping, crouching or kneeling</li> <li>f) Reaching up over your head</li> <li>g) Reaching out (as if to shake someone’s hand)</li> <li>h) Using your fingers to grasp or handle</li> <li>i) Lifting or carrying something as heavy as 25 pounds, (such as two full bags of groceries)</li> <li>j) Lifting or carrying something as heavy as 10 pounds</li> </ul>	Ages 18+	
	<p>Ask Q2 and Q3 for each specific activity with a “yes” response to Q1. Q2 and Q3 follow immediately after a “yes” response, and the next activity is asked about.</p>	Ages 18+ who answered “yes” in Q1.	
	<p>Q2. “How much difficulty do you have [activity], some, a lot, or are you unable to do it?”</p>		
	<p>Q3. For how long have you [had some difficulty, had a lot of difficulty, been unable to] [activity]? Respondents indicate less than 1 year or number of years.</p>		
	<p>Section H, Q4. Because of a health or physical problem, do you have any difficulty:</p>		
	<ul style="list-style-type: none"> <li>(a) Bathing or showering?</li> <li>(b) Dressing?</li> <li>(c) Eating?</li> <li>(d) Getting in and out of bed or chairs?</li> <li>(e) Walking</li> <li>(f) Getting outside</li> <li>(g) Using the toilet, including getting to the toilet?</li> </ul>	Ages 18+	
	Activity Limitation: Self-Care	<p>Respondents can indicate they have difficulty, do not have difficulty, or that they don’t do a particular activity for other reasons.</p>	
		<p>Q5. By yourself and without using special equipment, how much difficulty do you have [each activity marked in Q4], some, a lot, or are you unable to do it?</p>	Ages 18+ who indicated “yes” in Q4
		<p>Q6. When you do not have help or use special equipment, is [activity marked “some” or “a lot” in 5] by yourself</p> <ul style="list-style-type: none"> <li>(1) very tiring</li> <li>(2) Does [activity marked “some or “a lot”] take a long time?</li> <li>(3) Is it very painful?</li> </ul>	Ages 18+ who indicated “don’t know” in Q5

**Table B2 (continued). Disability Definitions from the 1994 and 1995 NHIS-D – Phase 2**

NHIS Categorization	Question	Ages
Activity Limitation: Self-Care	Q7 a. Do you use any special equipment or aids in [activity marked in 4 as having difficulty]?	
	c. When you use special equipment and do not have help, is [activity marked in 4 as having difficulty]? (1) very tiring (2) Does [activity marked in 4 as having difficulty] take a long time? (3) Is it very painful?	Ages 18+ who indicated “yes” in Q4
	Q8a. Do you receive help from another person in [activity in 4a marked yes or no. Those who marked “doesn’t do” are not asked this question]? (a) Bathing or showering (b) Dressing (c) Eating (d) Getting in/out of bed or chairs (e) Walking (f) Getting outside (g) Using the toilet, including getting to the toilet	Ages 18+ who do not indicate “doesn’t do for other reason” in Q4
	8b. For those who answer “yes” to 8a: “Is this hands-on help? 8c. When you have hands-on help from another person, is [activity] (1) Very tiring? (2) Does [activity] take a long time? (3) Is it painful?	
	Q9a. Sometimes, people just need to have someone supervise them or stay nearby in case any help is needed. Do you have someone who supervises you or stays nearby when you are (a) Bathing or showering (b) Dressing (c) Eating (d) Getting in and out of bed or chairs (e) Walking (f) Getting outside (g) Using the toilet, including getting to the toilet	Ages 18+ who indicate “no” or “don’t know” in Q4.
Participation Restriction: Employment	Section D. Q2. Does an ongoing health problem, impairment or disability entirely prevent you from working?	Ages 18+ who indicate they have never worked at a job or business
	Section D. Q17 & Q38. Are you limited in the kind or amount of work you can do because of an ongoing health problem, impairment, or disability?	Ages 18+ who now work at a job or business or are looking for work or on layoff from a job

