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on Disability Demographics and Statistics

DISABILITY STATISTICS USER GUIDE SERIES

# **A Guide to Disability Statistics from the 2000 Decennial Census**

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## Introduction

The mission of the Cornell StatsRRTC is 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 purpose of each User Guide is to provide:

1. an easily accessible guide to the disability information available in the nationally representative survey;
2. a description of the unique features of the survey;
3. a set of estimates on persons with disabilities from the survey, including estimates on the size of the population, the prevalence rate, the employment rate and measures of economic well-being;
4. a set of estimates that highlight the unique features of the survey; and
5. a description of how estimates from the survey compare to other national surveys that are used to describe the population with disabilities.

This *User Guide* addresses disability data available in the 2000 Decennial Census. A decennial census of the United States is conducted every ten years to provide statistics at the national, state, and local levels. The short form of the decennial census collects basic demographic data from five out of six households, and the long form collects the same basic demographic data, plus social and economic data from the remaining one in six households. Data are also collected from group quarters (GQ), which include individuals living in institutions, a population that is rarely included in surveys. The primary purpose of the demographic data is to draw Congressional districts. The social and economic data from the long form is especially valuable because it provides social and economic statistics for small geographic areas (such as counties, towns, and Congressional districts) that are estimated in a uniform manner across the United States.

The Census 2000 long form included six questions that are used to identify the population with disabilities. These data can be extremely useful to disability policymakers, disability service providers, and the disability advocacy community. This *User Guide* discusses the variety of information on disability, demographic characteristics, employment, and economic well-being available from Census 2000 long form data.

Census 2000 has several important limitations that should be noted. First, the survey is limited to six disability questions and it does not allow one to identify the prevalence of specific health conditions (e.g., cancer, paralysis, HIV/AIDS, etc.). Second, as is described in more detail later, two of the six disability type questions (go-outside the home and employment disability) contain an error that leads to an over estimation of the population with these two disabilities as well as the overall population with disabilities (i.e., the enumerator/response error issue). Third, as with all of the major national surveys, the Census 2000 disability definition does not directly address external factors that may contribute to a disability such as discrimination and lack of reasonable accommodations. Fourth, although the Census 2000 does include information on the Group Quarters (GQ) and institutionalized population, the PUMS data only identify institutionalized and non-institutionalized GQs with no finer discrimination possible. This may limit the PUMS usefulness for questions regarding this population.

### **Conceptual Model of Disability**

One purpose of the *User Guides* is to describe the information on disability available in the various national surveys; as a result we need an operational definition of disability. Unlike age and gender, which are for the most part readily identifiable individual attributes, disability is usually defined as a complex interaction between a person's health condition and the social and physical environment. The environment influences how a person's health condition performs various activities.

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 and personal characteristics with the physical and social environments. 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 available in Jette and Badley (2000).

We use 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 impairment. 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 basic physical movement, 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. In some surveys, activity limitations are identified based upon a standard set of activities of daily living questions (ADLs).

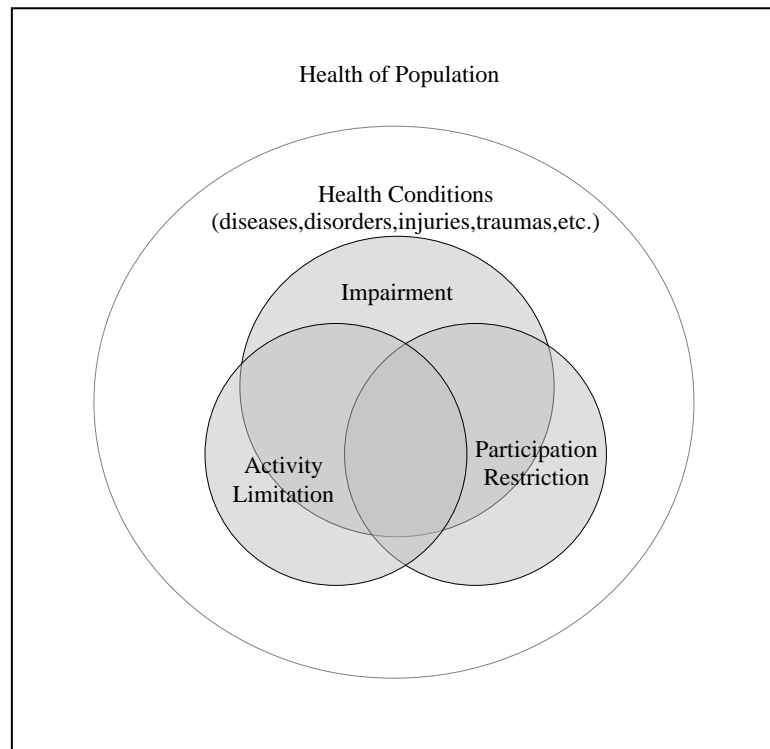
A *participation restriction* is defined as a problem that an individual may experience in involvement in life situations. For example, a working-age person with a health condition may have difficulty participating in employment as a result of the physical environment (e.g., lack of reasonable employer accommodations) and/or the social environment (e.g., discrimination). In some surveys, participation restrictions are identified by questions that ask whether the person has a long-lasting health condition that limits his or her ability to work, or whether a health condition affects his or her ability to go outside the home to go shopping, to church or to the doctor's office.

In the ICF the term *disability* describes the presence of an impairment, an activity limitation and/or a participation restriction. While these concepts may seem to follow a progression—that is, an impairment leading to an activity limitation leading to a participation restriction—this is not necessarily the case. Figure 1 provides a useful summary of the ICF concepts. It is possible that a person may have a participation restriction without an activity limitation or impairment. For example, a person diagnosed as HIV positive may not have an evident impairment or activity limitation, but may not be able to find employment due to discrimination resulting from his or her 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 finding employment due to discrimination resulting from his health condition.

Figure 1 illustrates that while there is an overlap across these concepts, it is possible that one of them can occur without a relation to the others. The universe of the ICF is health

conditions as a whole. Disability is the union of impairment, an activity limitation, and/or participation restrictions.

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



## **Operational Issues**

Translating the ICF concepts into operational definitions in surveys and mapping existing survey questions to ICF concepts are not straightforward tasks. In the *User Guides*, decisions to classify the questions into one of the three specific ICF categories were made based upon judgments because well-defined rules for doing so are not available in the ICF. In some cases, the classification is straightforward. In other cases, for example, the survey questions may be interpreted as both an activity limitation and participation restriction. Our approach in these cases was to make clear and consistent judgments so that it may be possible to make

comparisons across data sources. Using this approach provides a framework for comparisons across surveys and for comparisons to ICF concepts.

## **Census 2000 Background, Survey Methods, and Data Collection**

The survey methodology can have an important impact on the information that a survey collects on the population with disabilities. Mathiowetz (1998) provides a good review of the general methodological issues as well as those specific to the population with disabilities. The purpose of this section is to describe the development of the Census 2000, the methods used by the Census 2000 to collect information on the population, and the definitions used to describe the population with disabilities.

### *Purpose*

Census 2000 results are used in a wide variety of ways. Census data are used to allocate seats in the House of Representatives among the states. Census data also provide a snapshot of the social and economic characteristics of the nation for government officials, educators, business owners, and others. Information on disability is used by a number of federal agencies to distribute funds and develop programs for people with disabilities and the elderly. Federal agencies that use the disability information include the Departments of Education, Labor, Justice, Transportation, Housing and Urban Development, Health and Human Services, Social Security Administration, and the EPA.

### *Content*

Two different questionnaire forms for housing units were used in the Census 2000. The “short form questionnaire” included seven questions for each household: name, sex, age, relationship, Hispanic origin, race, and whether the housing unit was owned or rented. In addition to these seven questions, about 17 percent (one in six) of households received the “long form questionnaire” that included questions about ancestry, income, mortgages, size of the housing unit, as well as disability and other areas. See Figure 2 for the content areas covered by the Census 2000 short and long forms.



**Figure 2. Census 2000 Content: Characteristics Derived from the Short and Long Forms**

Short and Long Form	Long Form Only		
Demographic	Social	Economic	Housing
<ul style="list-style-type: none"> <li>- Name</li> <li>- Hispanic or Latino origin</li> <li>- Household relationship</li> <li>- Race</li> <li>- Sex</li> <li>- Year moved into residence</li> <li>- Home ownership</li> </ul>	<ul style="list-style-type: none"> <li>- Marital status</li> <li>- Place of birth</li> <li>- Citizenship</li> <li>- Year of entry into US</li> <li>- School enrollment</li> <li>- Educational attainment</li> <li>- Ancestry</li> <li>- Residence 5 years ago</li> <li>- Language spoken at home</li> <li>- Ability to speak English</li> <li>- Veteran status</li> <li>- Disability status</li> <li>- Grandparents as caregivers</li> </ul>	<ul style="list-style-type: none"> <li>- Labor force status</li> <li>- Place of work and journey to work</li> <li>- Occupation, industry, and class of worker</li> <li>- Work status in 1999</li> <li>- Income in 1999</li> </ul>	<ul style="list-style-type: none"> <li>- Housing units in structure</li> <li>- Year structure built</li> <li>- Number of rooms</li> <li>- Number of bedrooms</li> <li>- Year moved into residence</li> <li>- Plumbing and kitchen facilities</li> <li>- Telephone service</li> <li>- Vehicles available</li> <li>- Heating fuel</li> <li>- Farm residence</li> <li>- Financial Characteristics</li> <li>- Value of home or monthly rent paid</li> <li>- Other housing costs: utilities, mortgage, taxes, insurance, and fuel costs</li> </ul>

The Census Bureau plans to replace the decennial census long form with the American Community Survey (ACS). Copies of the actual Census 2000 forms are available for downloading at this Census location: <http://www.census.gov/dmd/www/2000quest.html>. For more information on the American Community Survey see the “Guide to Disability Statistics from the American Community Survey,” available at: <http://digitalcommons.ilr.cornell.edu/edicollect/123/>

*Coverage: Universe and Sample Design*

The Census 2000 was designed to collect data from 100 percent of all households as well as those located in non-traditional housing units including group quarters. Unique procedures were put in place to include those living in non-traditional housing units such as homeless shelters. The Census 2000 plan implemented special procedures to measure and correct overall and differential coverage of U.S. residents. Information on the sampling and procedures used is provided in Appendix A. Further information on Census 2000 data collection and processing

procedures is available in Appendix C of the following Census Bureau PUMS technical document: *2000 Census of Population and Housing, Public Use Microdata Sample*: <http://www.census.gov/prod/cen2000/doc/pums.pdf> .