Continued



**Table B2 (continued). Disability Definitions from the 1994 and 1995 NHIS-D – Phase 2**

NHIS Categorization	Question	Ages
Participation Restriction: Inside the home	Section H. Q19 Because of a health or physical problem, do you have any difficulty (h) Preparing your own meals? (k) Using the telephone? (l) Doing heavy housework, like scrubbing floors or washing windows? (m) Doing light housework like doing dishes, straightening up, or light cleaning? (o) Managing your medication	Ages 18+
	Section H. Q20. By yourself, how much difficulty do you have [activity identified in Q19], some, a lot, or are you unable to do it?	Ages 18+ who answered “yes” to an activity in Q19.
	Q21. When you do not have help, is [activity identified in Q19] by yourself (a) Very tiring (b) Does [activity] take a long time? (c) Is it very painful?	Ages 18+ who answered “some”, “a lot” or “don’t know” to Q20.
	Q22. Do you receive help from another person in (h) Preparing your own meals (k) Using the telephone (l) Doing heavy housework (m) Doing light housework (o) Managing your medication	Ages 18+ who answered “no” to an activity in Q19
	Q23. Sometimes people just need to have someone supervise them or stay nearby in case any help is needed. Do you have someone who supervises you or stays nearby when you are (h) Preparing your own meals (k) Using the telephone (l) Doing heavy housework (m) Doing light housework (o) Managing your medication	Ages 18+ who indicate “no” in Q19.
	Section H. Q19 Because of a health or physical problem, do you have any difficulty (i) Shopping for groceries and personal items, such as toilet items or medicines? (j) Managing your money such as keeping track of expenses or paying bills? (n) Getting to places outside of walking distance	Ages 18+
Participation Restriction: Go Outside the home	Section H. Q20. By yourself, how much difficulty do you have [activity identified in Q19], some, a lot, or are you unable to do it?	Ages 18+ who answered “yes” to an activity in Q19.

Continued

**Table B2 (continued). Disability Definitions from the 1994 and 1995 NHIS-D – Phase 2**

NHIS Categorization	Question	Ages
Participation Restriction: Go Outside the home	Q21. When you do not have help, is [activity identified in Q19] by yourself	Ages 18+ who answered “some”, “a lot” or “don’t know” to Q20.
	(a) Very tiring	
	(b) Does [activity] take a long time?	
	(c) Is it very painful?	Ages 18+ who answered “no” to an activity in Q19
	Q22. Do you receive help from another person in	
	(i) Shopping for groceries and personal items	
	(j) Managing your money	Ages 18+ who indicate “no” in Q19.
	(n) Getting to places outside of walking distance	
	Q23. Sometimes people just need to have someone supervise them or stay nearby in case any help is needed. Do you have someone who supervises you or stays nearby when you are	
(i) Shopping for groceries and personal items		
(j) Managing your money	(n) Getting to places outside of walking distance	
Disability	The questions in Phase 2 were not necessarily intended to be used to identify disability, but rather, to provide additional information about people identified in phase 1 as having a disability. They are included in this table in order to point out changes between the two phases of the survey and because of their similarity to phase 1 questions.	

Source: Author's adaptation of NHIS-D questions and ICF classifications.

## **Appendix C. Tables Used for Construction of Poverty Measures**

Appendix Tables C-1 and C-2 were used to construct poverty levels for each family in the NHIS-D. Appendix tables C-1 and C-2 show the 1994 and 1995 poverty thresholds, respectively, based upon family size and age of household head from the U.S. Census Bureau. The procedure we used for identifying the poverty line for the family involves identifying the appropriate threshold based upon family size and age of householder. This threshold is then compared to monthly family income multiplied by 12. Those with incomes under the threshold are considered to be in poverty. Although the tables identify thresholds based on the number of children in the household within a given family size, we did not differentiate between adults and children and used the relevant weighted average threshold for a given family size. We did apply different thresholds for 1 and 2 person families based on the age of the householder, which we identified as the age of the main survey respondent.