The 2000 Census was taken April 1, 2000 and resulted in a count of 281,421,906 people residing in 115.9 million housing units in the 50 states and the District of Columbia. There were an additional 7,825,407 people in 192,286 Group Quarters, and 258,728 people in 14,817 service based enumeration locations (shelters, soup kitchens, targeted non-sheltered locations). Census 2000 data were also collected in Puerto Rico and the U.S. Island regions (including Guam, U.S. Virgin Islands, American Samoa, and the Commonwealth of the Northern Mariana Islands).

*Households and Housing Units.* The Census Bureau defines a housing unit as “a house, an apartment, a mobile home or trailer, a group of rooms, or a single room occupied as separate living quarters, or if vacant, intended for occupancy as separate living quarters. Separate living quarters are those in which the occupants live separately from any other individuals in the building and which have direct access from outside the building or through a common hall. For vacant units, the criteria of separateness and direct access are applied to the intended occupants whenever possible.” (Census American Factfinder Glossary [http://factfinder.census.gov/home/en/epss/glossary\\_h.html](http://factfinder.census.gov/home/en/epss/glossary_h.html) )

*Non-Traditional Housing Units.* Non-traditional housing units include group quarters (i.e. prisons, college dormitories, nursing homes) people living in migrant farm worker camps, on boats, on military installations; and federal employees living overseas. Other special non-housing unit populations included highly transient persons such as those living at recreational vehicle campgrounds and parks, commercial or public campgrounds, marinas, and workers’ quarters at fairs and carnivals. Persons with no usual residence (i.e. shelters and soup kitchens, and at targeted outdoor locations) fell under the “service based enumeration operation.”

*Group Quarters (and Institutions).* The Census Bureau recognizes two general categories of people in group quarters: (1) institutionalized population and (2) non-institutionalized population. (Figure 3 lists the types of abodes that are considered group quarters and which of these are considered institutions and non-institutions.) The institutionalized population includes people under formally authorized supervised care or custody in institutions at the time of enumeration. Such people are classified as "patients or inmates" of an institution regardless of the availability of nursing or medical care, the length of stay, or the number of people in the

institution. Generally, the institutionalized population is restricted to the institutional buildings and grounds (or must have passes or escorts to leave) and thus has limited interaction with the surrounding community. Also, this population is generally under the care of trained staff that has responsibility for patients' safekeeping and supervision. The non-institutionalized population includes all people who live in group quarters other than institutions, such as dormitories, halfway houses, and communes.

**Figure 3. Group Quarters: Institutions and Non-Institutions**

Group Quarters	
Institutions	Institutions
<ol style="list-style-type: none"> <li>1. Institutions               <ol style="list-style-type: none"> <li>1.1. Correctional institutions                   <ol style="list-style-type: none"> <li>1.1.1. Federal prisons and detention centers</li> <li>1.1.2. Halfway houses</li> <li>1.1.3. Local jails and other confinement facilities (including police lockups)</li> <li>1.1.4. Military disciplinary barracks</li> <li>1.1.5. State prisons</li> <li>1.1.6. Other types of correctional institutions</li> </ol> </li> <li>1.2. Nursing homes</li> <li>1.3. Hospitals/wards, hospices, and schools for the handicapped                   <ol style="list-style-type: none"> <li>1.3.1. Hospitals/wards and hospices for chronically ill                       <ol style="list-style-type: none"> <li>1.3.1.1. Hospices or homes for chronically ill</li> <li>1.3.1.2. Military hospitals or wards for chronically ill</li> <li>1.3.1.3. Other hospitals or wards for chronically ill</li> </ol> </li> <li>1.3.2. Hospitals or wards for drug/alcohol abuse</li> <li>1.3.3. Mental (Psychiatric) hospitals or wards</li> <li>1.3.4. Schools, hospitals, or wards for the mentally retarded</li> <li>1.3.5. Schools, hospitals, or wards for the physically handicapped                       <ol style="list-style-type: none"> <li>1.3.5.1. Institutions for the deaf</li> <li>1.3.5.2. Institutions for the blind</li> <li>1.3.5.3. Orthopedic wards and institutions for the physically handicapped</li> </ol> </li> </ol> </li> <li>1.4. Wards in general hospitals for patients who have no usual home elsewhere</li> <li>1.5. Wards in military hospitals for patients who have no usual home elsewhere</li> <li>1.6. Juvenile institutions                   <ol style="list-style-type: none"> <li>1.6.1. Long-term care                       <ol style="list-style-type: none"> <li>1.6.1.1. Homes for abused, dependent, and neglected children</li> <li>1.6.1.2. Residential treatment centers for emotionally disturbed children</li> <li>1.6.1.3. Training schools for juvenile delinquents</li> </ol> </li> <li>1.6.2. Short-term care, detention or diagnostic centers for delinquent children</li> <li>1.6.3. Type of juvenile institution unknown</li> </ol> </li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>2. Non-institutions               <ol style="list-style-type: none"> <li>2.1. College dormitories (includes college quarters off campus)</li> <li>2.2. Military quarters                   <ol style="list-style-type: none"> <li>2.2.1. On base                       <ol style="list-style-type: none"> <li>2.2.1.1. Barracks, unaccompanied personnel housing (UPH), (Enlisted/Officer), and similar group living quarters for military personnel</li> <li>2.2.1.2. Transient quarters for temporary residents</li> </ol> </li> <li>2.2.2. Military ships</li> </ol> </li> <li>2.3. Group homes                   <ol style="list-style-type: none"> <li>2.3.1. Homes or halfway houses for drug/alcohol abuse</li> <li>2.3.2. Homes for the mentally ill</li> <li>2.3.3. Homes for the mentally retarded</li> <li>2.3.4. Homes for the physically handicapped</li> <li>2.3.5. Other group homes</li> </ol> </li> <li>2.4. Religious group quarters</li> <li>2.5. Dormitories                   <ol style="list-style-type: none"> <li>2.5.1. Agriculture workers' dormitories on farms</li> <li>2.5.2. Job Corps and vocational training facilities</li> <li>2.5.3. Other workers' dormitories</li> </ol> </li> <li>2.6. Crews of maritime vessels</li> <li>2.7. Other non-household living situations</li> <li>2.8. Other non-institutional group quarters</li> </ol> </li> </ol>

## *Data Collection*

*Developing Address Lists.* The Decennial Census data collection is a massive effort, employing nearly a half million temporary employees at its peak. Beginning soon after the 1990 Decennial Census the Census Bureau began to develop an accurate address list (the Master Address File or MAF), based on the 1990 Census, for all housing units in the country. The Census Bureau worked closely with local government officials and the U.S. post offices to identify, validate and update housing unit addresses. Block canvassing designed to identify newly-constructed housing units was performed just prior to Census day, April 1, 2000. More than 30,000 Census Bureau enumerators (i.e., interviewers) were sent out to canvas streets and roads to gather information on approximately 22 million residences without a street address to add to the Bureau's mapping system called Topologically Integrated Geographic Encoding and Referencing (TIGER maps).

A separate operation was performed to develop an inventory of all facilities that were group quarters and non-traditional housing. A Census enumerator interviewed an official at each location using a Facility Questionnaire. The information collected in this questionnaire was used to identify the location of each group quarters, classify the type of facility, and the potential number of housing units and/or residents at that location.<sup>1</sup> The Census Bureau then determined whether the facility would be part of the standard enumeration or be included as part of the "special place" enumeration, adding the group quarters and housing units address to the Master Address File.

*Census 2000 Dress Rehearsal.* A data collection "dress rehearsal" was performed in 1998 in three locations to test out the proposed data collection activities for the actual Census 2000 collection. The dress rehearsal was performed in three locations and involved more than 40 individual evaluation studies to determine the effectiveness of the proposed processes for the actual Census 2000. (<http://www.census.gov/census2000/evaluations/pdf/finalrep.pdf>)

*Marketing.* An extensive marketing campaign was performed prior to the questionnaire distribution including print, broadcast and outdoor advertising to encourage participation in the Census. An advance letter was sent out to inform the public of the importance of completing the Census forms. It also gave households the option to request, using a prepaid envelope, the

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<sup>1</sup> For more information regarding this effort go to [www.census.gov/pred/www/rpts/E.1.b.pdf](http://www.census.gov/pred/www/rpts/E.1.b.pdf) and <http://www.census.gov/pred/www/rpts/TR5.pdf>.

Census short and long form in one of five other languages including Spanish, Tagalog, Chinese, and Korean. Census received 2.2 million requests for one of these forms with nearly 90 percent requesting the Spanish version.

*Data Collection for Households.* The U.S. Post office delivered census questionnaires based on the compiled address database, which included more than 80 percent of all households. This mailout/mailback procedure included most housing that had a city type address (house number and street) and was followed by a “Be Counted” reminder post card on Census Day. Census workers hand delivered questionnaires to the majority of the remaining housing units, (those with PO Box or Rural Route addresses) updating the address for the area in the process. This “update/leave” operation accounted for 18.8 percent of the total housing units. In both of the above scenarios the household was asked to mail the completed survey back. In the remaining remote/sparsely settled areas (such as parts of Alaska) Census workers (enumerators) collected data directly through interviews. There was an additional attempt to include undercounted persons who might have been left off of the Census roles. The “Be Counted” operation made Census forms available at public locations such as Census Walk-In Questionnaire Assistance Centers. About 800,000 “Be Counted” forms were received, adding approximately 250,000 persons not included in other Census forms after duplicates were removed (<http://www.census.gov/pred/www/rpts/A.3.pdf>).

Mail return rates varied by state with a final national mail back response rate of 67 percent. A small proportion, approximately 63 thousand households, took advantage of the un-advertised internet based short form (<http://www.census.gov/pred/www/rpts/A.2.b.pdf>). This left approximately 42 million addresses that had not returned a questionnaire to the Census Bureau as of the April 18, 2000 cutoff date. A Non-Response Follow Up (NRFU) operation was designed to enumerate these remaining housing units. The NRFU operation began on April 27, 2000 and was completed in most areas by June 26, 2000 with 78 percent being short forms and the remaining 22 percent long forms. Temporary Census workers visited all non-responding housing units and attempted to collect the data in person from the occupants. Approximately 62 percent of the NRFU housing units were found to be occupied and were successfully interviewed, 23 percent were vacant, 14 percent resulted in deleted addresses and slightly over 5,000 were unresolved (0.0 percent). A Quality Assurance program was performed on the

NRFU operation including a review of all enumerated questionnaires by the Enumerator Crew Leaders, and a re-interview of a sample of the households each enumerator surveyed.

*Data Collection for Group Quarters.* Data collection for group quarters was conducted April 1, 2000 through May 6, 2000. Several new questionnaires were created as the household questions in the household unit forms were not appropriate for places housing large groups of unrelated people. The four main forms used were (1) Individual Census Report (ICR) used for the vast majority of group quarters, (2) Individual Census Questionnaire (ICQ) used only for soup kitchens and regularly scheduled mobile food vans, (3) Military Census Report (MCR), used to enumerate military personnel, and (4) Shipboard Census Report (SCR) used to enumerate military and civilian shipboard residents. (These forms can be viewed at <http://www.census.gov/dmd/www/2000quest.html>).

At each group quarters enumerators acquired a list of residents, completed a listing sheet and distributed ICR packets to residents. Enumerators were allowed to use administrative records to augment the process where residents could not complete the forms themselves. Enumerator questionnaires were used for residents of household units at the special place. Some group quarters were allowed to self enumerate for the safety of the enumerator or confidentiality of the residents. This occurred primarily at hospitals and prisons.

*Data Collection for Service Based Enumeration Locations.* Data collection for these location types occurred between March 27, 2000 and March 29, 2000. At shelters enumerators handed out separate individual census forms to each person at the location, every sixth form was to be a long form. Respondents were asked to complete the survey and return it to the enumerator. At soup kitchens enumerators were instructed to interview each person using the Individual Census Questionnaire, with every sixth form a long form. The same interview process was used for mobile food vans and the targeted nonsheltered outdoor locations, but no long form data was collected on individuals counted at these locations. (For more information see <http://www.census.gov/pred/www/rpts/E.6.pdf> .)

### *Data Processing*

Once the forms were received the Census Bureau utilized a data capture system to record electronic images of most of the forms, using optical mark recognition for check boxes and character recognition software to capture write in responses. Due to the extra efforts to reduce

under counting, the Census 2000 responses could be made by mail, telephone and internet, increasing the possibility of duplicative forms for a household. An automated matching and un-duplication process was performed to address this issue. Potential missing or incomplete data, or discrepancies in the completed surveys were detected through a “coverage edit” process and were resolved through a telephone follow-up or a field staff visit. Computer operations identified missing or incomplete responses and used statistical imputation to complete the information (content edit).

### *Accessing of Data and Statistics*

The Census Bureau disseminates Census 2000 data and statistics in two ways: (1) Summary Files that contains “pre-packaged” statistics that cover a wide variety of geographic and topical areas, and (2) Public Use Microdata (PUMs) files that contain the household and individual responses (raw data) for a sample of households.

*Summary File.* Thousands of Census 2000 statistical tables are available to the public on the Census Bureau web site at a variety of geographic levels including: national, state, Metropolitan Statistical Area (MSA), and Congressional district, with many available down to the Census block level. Some of this information is also available in thematic maps and contained in a variety of other Census Bureau publications.

**Note: as will be discussed below, any of the Census 2000 summary file tables using the general “disability” category, or those including the employment disability and/or “stay at home” disability are affected by the respondent error that led to the misidentification of the population with disabilities and should not be used.** Unfortunately this issue affects more than half of the disability-related tables available so care must be exercised with the selection of tables examined. Tables specific to sensory, mental, physical and self-care disabilities are unaffected by this issue, as is any disability information related to the 5-15 year age group, which was not asked the two problematic questions.

The Census 2000 summary file tables are available on the Census Bureau’s American Factfinder site ([http://factfinder.census.gov/home/saff/main.html?\\_lang=en](http://factfinder.census.gov/home/saff/main.html?_lang=en)) and are also available from the Census Bureau on CD-ROM and DVD. The national or state level data sets on which the American FactFinder is based are also available for FTP download at this location: [http://www2.census.gov/census\\_2000/datasets/](http://www2.census.gov/census_2000/datasets/). The summary dataset documentation including

the file structure layout and tables of the data matrices are also available at this site. The summary datasets provide users with easily accessible information aggregated to a variety of geographic levels. The summary tables containing disability-related information include those under Summary File 3 (SF3) and Summary File 4 (SF4) which replicate most of the SF3 tables for 335 race and ancestry population groups: 132 race groups; 78 American Indian and Alaska Native tribe categories; 39 Hispanic or Latino groups; and 86 ancestry groups. Disability related tables are also available in the American Indian and Alaska Native Summary File (AIANSF), which is repeated for the total population, total American Indian and Alaska Native population, total American Indian population, total Alaska Native population, and for 1,081 additional specified American Indian and Alaska Native tribes. The 109th Congressional District Summary File (Sample) re-tabulates Summary File 3 for the newly drawn 109th (2005-2006) Congressional District boundaries. Summary files are also available for American Samoa, Guam, Commonwealth of the Northern Mariana Islands, and the US Virgin Islands.

*www.DisabilityStatistics.org.* A compilation of statistic from the Summary files is available at a Cornell University web site, [www.DisabilityStatistics.org](http://www.DisabilityStatistics.org). These statistics include population size, prevalence rates, and employment rates for the nation, states, counties, Congressional Districts, metropolitan statistical areas (MSA), and American Indian, Alaskan Native, Hawaiian Home Areas. The statistics available at this web site are not influenced by the Census 2000 response error, which is discussed below.

*PUMS Data.* The Census 2000 Public Use Microdata Sample (PUMS) contains all the long form data at the household and person levels. The PUMS data allow users to produce customized statistics utilizing any of the possible combinations of data available in the Census long form. This is especially useful given the Census 2000 disability question issue as the two problematic disability categories can be excluded. The PUMS files are available from the Census Bureau for download or on DVD as either a one percent or a five percent sample of all US households that completed the Census Long form. The Census Bureau uses special procedures to assure the confidentiality of these data including the topcoding or substitution of some data (such as income). These procedures result in statistically insignificant differences in estimates between the Census 2000 PUMS data and the Census 2000 summary data.

Since the PUMS data are based on a sample, sample weight are applied to the variables in the PUMS file during data analysis to create results that are representative of the population.



There are two weights available in the PUMS data: a person weight variable for use with person characteristics and a housing weight variable for use with housing characteristics. Each PUMS record includes the appropriate weight for the observation.

Each of the state PUMS files includes the household level information followed by the associated person level record(s) below. Note that vacant housing units are also included in the data with zero person records and that the geographic location information is only available in the household-level record. For ease of analysis of person-level information the household data are split from the person-level data, and then a one-to-many merge is performed with associated household-level data. This merge results in a rectangularized data table where all the household information is repeated for each of the associated person records (i.e., a flat file). The data sets are very large with the person records alone totaling more than 14 million observations at the national level. Given this it is recommended that the variables included in the dataset are carefully selected for the most efficient processing.