**Table C1. Poverty Thresholds in 1994, by Size of Family and Number of Related Children Under 18 Years (in Dollars)**

Size of family unit	Related children under 18 years								
	None	One	Two	Three	Four	Five	Six	Seven	Eight or more
<i>One person (unrelated individual)</i>									
Under 65 years	7,710								
65 years and over	7,108								
<i>Two persons</i>									
Householder under 65 years	9,924	10,215							
Householder 65 years and over	8,958	10,176							
Three persons	11,592	11,929	11,940						
Four persons	15,286	15,536	15,029	15,081					
Five persons	18,434	18,702	18,129	17,686	17,416				
Six persons	21,203	21,287	20,848	20,427	19,802	19,432			
Seven persons	24,396	24,548	24,023	23,657	22,975	22,180	21,307		
Eight persons	27,285	27,526	27,031	26,596	25,980	25,198	24,385	24,178	
Nine persons or more	32,822	32,981	32,543	32,174	31,570	30,738	29,985	29,799	28,651

Source: U. S. Bureau of the Census, Current Population Survey.

**Table C1. Poverty Thresholds in 1995, by Size of Family and Number of Related Children Under 18 Years (in Dollars)**

<b>Size of family unit</b>	<b>Related children under 18 years</b>								
	<b>None</b>	<b>One</b>	<b>Two</b>	<b>Three</b>	<b>Four</b>	<b>Five</b>	<b>Six</b>	<b>Seven</b>	<b>Eight or more</b>
<i>One person (unrelated individual)</i>									
Under 65 years	7,929								
65 years and over	7,309								
<i>Two persons</i>									
Householder under 65 years	10,205	10,504							
Householder 65 years and over	9,212	10,465							
Three persons	11,921	12,267	12,278						
Four persons	15,719	15,976	15,455	15,509					
Five persons	18,956	19,232	18,643	18,187	17,909				
Six persons	21,803	21,890	21,439	21,006	20,364	19,983			
Seven persons	25,088	25,244	24,704	24,328	23,627	22,809	21,911		
Eight persons	28,058	28,306	27,797	27,350	26,717	25,913	25,076	24,863	
Nine persons or more	33,752	33,916	33,465	33,086	32,464	31,609	30,835	30,644	29,463

Source: U. S. Bureau of the Census, Current Population Survey.

## **Appendix D. Sample Design and Computation of Standard Errors**

The data contained in the NHIS-D are obtained through a complex sample design involving stratification, clustering, and multistage sampling, and the final weights are subject to several adjustments. The population estimates reported in the paper are based on this sample and as in any sample, are subject to both sampling error and non-sampling error. Standard errors and confidence intervals are used to describe the magnitude of sampling error and some forms of non-sampling error. The formulas used to calculate the standard errors in this paper take the complex sample design into account using the survey commands in STATA. Other software, such as SUDAAN can also be used. A description of how to use SUDAAN can be found on the National Center for Health Statistics' website.

The purpose of the technical appendix is to provide a brief description of the NHIS-D sample design. It will also provide the formulas used to compute standard errors that account for the NHIS-D. Standard errors may be used to construct confidence intervals. Confidence intervals provide a more intuitive description of the accuracy of the estimates.

### *Sample Design*

The U.S. Bureau of the Census partitions the state counties or equivalents along with metropolitan areas into a universe of about 1900 Primary Sampling Units (PSUs) (note, PSUs may be combined counties) to provide the primary sampling areas for its many national surveys. For the NHIS these universe PSUs are partitioned into geographical strata at the state level. Some of the larger universe PSUs are self-representing (SR), i.e., they are in the NHIS with certainty. The other PSUs are called non-self-representing (NSR) or non-certainty PSUs. Within each state the NSR PSUs are partitioned into strata based upon similarity of PSU characteristics. Within each NSR stratum 2 PSUs are selected using Durbin's probability proportional to size (PPS) sampling method using the population as a measure of size. (In some smaller states only 1 PSU is drawn PPS). The SR PSUs are equivalent to strata, but historically they have

been referred to as PSUs. (PPS and Durbin sampling are discussed in Chapter 9A of Cochran (1977)).