The ability to identify geographic areas is limited in the PUMS files to protect confidentiality. The lowest geographic reporting area for the one percent PUMS file contains a minimum of 400,000 people (Super Public Use Microdata Areas, Super PUMAs) and the five percent file contains a minimum 100,000 people (PUMAs). Super PUMAs and PUMAs are a new geographic concept in the Decennial Census and cannot be in more than one state or statistically equivalent entity. The Census Bureau generated a list of rules and recommendations regarding the delineation of PUMAs. Each state Census Data Center was given these criteria to create the PUMAs for its state. In most cases rural PUMAs are based on county (or county equivalent) while urban PUMAs are usually based on city boundaries, census tracts or metro areas. Typically a large county of 400,000 would be divided into four PUMAs in the five percent file, with each containing approximately 100,000 people. These four PUMAs then aggregate up to a single Super PUMA (one percent file) of 400,000. If a county contains fewer than 100,000 people it is typically combined with other adjoining small-population county areas until it meets the area minimum 100,000 person PUMA criteria. Note that although the Census Bureau attempted to minimize the occurrence of “islands,” not all areas included in individual PUMAs are adjoining. For more information regarding the Census 2000 PUMA creation guidelines, go to [http://www.census.gov/geo/puma/puma\\_guide.pdf](http://www.census.gov/geo/puma/puma_guide.pdf) . Go to the Missouri Census

Data Center (<http://mcdc2.missouri.edu/data/pums2000/Readme.html#pumas>) for an excellent general description of PUMAs.

There are several resources for accessing the data. The Census Bureau makes geographic equivalency files available for each state that provide data that cross references Census 2000 PUMA and Super PUMA entities with counties, county subdivisions, places, and census tracts. The five percent Geographic equivalency file for New York is “PUMEQ5-NY.TXT.” This information is also available in a more readily understandable/usable form from Geocorr (*geographic correspondence engine*) developed by the Missouri Census Data Center (<http://mcdc2.missouri.edu/websas/geocorr2k.html>). GeoCorr is a web-based application that allows users to generate a wide variety of geographic “crosswalks” based on a database of U.S. geographic codes and names that includes Census 2000 geographic data. The Census Bureau also provides state PUMA maps here: <http://www.census.gov/geo/www/maps/puma5pct.htm> .

All of the PUMS data files and technical documentation including the geographic equivalency files are available for download by state at the following Census Bureau sites: five percent files: <http://www.census.gov/Press-Release/www/2003/PUMS5.html> one percent files: <http://www.census.gov/Press-Release/www/2003/PUMS.html>. An excellent source for further detail regarding working with Census 2000 PUMS data, including SAS code is the Missouri Census Data Center (<http://mcdc2.missouri.edu/data/pums2000/Readme.html>). Census State Data Centers may also have other code available and provide further technical assistance regarding the Census 2000 (see <http://www.census.gov/sdc/www/> for a list of Census State Data Centers).

## **Definition of Disability and Other Variables**

A description of the survey questions and how we used these questions to define disability, demographics, economic well-being, and employment is shown in Tables 1a - 1d.

*Disability.* The six disability questions in the Census 2000 were designed by a federal interagency workgroup (Adler et al., 1999). The process used to develop the questions included an investigation of the content of other surveys and extensive testing using the Census Bureau cognitive testing questionnaire lab. Cognitive testing is used to see if people understand and respond to the questions as intended. At the conclusion of the process, the interagency workgroup agreed upon six questions that satisfied the space limitations imposed by the Census

Bureau. Although the workgroup acknowledged the level of difficulty in measuring disability in a set of six questions and that further methodological research is necessary, the questions have been regarded as an improvement over prior Census Bureau questions used to gather information on the disability population. Note that the Census 2000 disability questions are completely different from the previous 1990 Census, and were only asked of those aged 15 or older, therefore the results can not be compared between the Censuses.

The questions are described in the first section of Table 1a. The first three questions (Q16a, Q16b, Q17a) are for all household members ages 5 and older and are consistent with the *impairment* concept from the ICF. (Note, all question numbers refer to the mailback version of the long form). They include classifications of long lasting health conditions that are associated with disability: (1) severe sensory impairments (hearing, vision), (2) long lasting physical impairments (substantially limits one or more of the following activities: walking, climbing stairs, reaching, lifting, or carrying), and (3) health conditions that result in mental impairments (learning, remembering, or concentrating).

The Census 2000 survey also includes three questions that the federal interagency workgroup determined were necessary for program and policy purposes. The first of these questions, Question 17b, is for all household members ages 5 and older. It is consistent with the ICF *activity limitations* concept and identifies health conditions lasting at least six months that affect the performance of activities of daily living (dressing, bathing or getting around inside the home). Questions 17c and 17d, are for all household members ages 16 and older. They identify health conditions lasting at least six months that affect participation in usual life activities such as going outside the home alone to visit a doctor's office or going shopping, and working at a job or business. These last two questions are consistent with the ICF *participation restriction* concept.

The Census Bureau uses these six questions to identify the six sub-disability categories that are described in Table 1a, as well as an overall disability status category. The sub-disability categories are: a *sensory disability* if the person has a "yes" response to question Q16a; a *physical disability* if the person has a "yes" response to question Q16b; a *mental disability* if the person has a "yes" response to question 17a; a *self-care disability* if the person has a "yes" response to Q17b; a *go-outside-the-home disability* if the person has a "yes" response to Q17c; and an *employment disability* if the person has a "yes" response to Q17d.

The final overall category is consistent with the ICF concept of *disability*. The Census Bureau refers to the category as a disability and it is defined as having at least one of the six disabilities included in the Census 2000 questionnaire.

*Respondent/Enumerator Error to the Go-Outside-Home and Employment Disability Questions.* It is vital to note that there is evidence of substantial and systematic error in the way people responded to the go-outside-home and the employment disability questions, which therefore affects the Census Bureau's overall disability category. Discovery of this problem was made in two parts. Initially a comparison between the Census 2000 results and the ACS revealed an apparent enumerator survey problem (Stern, 2003). Second, an apparent minor redesign of the way the 2003 ACS disability questions were asked revealed that the issue was not limited to the enumerator collected surveys but included the mailback versions as well (Stern and Brault 2005). The results of these comparisons and the implications of the problems discovered are discussed below.

As mentioned earlier, concern arose about the length and complexity of these questions, in particular, the distance between the stem of question 17 and the employment disability question (17d). Subsequent analysis of the Census 2000 data by Stern (2003) suggests that there exists substantial respondent and/or interviewer error relating to the enumeration process. According to Stern (2003), the employment disability rate is substantially higher in the enumerated sample (17.7 percent) than in the mailback sample (10.9 percent). Differences between the two samples are expected, because non-response to the mailback form may be related to disability or other characteristics related to disability. However, Stern (2003) found only minor differences between the two samples in the sensory, mental, physical, and self-care disability rates. In addition, the employment disability rate in the 2000 ACS mailback sample was the same in the Census 2000 mailback sample (both 10.9 percent), but the employment disability rate in the 2000 ACS enumerated sample was significantly lower (7 percent) than the rate in the Census 2000 enumerated sample (17.7 percent). This suggests that differences in the enumeration processes of the Census 2000 and 2000 ACS lead to substantial difference in disability rates, specifically employment disability rates. Similar, but less dramatic differences are found in the go-outside-home disability rates.

Furthermore, an inspection of employment rates suggests this measurement error is systematically related to employment. According to Stern (2003), the employment rates of

people (ages 21-64) with employment disabilities were 75.0 percent in the enumerated sample and 54.8 percent in the mailback sample. No such differences exist in the employment rates of those with sensory, physical, mental, and self-care disabilities in the Census or the ACS.

In short, these patterns suggest that persons who were enumerated in the 2000 Census were more likely to answer whether they *went to work* rather than whether they *had difficulty going to work*. One possible explanation for these patterns is that the go-outside-home and employment disability stem of question 17 was separated from sub-questions 17a and 17b by a column break for persons other than Person 1 in the Census 2000 long form enumeration version. Overall, Stern (2003) suggests that complexity and length of the six questions, enumeration procedures and the translation of the mailback long form into a form for enumerators may have played a role in the difference within the Census and between the Census and ACS. Stern (2003) concludes that, "... disability rates are sensitive to relatively minor differences both within surveys across mode and across two surveys."

*Changes to the ACS Disability Questions.* Since the ACS continued to use the same disability questions in 2001 and 2002, it seemed likely that the trend of the over-reporting, which may result from the complexity and length of the questions, continued in those years. In response to this potential respondent/enumerator error, the Census Bureau made a seemingly minor change to the 2003 ACS questionnaire. The stem to Question 17 was repeated before the go-outside-home and employment disability questions, and the age skip pattern did not appear in the questions.

Consistent with the inferences for the comparison of Census 2000 and 2000 ACS results, our analysis of the 2000-2003 ACS data shows that between 2002 and 2003 there was a substantial decrease in the employment disability rates among working age (ages 25-61) individuals (7.8 percent in 2000, 7.4 percent in 2001, 7.6 percent in 2002, and 6.9 percent in 2003).

The implication is that working age individuals were less likely to interpret the question as asking *if* they were working. Similarly, there was a substantial increase in the employment disability rates among person ages 65 and over (22.0 percent in 2000, 23.4 percent in 2001, 24.1 percent in 2002, and 28.2 percent in 2002). The implication is the same—that individuals were less likely to interpret the question as asking *if* they were working—but the impact on the

estimate is in the opposite direction, because persons ages 65 and over are less likely to be working and thus previously reported *not working*.

Stern and Brault (2005) confirm the differences between the 2002 and 2003 ACS disability estimates, described above. They show that the employment disability rate among persons ages 16 to 64 in the ACS mailback sample declined from 8.7 percent in 2002 to 6.7 percent in 2003, which converges with the estimate from the enumerated sample, 6.2 percent in 2003. Importantly, differences between the mailback and enumerated samples in the sensory, physical, mental, and self-care disability rates remained relatively constant between 2002 and 2003. Stern and Brault (2005) stated that “[t]he evidence presented suggests that it is not possible to discern which portion, if any, of the difference between 2002 and 2003 disability estimates can be attributed to actual change in the number or percentage of people with disabilities. As a result, the Census Bureau will not present any time-series data showing estimates from 2002 and earlier with data from 2003 and later for the affected items.”

Taken together, the loss of confidence in Census 2000 estimates and the ACS time trends represents a significant loss of information. For instance, a majority of the Census 2000 disability-related information posted on the Census Bureau web site is based on an overall disability measure (the union of the six disability types). The statistics on poverty and educational attainment are available only for the overall disability measure. Seams in time-trend data due to changes in data collection methods are not new to the Census Bureau, such as the 1993/1994 seam in the historical CPS income (see Burkhauser, Butler, Feng and Houtenville, 2004); although these changes were not due to direct respondent error, but rather improvements and changes in data collection.

Note that this design problem only affects calculations of general disability (one or more of the six) and the two types of disability noted. Sensory, physical, mental and self-care disability estimates are unaffected. In addition, this design problem does not impact disability related statistics for those under the age of 16 because the go-outside-home and employment disability questions are not used for those under the age of 16.

*Demographics.* In our analysis below, we utilize questions on age, gender, race, and ethnic origin. Question 3—“[w]hat is this person’s sex?”—is used to identify a person’s gender. Question 4—“[w]hat is this person’s date of birth?”—is used to identify a person’s age. Question 5—“[i]s this person Spanish/Hispanic/Latino?”—is used to identify Hispanic origin,

Question 6 identifies a person's race— “[w]hat is this person's race? Mark (x) one or more races to indicate what this person considers himself/herself to be.” The Census Bureau uses these two questions to construct race categories as described in Table 1b.

Information on education for each household member is identified in the “person” section of the survey. The Census Long Form includes three questions on education. Two of the questions are related to recent participation in an educational program. The second question, Question 9, asks, “what is the highest degree or level of school this person has completed?” For persons currently enrolled in an educational program, the Census long form provides instructions to provide the highest grade completed or the highest degree received. The householder is presented a list of possible responses and is asked to identify the highest level of education that each household member has completed. The possible responses to the survey question include: no schooling completed; nursery school to fourth grade; fifth grade or sixth grade; seventh grade or eighth grade; ninth grade; tenth grade; eleventh grade; twelfth grade no diploma; high school graduate; some college credit, but less than one year; one or more years of college; Associate Degree (e.g., AA, AS); Bachelor's degree (e.g., BA, AB, BS); Master's degree (e.g. MA, MS, MEng, Med, MSW, MBA); Professional degree (e.g., MD, DDS, DVM, LLB, JD); or Doctorate Degree (e.g., PhD, EdD).

*Employment Measures.* The Census Bureau definition of employment status is drawn from two questions. Table 1c describes the Census 2000 information on the employment status of each household member aged 16 and older. A household member is considered employed if he or she met one of the two following criteria: (1) was “at work” during the reference period—that is, worked as a paid employee, worked in his or her own business or profession, worked on his or her own farm, or worked 15 or more hours as an unpaid worker on a family farm or business, or (2) was “with a job but not at work” during the reference period—that is, had a job but temporarily did not work at that job during the reference period due to illness, bad weather, industrial dispute, vacation or other personal reasons. The reference period is defined as the week preceding the date that the householder completed the questionnaire.

There are two other employment measures that we use to characterize the employment of persons with disabilities. These measures identify employment status over a year-long period. The first measure is referred to as “some attachment to the labor force” and defines employment as at least 52 hours of employment during the reference year. The second is referred to as “full-

time/full-year employment.” This is defined by the Census Bureau as 50 to 52 weeks and at least 35 hours per week.

*Income and Poverty.* The economic well-being measures we estimate use information from the Census 2000 on annual income, family size, family composition, household size and household composition. The section labeled income in Table 1d describes the income measures and summarizes the method used by the Census Bureau to construct a poverty measure.

The income measure uses income received in 1999 from each individual household member. The questions are located in the “person” section of the survey. Questions 31a through 31h are used to collect information on the following sources of income: wages, salary, commissions, bonuses, or tips from all jobs (before deductions for taxes, bonds, dues or other items); self-employment income from own non-farm businesses or farm businesses, including proprietorships and partnerships (net income after business expenses); interest, dividends, net rental income, royalty income, or income from real estates and trusts; Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor or disability pensions (not including Social Security); 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). Annual total income is the sum of all of the income sources for the household member.

The poverty measure is computed based upon the standards defined in Directive 14 from the Office of Management and Budget (OMB). These standards use poverty thresholds created in 1982 and index these thresholds to 1999 dollars using poverty factors based upon the Consumer Price Index (CPI-U). They 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. The poverty threshold depends upon the size of the family; the age of the householder (i.e., the person who owns or pays rent for the housing unit and who fills out the Census questionnaire for the household) for one member families and two member families; and the number of related children under the age of 18. Family income is compared to the relevant poverty threshold to determine the poverty status of families.

The poverty threshold for an unrelated household member is a function of her own total income. The poverty threshold is different for a member of a household who is unrelated to the



householder compared to the poverty threshold for a one-member household. A poverty measure is not created for unrelated household members who are under the age of 15 because Census 2000 did not collect income information from persons under the age of 15.

Note that poverty statistics do not adjust for the additional 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 these 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. Further details on the Census 2000 poverty measure are available from the U.S. Census Bureau website <http://www.census.gov/prod/2003pubs/c2kbr-19.pdf>.

Two other measures of economic well-being are included that use both related and unrelated members of the household as the income-sharing unit. The first measure is total household income, which does not adjust for household size. The second measure is household 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  $e$  equals 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.

## Statistics from the Census 2000

Disability has different implications for employment and economic well-being at different ages. In this section, we first identify different age groups that reflect differences in activities. These age groups are ages 5 to 17 (primary and secondary school age persons), ages 18 to 24 (school-to-work transition age persons), ages 25 to 61 (working age persons), ages 62 to 64 (early Social Security retirement age persons), and ages 65 and older (standard Social Security retirement age persons). Our analysis of employment and economic well-being focuses on working age persons between the ages of 25 and 61.

In Tables 2-4, we provide estimates for overall disability, go-outside-home disability, and employment disability, however, we shade them to highlight the fact that their accuracy is highly suspect—we highly recommend not citing these estimates. As an alternative, we provide estimates for people who report sensory, physical, mental, and/or self-care disabilities—the union of the four reliable disability-related categories. We often call this category “at least one of the four.” We also provide estimate for these four categories separately.

*Composition of the Populations with Disabilities.* Table 2 provides population estimates, disability prevalence estimates, and sample sizes for non-institutionalized civilians. Among persons ages 5 to 99, 12.5 percent (32.2 million) report a sensory, physical, mental, and/or self-care disability. Regarding specific disabilities, 2.6 percent (6.7 million) report a self-care disability; 4.8 percent (12.4 million) report a mental disability; 8.2 percent (21.1 million) report a physical disability, and 3.6 percent (9.3 million) report a sensory disability.

As one examines the disability rates across the age categories, the proportion reporting sensory, physical, mental, and/or self-care disability generally increases with age: ages 5-17, 5.8 percent; ages 18-24, 5.5 percent, ages 25-61, 10.1 percent; ages 62-64, 22.7 percent; ages 65 and older, 36.8 percent. This is true for the specific types of disability, with the exception of self-care and mental disabilities, which decline between the age groups 5-17 and 18-24. Note that the composition of disability types also changes with age. Among those ages 5-17 and 18-24 mental disabilities is the most common of the four types (4.5 percent and 3.4 percent, respectively), while among those ages 25 and older, physical disabilities is the most common (ages 25-61, 6.8 percent; ages 62-64, 18.2 percent; and ages 65 or more, 28.6 percent.).

Table 3 provides shared distributions across age, gender, race and education within each disability group. Table 3 reads differently than Table 2—focusing on comparisons within

categories in a single column. Within the population reporting sensory, physical, mental, and/or self-care disabilities, more than two-thirds (67.6 percent) are ages 5-44, compared to about one-third (32.6 percent) of people who did not report these disabilities. Slightly more women (51.4 percent) than men report at least one of these four disabilities. More than three quarters (75.7 percent) of those reporting at least one of these four disabilities is white. With regards to education, more than a third of those reporting at least one of these four disabilities has less than a high school degree or equivalent.

As is shown in Table 3 when looking at the share distributions for specific types of disabilities, the school age population accounts for 15.1 percent of the population reporting mental disabilities; this may be related to the increased diagnosis of learning disabilities. The population with self care disabilities is fairly evenly spread across the 35 and older age groups but the oldest two age groups: 75-84, 85+ account for about a third of those with self-care disabilities (19.0 percent + 13.6 percent = 32.6 percent). Both physical and sensory disabilities are seen predominantly in the 45 and older age groups. About a third of those in these two disability categories are in the oldest groups: 75-84, 85+ (20.9 percent + 12.8 percent = 33.7 percent).