Within a sampled NSR or SR PSU the geography is partitioned into smaller geographical clusters which are used to form the universe of secondary sampling units (SSUs). These SSUs are then partitioned into density strata based upon black and Hispanic population concentration as determined by the 1990 Decennial Census. An additional strata for new construction since the last Decennial Census is also created. Within each density stratum SSUs are sampled at different rates to meet different design objectives. Within each sample SSU, all households containing black or Hispanic persons are sampled, while all other households are subsampled. Supplemental NHIS surveys may require additional sampling at SSU, household, or family levels.

The fundamental sampling weights are created such that under ideal sampling conditions, unbiased estimators for each level of sampling are available. In practice, however, the final sampling weights are adjusted for non-response, and ratio adjusted. Furthermore, in 1995 a government shutdown resulted in three lost weeks of sample which resulted in further weighting adjustments for that year. The most important adjustment is a quarterly post-stratification to 90 age/sex/race/ethnicity Census control totals.

For variance estimation purposes, NCHS treats the NHIS as a two-stage sample. The PSU probabilities of selection are known, and the SSUs are treated as sampled with replacement within PSU density strata. Sampling weights are adjusted by postratification. With these assumptions the STATA software is used to compute variances. Much of the design information, state, density strata, and Durbin probabilities can be used to identify the smaller geographical areas. NCHS forbids the disclosure of information which may compromise the confidentiality promised to survey respondents, so some design information is not provided with the Public Use Data. While all design information is not available to the public, variance estimation methods exist which provide similar results to the NCHS internally used methodology.

### *Sampling and Non-Sampling Error*

Both sampling error and non-sampling errors introduce some degree of uncertainty into estimates. Sampling error occurs when population characteristics are estimated based upon a sample and are not based upon the entire population. Because many samples may be drawn from a population, and each sample can produce a different estimate, there is always some degree of uncertainty when samples are used to estimate characteristics of a population. The variability of estimates drawn from samples, sometimes referred to as uncertainty, is described by standard errors. Standard errors are used to construct confidence intervals, which describe the likelihood that a particular estimate falls within a certain range of estimates.

Non-sampling error results from other forms of error and includes errors keying in data, errors editing the data, misinterpretation of questions by respondents, non-random non-response to the survey or survey questions, and other factors. To the degree that the error occurs at random, additional variability will arise in the estimates and the standard errors will describe the variability due to this non-sampling error. However, non-sampling errors may occur in a systematic manner (i. e., non-random errors). Systematic errors that arise in the data collection process are not described by standard errors. Thus, it is important to assess the role of systematic non-sampling errors that may arise in an estimate.

### *Confidence Intervals*

The standard error calculations are used to construct 95% confidence intervals around the population estimates. A confidence interval may be interpreted as the level of certainty that an estimate falls between a lower bound and an upper bound estimate.

The lower bound of the confidence interval is approximately 1.96 times the standard error subtracted from the estimate. The upper bound of the confidence interval is approximately 1.96 times the standard error added to the point estimate. The confidence interval may be interpreted as follows, “we are 95% certain that the estimate falls between the lower bound estimate and the upper bound estimate.”

Source: National Center for Health Statistics (1998).



Estimated Standard Errors

Table D8. Standard Errors for Population and Prevalence Estimates by Disability Definition