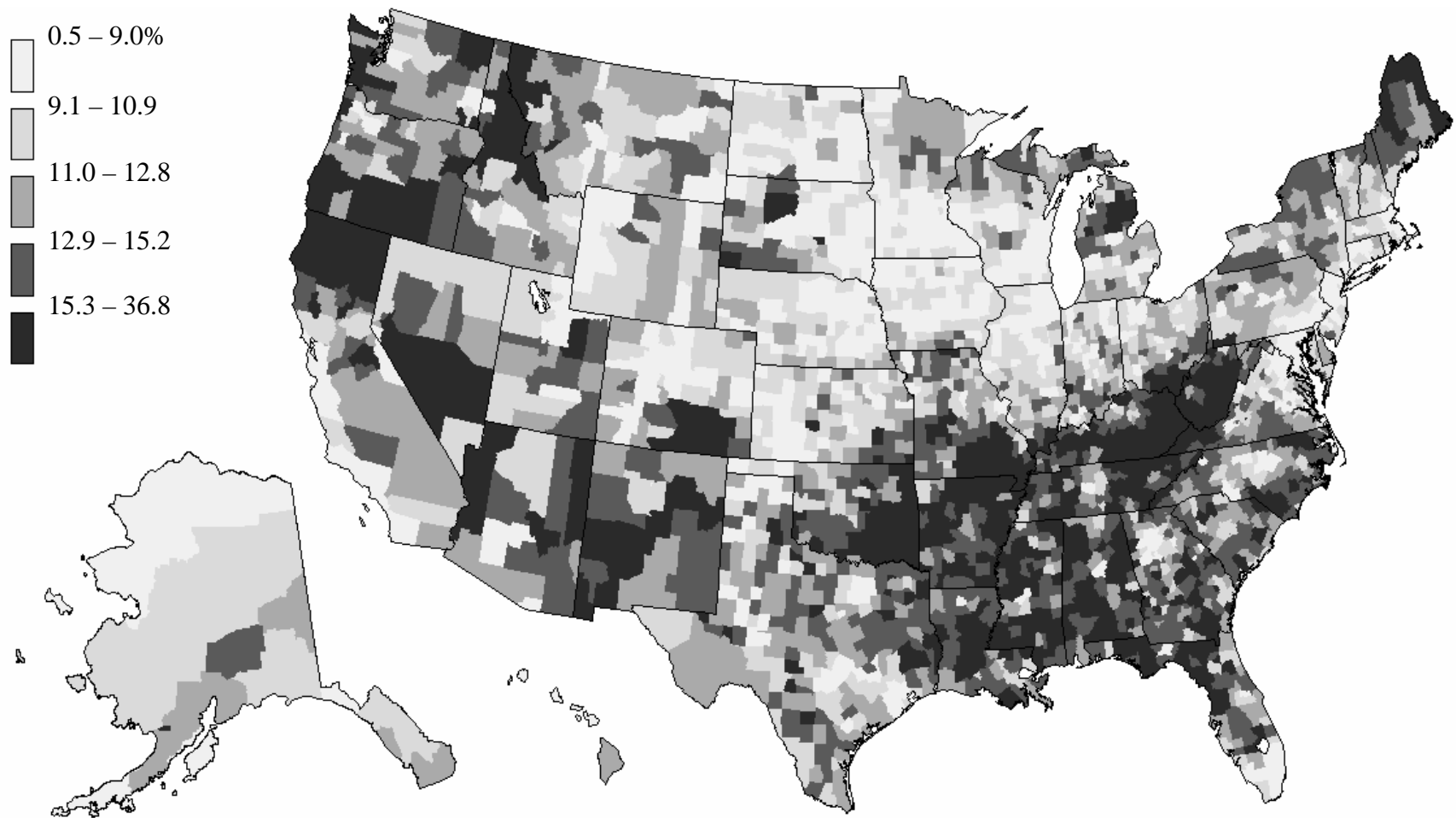
*Employment.* Table 4 shows three employment measures for the working-age population (ages 25 to 61) by disability type, further broken down by gender, race, ethnicity and educational level. Of those who do not report sensory, physical, mental, and/or self-care disabilities, 78.8 percent report being employed in the reference period compared to slightly half that rate (41.8 percent) for persons who do report sensory, physical, mental, and/or self-care disabilities. The full-time employment rate for persons reporting sensory, physical, mental, and/or self-care disabilities was less than half of those not reporting sensory, physical, mental, and/or self-care disabilities (27.1 percent compared to 58.8 percent). The disability type with the highest employment rate was those with sensory disabilities, followed by those with physical disabilities and mental disabilities with self-care disabilities having the lowest employment rates. The difference between these two groups is also evident when looking at our employment measure “working sometime in the previous year” (86.3 percent of those without sensory, physical, mental, and/or self-care disabilities vs. 51.9 percent of those with sensory, physical, mental, and/or self-care disabilities).

Men reporting sensory, physical, mental, and/or self-care disabilities had a higher employment rate during the reference period than women reporting sensory, physical, mental, and/or self-care disabilities (46.0 percent compared to 37.7 percent). However, the gender gap of 8.3 percentage points in the population with sensory, physical, mental, and/or self-care disabilities is less than the gender gap of 14.4 percentage points in the population without sensory, physical, mental, and/or self-care disabilities). In the population with sensory, physical, mental, and/or self-care disabilities, minorities had lower employment rates than did whites as did those with less education. Note that among the black population, there is a particularly large difference in the employment rate between those with and without sensory, physical, mental, and/or self-care disabilities—18.8 percent compared to 68.9 percent.

### **Advantages of the Census 2000**

*Geographic Distribution.* A major advantage of the Census 2000 over other sources of disability data is its ability to generate local statistics. Figure 4 shows a map of the U.S. at the county level by the prevalence of sensory, physical, mental, and/or self-care disabilities based on the Census 2000 data from the Summary Files. (The county level prevalence rates that appear in Figure 3 may be found at [www.DisabilityStatistics.org](http://www.DisabilityStatistics.org).) The rate ranges from a low of 0.5 percent to a maximum of nearly 37.0 percent. Generally, counties in the Midwestern states and some mid-Atlantic and New England states (MA, NH, VT, CN, RI, PA, NY) range below 13 percent. South-eastern states (KT, WV, TN, AK, MI, MS, AL) and a scattering of counties in the western half of the U.S. have higher disability rates upwards of 15.0 percent to 36.8 percent. The high rates of disability in the south-eastern states *may* be due to the amount of labor intensive farming, heavy industry, and mining in those areas. The patterns are consistent with the findings of McCoy and Weems (1989) who found the highest rates of Supplemental Security Income and Social Security Disability Insurance receipt occurred in the "disability belt" of Appalachia and the lower Mississippi Valley. LaPlante (1993) reports a similar finding using the 1980 and 1990 Census.

**Figure 4. Percentage of Non-Institutionalized Civilians Ages 21-64 Reporting Sensory, Physical, Mental, and/or Self-Care Disabilities, by County**



Source: Author's calculations using the Census 2000 Summary Files. See [www.DisabilityStatistics.org](http://www.DisabilityStatistics.org) for the numbers underlying this map

Table 5 demonstrates the ability of the Summary Files to provide statistics for a variety of geographic areas. The upper portion of Table 5 begins at the U.S. level and drops down through nested geographic levels: region, county, city and census tract. In some areas with higher population counts it is possible to get down to the block level, but in many instances the population becomes too small and the Census Bureau will not supply easily identifiable information such as disability at this level.

The lower half of Table 5 demonstrates some of the other non-nested geographic areas that are available from the Census 2000 summary files.<sup>2</sup> Such areas include Metropolitan Statistical Areas (MSAs), Congressional Districts, American Indian, Alaskan native and Hawaiian Homeland areas. Note that the last geographic category is not limited to individuals of specific ethnic or American Indian backgrounds—only that they live in the area defined by the official geographic boundaries of those designated areas. MSAs are defined by the Census Bureau and can overlap state and county borders. MSAs are “[a] geographic entity defined by the U.S. Office of Management and Budget for use by federal statistical agencies, based on the concept of a core area with a large population nucleus, plus adjacent communities having a high degree of economic and social integration with that core. The designation of an MSA requires the presence of a city with 50,000 or more inhabitants, or the presence of an Urbanized Area (UA) and a total population of at least 100,000 (75,000 in New England). The county or counties containing the largest city and surrounding densely settled territory are central counties of the MSA. Additional outlying counties qualify to be included in the MSA by meeting certain other criteria of metropolitan character, such as a specified minimum population density or percentage of the population that is urban. MSAs in New England are defined in terms of minor civil divisions, following rules concerning commuting and population density.” (Census Bureau Glossary definition). Disability data are also available at the 106<sup>th</sup> Congressional District level for those interested in local policy implications for the population with disabilities.

*People Living in Institutions.* Another major advantage of the Census 2000 over other sources of disability data is its ability to generate statistics on people living in institutions. Table 6 demonstrates the Census 2000’s ability to identify people living in institutional group quarters and non-institutional group quarters at the national and state levels.<sup>3</sup> As is noted earlier there are

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<sup>2</sup> As mentioned earlier, the ability to identify local areas using the PUMS data is limited.

<sup>3</sup> As mentioned earlier, institutions are a subset of group quarters, see Figure 3 for more detail.

very few data sources that contain information regarding these special populations. The first three columns of Table 6 are based on the PUMS data. The PUMS data files only allow for the identification of institutionalized GQ versus non-institutionalized GQ—no further specificity is possible. Among people with self-care, mental, physical and/or sensory disabilities of all ages 31,408,919 persons (or 91 percent) lived in housing units, 2,196,086 persons (or 6 percent) lived in institutionalized GQs, and 804,290 persons (or 2 percent) lived in non-institutionalized GQs. Note that the percentage that lived in institutional GQs varied substantially across states—from 2.9 percent in Alaska to 10.4 percent in Iowa.

The fifth and sixth columns of Table 6 include population estimates for information about group quarters derived from the Census 2000 Summary Files. The Summary Files have the advantage of allowing the identification of the specific types of GQ, however they do not provide the cross tabulation of GQ type and disability status. As an alternative, we used the GQ type information to classify GQs into disability-related and non-disability related GQ. The disability-related GQs are (using the terminology contained in the Summary Files): (a) hospices or homes for chronically ill, (b) military hospitals or wards for chronically ill, (c) other hospitals or wards for chronically ill, (d) hospitals or wards for drug/alcohol abuse, (e) mental (psychiatric) hospitals or wards, (f) schools, hospitals, or wards for the mentally retarded, (g) institutions for the deaf, (h) institutions for the blind, (i) orthopedic wards and institutions for the physically handicapped, and (j) residential treatment centers for emotionally disturbed children. The “disability related” non-institutionalized GQs are (a) homes or halfway houses for drug/alcohol abuse, homes for the (b) mentally ill, (c) mentally retarded, and (d) physically handicapped. As shown in Table 6, 213,504 persons lived in disability-related institutional GQs, and 322,317 persons lived in disability-related non-institutional GQs. This is quite different from the PUMS estimate of the number of people with disabilities living in such institutional and non-institutional GQs.

### **Comparisons to Other Data Sources**

The Census 2000 is one of several nationally representative data sources that provide estimates of the number, prevalence, employment and economic well-being of people with disabilities. Different surveys use different methods to collect information on persons with disabilities, and these differences lead to differences in the resulting estimates. This section

compares the Census 2000 estimates to estimates from other nationally representative surveys: the 2003 American Community Survey (ACS), the March 2004 Current Population Survey, Annual Demographic Supplement (CPS), the 2002 National Health Interview Survey (NHIS), the 1994 National Health Interview Survey-Disability Supplement, the 2003 Panel Study of Income Dynamics (PSID), and the 2002 Survey of Income and Program Participation (SIPP). The year associated with each dataset represents the actual year that the survey was administered. The March 2004 CPS collects annual income and annual labor supply information for the 2003 calendar year. Details on the methods used to collect information on persons with disabilities in each of these surveys may be found in the corresponding Cornell StatsRRTC *User Guide*.

Please note that in Tables 7, 8, 9, and 10 we identify the population with disabilities in the Census 2000 using the union of the sensory, physical, mental, and self-care disabilities—the go-outside-home and employment disabilities are not used. This is not the case for the ACS estimates.

Differences in estimates may be related to changes in the population over time. Thus, it is important to pay special attention to the survey year when comparing estimates across the surveys. The 2000 Decennial Census Long Form, for example, is representative of the year 2000. Changes in the population, the labor market and the economic environment between the year 2000 and the year 2003 can affect population estimates, prevalence estimates, employment estimates and economic well-being estimates.

We utilize the ICF concepts discussed above to facilitate the comparison. Each comparison table defines disability as the presence of a participation restriction, an activity limitation, or an impairment. Some data sources are limited to identifying a disability based upon a participation restriction. This is evident in the table by looking across the columns that identify the ICF disability concepts. A “NA” entry indicates that specific information on the particular ICF concept is not available in the survey. Disability is defined in these cases only based upon the information that is available in the survey. For example, the CPS only contains information on a work limitation. The definition of disability in the CPS is therefore based solely on whether the person has a work limitation. In Figure 1, this definition captures a portion of persons who fall within the participation restriction circle.



The comparisons are made across the working-age population, because most of the nationally representative surveys focus on the working age population. In addition, among the subset of surveys that identify children with disabilities, there are relatively large differences in the methods used to define and identify disability, and it is difficult to make meaningful comparisons. Further research on methods used to identify children with disabilities is needed.

*Population and Prevalence Estimates.* Table 7 shows differences across surveys in the size of the population with disabilities. According to the Census 2000 there are 14,005,000 persons ages 25 through 61 with a disability (sensory, physical, mental, and/or self-care disability). As would be expected, this estimate is lower than the 2003 ACS estimate of 17,146,845 persons, in part because we exclude the Census 2000 employment and go-outside-home disabilities for reasons discussed above. The Census 2000 estimate is lower than the 2002 SIPP estimate of 26,620,000 persons and the 2002 NHIS estimate of 23,192,000 persons—both of which are based on a much larger set of survey questions to identify persons with disabilities. The Census 2000 estimates are larger than the estimates from the March 2004 CPS of 12,102,000 persons. The Census 2000 estimate is also lower than the 2001 PSID estimate of 20,054,000 persons, which only surveys heads of household and their spouses.

As shown in Table 8, the Census 2000 disability prevalence rate estimate is 9.9 percent for the population between the ages of 18 and 64. Only the 2004 March CPS estimate (7.9 percent) is lower. All other prevalence estimates are higher (2003 ACS, 11.7 percent; 2001 PSID, 14.7 percent; 2002 NHIS 15.8 percent; and 2002 SIPP, 17.9 percent). The same ordering holds for the age sub-populations: ages 18-24, 25-61 and 62-64.

In general, Tables 7 and 8 show that the magnitudes of population and prevalence rate estimates are positively related to the number of questions used in the identification of the population with disabilities. In other words, the more domains of disability identified, the larger the disability population.

*Employment Rate Estimates.* Table 9 provides statistics for three measures of employment: current employment (employment in the survey reference week), some attachment (52 hours or more annually), and full-time/full-year (at least 50 weeks annually with at least 35 hours per week). As is shown in Table 9, the current employment rate of people with disabilities ages 25-61 varies considerably across data sources—the Census 2000 estimate (41.8 percent) falls at the lower end of the range. The 2004 March CPS and 2003 ACS yield lower estimates

(19.6 percent and 39.3 percent, respectively), and the 2002 NHIS, 2001 PSID, and 2002 SIPP yield higher estimates (47.3 percent, 48.9 percent, and 53.2 percent, respectively). This ordering *may* be due to the facts that (1) the CPS only has a work limitation question, (2) the definition of disability we use here for the Census 2000 does not contain go-outside and employment disabilities, while the ACS definition does, (3) the SIPP and NHIS estimates are for broader definitions of disability (larger populations), and (4) the PSID sample contains only heads of households and spouses.

Interestingly, the exact same ordering holds for the other two employment measures. In addition, the rank ordering remains the same when comparing the employment of people with and without disabilities (by calculating the employment rate of people with disabilities as a percentage of the employment rate of people without disabilities).

*Economic Well-Being Estimates.* Table 10 provides statistics for three measures of economic well-being: poverty rate, median household income, and median household size-adjusted income. (Note, income estimates are not adjusted for inflation.) As is shown in Table 10, the poverty rate of people with disabilities ages 25-61 varies across data sources—the Census 2000 estimate (23.2 percent) falls at the upper end of the range. Similar to the patterns in the employment rate, the 2004 March CPS and 2003 ACS provide higher estimates (28.8 percent and 23.7 percent, respectively), and the 2002 NHIS, 2002 SIPP, and 2001 PSID provide lower estimates (21.2 percent, 18.8 percent, and 11.8 percent, respectively).

Median annual household income of people with disabilities is \$33,600 in the Census 2000. Only the 2004 March CPS estimate is lower (\$27,955). The estimates from the 2002 SIPP (\$33,895), 2003 ACS (\$34,600), and 2001 PSID (\$42,000) are higher. The Census 2000 estimate falls within the bounds of the 2002 NHIS income range estimate (\$25,000 - \$34,999). Adjusting household income for the size of the household does not influence the ordering of the data sources. The Census 2000 estimate for people with a disability (\$20,412) is higher than the estimate from the 2004 March CPS (\$17,967) and lower than the estimates from the 2003 ACS (\$21,304) and 2001 PSID (\$28,000).

## **Summary and Conclusions**

Full participation, independent living, and economic self-sufficiency for the population with disabilities are national goals first described in the ADA and reiterated in the President's

New Freedom Initiative. The Census 2000 data, with its local information, has the potential to influence these goals. In this paper, we examined the information on the disability population available in the Census 2000—survey methods, questionnaire items, statistics on a range of geographic, demographic and economic characteristics, comparisons to the designs and estimates from other data sources.

The Census 2000 is the largest data-collection effort in the US, aimed at collecting information from all households and the detailed long form is collected for a very large one-in-six sample. The multiple modes of responses used in the Census 2000 data collection effort are designed to capture and encourage survey completion of initial non-responders. Census 2000 data support estimates at the national level, the state level, and PUMA level. The Census 2000 is the only large scale survey that collects data on the group quarters and institutionalized populations, which include a substantial number of persons with disabilities. Finally, the Census 2000 provides a wide variety of employment and economic well-being indicators of which this paper touches on just a few.