			Participation Restriction		Activity Limitation	Impairment			
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>All, Ages 5 to 99</i>									
Prevalence Rate	0.0017081	0.0017081	0.0009675*	0.0008083*	0.0003849*	0.0003953	0.000648*	0.0007579	0.0009653
<i>Ages 5 to 17</i>									
Prevalence Rate	0.0009724	0.0009724	n/a	n/a	n/a	0.0003988	n/a	0.0007114	0.0006937
<i>Ages 18 to 24</i>									
Prevalence Rate	0.0027059	0.0027059	0.0020331	0.0007454	0.0006627	0.0006041	0.0015513	0.0009884	0.0011629
<i>Ages 25 to 61</i>									
Prevalence Rate	0.0020380	0.0020380	0.0014852	0.0008388	0.0004216	0.0004203	0.0009991	0.0008164	0.0009888
<i>Ages 62 to 64</i>									
Prevalence Rate	0.0076993	0.0076993	0.0069740	0.0047519	0.0024671	0.0029927	0.0031252	0.0043854	0.0051485
<i>Ages 65 and Older</i>									
Prevalence Rate	0.0048778	0.0048778	0.0025836	0.0036703	0.0021587	0.0020493	0.0014059	0.0029704	0.0033911

Source: Author's calculations from NHIS-D microdata.

\*defined only for population 18 and older.

**Table D10. Standard Errors for Prevalence of Persons With and Without Disabilities by Demographic Characteristic**

			Participation Restriction*			Activity Limitation		Impairment	
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental*	Physical	Sensory
<i>Age</i>									
% 5 to 14	0.0010968	0.0010968	n/a	n/a	n/a	0.0004727	n/a	0.0007944	0.0007840
% 15 to 24	0.0019752	0.0019752	0.0013750	0.0005110	0.0004575	0.0004769	0.0010724	0.0008655	0.0009247
% 25 to 34	0.0022615	0.0022615	0.0016643	0.0008141	0.0005712	0.0004430	0.0013892	0.0009698	0.0010557
% 35 to 44	0.0027038	0.0027038	0.0021075	0.0011863	0.0006185	0.0006348	0.0015000	0.0010866	0.0012558
% 45 to 54	0.0037716	0.0037716	0.0030679	0.0017369	0.0009525	0.0009481	0.0017831	0.0016537	0.0018302
% 55 to 64	0.0048197	0.0048197	0.0040469	0.0027555	0.0013092	0.0016189	0.0017331	0.0023953	0.0028960
% 65 to 74	0.0054674	0.0054674	0.0037847	0.0037363	0.0018179	0.0018475	0.0015855	0.0032756	0.0033500
% 75 to 84	0.0067907	0.0067907	0.0021602	0.0055693	0.0037260	0.0037263	0.0024108	0.0050792	0.0053743
% 85 or Older	0.0118228	0.0118228	0.0063853	0.0126810	0.0104225	0.0103402	0.0070219	0.0117632	0.0107962
<i>Gender (&gt;4)</i>									
% Male	0.0018976	0.0018976	0.0011981	0.0007884	0.0004294	0.0004634	0.0007504	0.0008251	0.0013068
% Female	0.0018954	0.0018954	0.0011622	0.0010862	0.0005655	0.0005553	0.0008260	0.0009895	0.0008829
<i>Race (&gt;4)</i>									
% Asian	0.0049307	0.0049307	0.0026079	0.0023760	0.0014726	0.0011342	0.0021871	0.0025931	0.0025687
% Black	0.0038602	0.0038602	0.0027633	0.0019317	0.0011526	0.0009851	0.0014539	0.0020451	0.0018006
% Native American	0.0161569	0.0161569	0.0113189	0.0061642	0.0035671	0.0039372	0.0100904	0.0067797	0.0100668
% White	0.0017645	0.0017645	0.0010393	0.0008639	0.0004290	0.0004356	0.0006676	0.0008027	0.0010192
% Some Other Race	0.0058653	0.0058653	0.0046923	0.0026204	0.0017596	0.0015893	0.0025114	0.0027832	0.0023666
<i>Ethnicity (&gt;4)</i>									
%Hispanic	0.0027579	0.0027579	0.0019859	0.0011574	0.0007603	0.0008074	0.0014455	0.0014095	0.0014992

**Table D10 (continued). Standard Errors for Prevalence of Persons With and Without Disabilities by Demographic Characteristic**

			Participation Restriction*		Activity Limitation	Impairment			
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental*	Physical	Sensory
<i>Education (25 to 61)</i>									
% Less than HS	0.0047465	0.0047465	0.0042755	0.0029748	0.0018423	0.0014725	0.0029888	0.0023660	0.0025526
% HS/GED	0.0027287	0.0027287	0.0021125	0.0011811	0.0006187	0.0006037	0.0013335	0.0011774	0.0014424
% Some College	0.0030172	0.0030172	0.0023159	0.0012719	0.0006471	0.0008220	0.0016278	0.0014991	0.0015567
% 4-Year College Graduate or more	0.0023180	0.0023180	0.0016024	0.0009340	0.0004506	0.0005209	0.0011212	0.0010312	0.0011942

Source: Author's calculations from NHIS-D microdata.

\* These categories assume no person < 17 have the specified restriction or impairment due to data limitations.

**Table D11. Standard Errors for Employment Rate Estimates, Ages 25 to 61**

	Participation Restriction			Activity Limitation		Impairment			
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>All</i>									
% Employed	0.0055989	0.0055989	0.0061775	0.0084061	0.0117070	0.0126418	0.0089686	0.0093944	0.0077229
% Full-Time	0.0050737	0.0050737	0.0054132	0.0075703	0.0089244	0.0113797	0.0085407	0.0086910	0.0082634
<i>Men</i>									
% Employed	0.0070258	0.0070258	0.0084840	0.0122379	0.0181971	0.0197457	0.0129437	0.0134061	0.0093577
% Full-Time	0.0069367	0.0069367	0.0079187	0.0115392	0.0148727	0.0176087	0.0125515	0.0133132	0.0100618
<i>Women</i>									
% Employed	0.0069436	0.0069436	0.0074925	0.0106513	0.0143043	0.0166406	0.0113275	0.0116318	0.0127670
% Full-Time	0.0061388	0.0061388	0.0063780	0.0095501	0.0107402	0.0144625	0.0106979	0.0100537	0.0130405
<i>White</i>									
% Employed	0.0056961	0.0056961	0.0068037	0.0098251	0.0150390	0.0148403	0.0101130	0.0105922	0.0083562
% Full-Time	0.0052790	0.0052790	0.0059904	0.0090924	0.0120256	0.0129316	0.0098165	0.0097400	0.0087488
<i>Black</i>									
% Employed	0.0127867	0.0127867	0.0131981	0.0183284	0.0214761	0.0266809	0.0231219	0.0181569	0.0282496
% Full-Time	0.0124237	0.0124237	0.0123722	0.0155005	0.0134099	0.0248412	0.0192973	0.0182688	0.0288194
<i>Hispanic</i>									
% Employed	0.0166846	0.0166846	0.0169838	0.0278516	0.0286698	0.0346659	0.0277008	0.0281535	0.0272594
% Full-Time	0.0148828	0.0148828	0.0142393	0.0224905	0.0260227	0.0230314	0.0260628	0.0288953	0.0276293

Continued

**Table D11 (continued). Standard Errors for Employment Rate Estimates, Ages 25 to 61**

			Participation Restriction		Activity Limitation		Impairment		
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>Native American</i>									
% Employed	0.0351349	0.0351349	0.0375743	0.0578974	*	*	0.0600768	0.0621428	0.0543859
% Full-Time	0.0336549	0.0336549	0.0300854	0.0501011	*	*	0.0544825	0.0581627	0.0627781
<i>Asian</i>									
% Employed	0.0348895	0.0348895	0.0378535	0.0766529	*	*	0.0733397	*	0.0684898
% Full-Time	0.0368459	0.0368459	0.0357833	0.0624009	*	*	0.0741408	*	0.0728038
<i>LT High School</i>									
% Employed	0.0082656	0.0082656	0.0083820	0.0111545	0.0181988	0.0215914	0.0135144	0.0125553	0.0166228
% Full-Time	0.0077692	0.0077692	0.0075464	0.0087965	0.0149334	0.0178537	0.0124675	0.0113857	0.0163409
<i>High School</i>									
% Employed	0.0075778	0.0075778	0.0086838	0.0133258	0.0194039	0.0217840	0.0136634	0.0146306	0.0117373
% Full-Time	0.0074009	0.0074009	0.0079850	0.0108933	0.0136369	0.0185020	0.0132503	0.0130087	0.0129827
<i>MT High School</i>									
% Employed	0.0073986	0.0073986	0.0095562	0.0152446	0.0228833	0.0239803	0.0152527	0.0161505	0.0109214
% Full-Time	0.0068371	0.0068371	0.0085878	0.0156627	0.0193741	0.0240676	0.0154920	0.0155359	0.0128631

Source: Author's calculations from NHIS-D microdata.

\*Cell has fewer than 50 observations

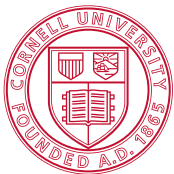
Employed-- Full-time applies to individuals employed and working at least 35 hours per week.

**Table D12. Standard Errors for Economic Well-Being Measures, Ages 25 to 61**

	Participation Restriction			Activity Limitation			Impairment		
	No Disability	Disability	Employment	Inside the Home	Outside the Home	Self-Care	Mental	Physical	Sensory
<i>All</i>									
% Below Poverty Line	0.0045669	0.0045669	0.0055113	0.0085566	0.0140945	0.0138014	0.0093510	0.0080824	0.0069688
<i>Men</i>									
% Below Poverty Line	0.0056943	0.0056943	0.0070295	0.0128215	0.0203316	0.0176163	0.0127435	0.0113339	0.0078906
<i>Women</i>									
% Below Poverty Line	0.0050445	0.0050445	0.0062153	0.0097517	0.0180274	0.0200100	0.0109402	0.0105186	0.0108448
<i>White</i>									
% Below Poverty Line	0.0043682	0.0043682	0.0054129	0.0090986	0.0158473	0.0149771	0.0093294	0.0089751	0.0067589
<i>Black</i>									
% Below Poverty Line	0.0130029	0.0130029	0.0141339	0.0218177	0.0331733	0.0421152	0.0260510	0.0229401	0.0286404
<i>Hispanic</i>									
% Below Poverty Line	0.0163763	0.0163763	0.0198734	0.0295093	0.0493431	0.0485510	0.0303142	0.0301618	0.0258540
<i>Native American</i>									
% Below Poverty Line	0.0319435	0.0319435	0.0390844	0.0620498	*	*	0.0602768	0.0608021	0.0544270
<i>Asian</i>									
% Below Poverty Line	0.0263981	0.0263981	0.0302176	0.0617842	*	*	0.0531384	*	0.0522574
<i>LT High School</i>									
% Below Poverty Line	0.0090970	0.0090970	0.0101633	0.0166898	0.0233820	0.0270781	0.0178884	0.0167419	0.0157905
<i>High School</i>									
% Below Poverty Line	0.0061038	0.0061038	0.0075235	0.0128266	0.0238897	0.0220175	0.0138954	0.0123356	0.0100744
<i>MT High School</i>									
% Below Poverty Line	0.0051432	0.0051432	0.0069254	0.0119400	0.0244952	0.0236599	0.0121973	0.0107337	0.0087798

Source: Author's calculations from NHIS-D microdata.

\* Cell has fewer than 50 observations



**Cornell University**  
School of Industrial and Labor Relations  
Employment and Disability Institute

For more information about the Rehabilitation  
Research and Training Center on Disability  
Demographics and Statistics contact:

Andrew J. Houtenville  
Employment and Disability Institute  
Cornell University  
303 ILR Extension Building  
Ithaca, New York 14853-3901

Tel	607.255.5702
Fax	607.255.2763
TTY	607.255.2891
Email	<a href="mailto:ajh29@cornell.edu">ajh29@cornell.edu</a>
Web	<a href="http://www.edi.cornell.edu">www.edi.cornell.edu</a>