At the national level, the Census 2000 estimates show the following. There are approximately 32 million people aged 5 and older, not living in group quarters, who report sensory, physical, mental, and/or self-care disabilities. This results in a disability prevalence rate of approximately 12.5 percent. There are an additional 2 million persons with self-care, sensory, physical, and/or mental disabilities living in group quarters (GQ). There are large gaps between the population with disabilities and the population without disabilities with respect to employment and economic well being measures. The prevalence of disability, employment and economic well-being differs widely at the state level and even within states. These differences exist in both absolute and relative terms when compared to those without disabilities.

In summary, although limitations to the disability data collected in the Census 2000 still exist, the survey is an improvement over prior Census Bureau surveys and offers a great deal of useful information to researchers interested in local-level information and the institutionalized population that is unattainable from any other survey.

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## Tables

**Table 1a. Census 2000 Disability Definitions**

Census Term	Question	Ages
	Q16. Does this person have any of the following long lasting conditions:	
Impairment: Sensory Disability	a. Blindness, deafness, or a severe vision or hearing impairment?	Ages 5 and older
Impairment: Physical Disability	b. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?	Ages 5 and older
	Q17. Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:	
Impairment: Mental Disability	a. Learning, remembering, or concentrating?	Ages 5 and older
Activity Limitation: Self-care Disability	b. Dressing, bathing, or getting around inside the home?	Ages 5 and older
Participation Restriction: Go-Outside-the-Home Disability	c. Going outside the home alone to shop or visit a doctor's office? NOTE: Survey design/Enumerator issue invalidates this measurement for Census 2000.	Ages 16 and older
Participation Restriction: Employment Disability	d. Working at a job or business? NOTE: Survey design/Enumerator issue invalidates this measurement for Census 2000.	Ages 16 and older
Disability	If a person responds yes to at least one of the six questions found in Q16 or Q17, then the Census classifies the person as having a disability.	Ages 5 and older
	NOTE: Survey design/Enumerator issue invalidates this measurement for Census 2000.	

Source: Authors' adaptation from ACS website <http://www.census.gov/acs/www/UseData/Def/Disabili.htm>

**Table 1b. Demographic Definitions from Census 2000**

<b>Census Term</b>	<b>Question</b>	<b>Ages</b>
Gender	(List of Residents Section) Q3. What is this person's sex?	All
Age	(List of Residents Section) Q4. What is this person's age and what is this person's date of birth?	All
Race	(List of Residents Section) Q6. What is this person's race? Mark (X) one or more races to indicate what this person considers himself/herself to be. Responses include the following: White; Black or African-American; American Indian or Alaska Native (print name of enrolled or principal tribe); Asian Indian; Chinese; Filipino; Japanese; Korean; Vietnamese; Other Asian (Print Race); Native Hawaiian; Guamanian or Chamorro; Samoan; Other Pacific Islander (Print Race Below); Some other race (print race below).	All
Census Race Recode	The Census Bureau recoded to the following: White Alone; Black or African American Alone; American Indian Alone; Alaska Native Alone; American Indian and Alaska Native Alone; Asian Alone; Native Hawaiian or Other Pacific Islander Alone; Some other race alone; or two or more races. Alone means that this category was the only race category selected. The householder is allowed to select one or more races for a household member. See Census website for details of race recode.	All
Additional Recode	American Indian Alone, Alaska Native Alone, and American Indian and Alaska Native Alone are grouped into one category in this paper and called American Indian or Alaska Native.	All
Hispanic Origin	(List of Residents Section) Q5. Is this person Spanish/Hispanic/Latino? Mark (X) the "No" box if not Spanish/Hispanic/Latino. Responses include the following: No, not Spanish/Hispanic/Latino; Yes, Mexican, Mexican Am., Chicano; Yes, Puerto Rican; Yes, Cuban, Yes, other Spanish/Hispanic/Latino (print group).	All
Hispanic Recode	Recoded to 1 if Yes to question, 2 if no to question.	
Education	Q9. What is the highest level of schooling this person has completed? If currently enrolled, mark the previous grade or highest degree received.	All
Education Recode: Less than High School	Nursery school to 4th grade; 5th grade or 6th grade; 7th grade or 8th grade; 9th grade; 10th grade; 11th grade; or 12th grade no diploma	All
High School	If response is high school graduate or equivalent (e.g., GED).	All
Greater than High School	If response indicates at least some college.	All

Source: Authors' adaptation from ACS website <http://www.census.gov/acs/www/UseData/Def/Disabili.htm>

**Table 1c. Employment Definitions from Census 2000**

Census Term	Question	Ages
Employment Status Questions	Q21. LAST WEEK, did this person do ANY work for either pay or profit? Mark the "Yes" box even if the person worked for only 1 hour, or helped without pay in a family business or farm for 15 hours or more, or was on active duty in the Armed Forces.	Ages 15 and older
	Q25b. LAST WEEK, was the person TEMPORARILY absent from a job or business? (Yes, on vacation, temporary illness, labor dispute, etc.)	Ages 15 and older
	Q30b. How many WEEKS did this person work in 1999? <i>Count paid vacation, paid sick leave and military service.</i>	Ages 15 and older
	Q30c. During the weeks WORKED in 1999, how many hours did this person usually work each WEEK?	Ages 15 and older
<b>Employment Definitions</b>		
Employed: Reference Period	The person is classified as employed if they respond "yes" to Q22 or Q22b.	Ages 15 and older
Employed: Sometime in Previous Year	At least 52 hours of work during the previous year. Determined by multiplying usual hours per week (Q33) by the number of weeks worked in past 12 months (Q32).	Ages 15 and older
Employed: Full-time year round	At least 50 weeks during the previous year and at least 35 hours per week. Determined by condition that weeks worked is greater than or equal to 50 (from Q32) and usual hours per week is greater than or equal to 35 hours.	Ages 15 and older

Source: Authors' adaptation from ACS website <http://www.census.gov/acs/www/UseData/Def/Disabili.htm>



**Table 1d. Census 2000 Economic Well-Being Measures**

Census Term	Question	Ages
Income	(Person Section) Q31a-h. Asks the person to list the amount of income received from the following sources: wages, salary, commissions, bonuses, or tips from all jobs (before deductions for taxes, bonds, dues or other items); self-employment income from own non-farm businesses or farm businesses, including proprietorships and partnerships (net income after business expenses); interest, dividends, net rental income, royalty income, or income from real estates and trusts; Social Security or Railroad Retirement; Supplemental Security Income (SSI); any public assistance or welfare payments from the state or local welfare office; retirement, survivor or disability pensions (not including social security); 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).	Ages 15 and older
Poverty	The Census Bureau used information on the family income and household composition, along with standard poverty thresholds, to construct a poverty measure. See the Census Bureau website <a href="http://www.census.gov/hhes/poverty/povdef.html">http://www.census.gov/hhes/poverty/povdef.html</a> for details.	All ages except unrelated HH members below the age of 15.
Household Size	The sum of all people who the householder reports living in the housing unit.	All ages
Household Income	The sum of income for each household member age 15 and older in the household unit.	All ages
Household Adjusted Income	Household income adjusted for sharing within the housing unit based upon the method described in the paper. See Citro and Michael (1995) page 176 for further information.	All ages

Source: Authors' adaptation from ACS website <http://www.census.gov/acs/www/UseData/Def/Disabili.htm>

**Table 2. Population and Prevalence Estimates by Disability Concept (Census 2000, non-institutionalized civilians).**

	Census 2000 Disability*		Participation Restriction*	Go- Outside Home <sup>a</sup> *	Self-care, Mental, Physical or Sensory Disability		Activity Limitation	Impairment		
	No Disability*	At least 1 of the 6*	Employment <sup>a</sup> *		None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<i>All, Age 5-99</i>										
Population Estimate	207,426,805	49,795,152	27,481,565	18,223,901	225,032,757	32,189,200	6,749,840	12,447,366	21,132,208	9,317,049
Prevalence Rate	80.6	19.4	13	8.6	87.5	12.5	2.6	4.8	8.2	3.6
Sample Size	10,336,614	2,530,849	1,386,291	921,995	11,199,600	1,667,863	351,334	637,898	1,105,406	490,109
<i>Ages 5 to 17</i>										
Population Estimate	49,340,315	3,579,711	N.A	N.A	49,867,733	3,052,293	473,895	2,396,584	549,223	528,752
Prevalence Rate	93.2	6.8	N.A	N.A	94.2	5.8	0.9	4.5	1	1
Sample Size	2,503,957	181,897	N.A	N.A	2,530,642	155,212	23,778	121,799	27,858	27,250
<i>Ages 18 to 24</i>										
Population Estimate	22,509,730	3,723,897	2,423,574	1,363,500	24,790,946	1,442,681	207,764	883,650	456,868	326,514
Prevalence Rate	85.8	14.2	9.2	5.2	94.5	5.5	0.8	3.4	1.7	1.2
Sample Size	1,064,250	175,445	113,958	63,961	1,170,690	69,005	9,981	42,192	22,192	15,798
<i>Ages 25 to 61</i>										
Population Estimate	111,942,067	26,557,546	17,495,295	8,999,395	124,493,730	14,005,883	2,627,881	5,218,012	9,447,885	3,346,491
Prevalence Rate	80.8	19.2	12.6	6.5	89.9	10.1	1.9	3.8	6.8	2.4
Sample Size	5,525,833	1,327,597	870,398	444,063	6,138,648	714,782	134,444	263,910	486,586	172,147
<i>Ages 62 to 64</i>										
Population Estimate	4,277,959	1,941,916	959,475	656,052	4,806,782	1,413,093	257,590	348,346	1,134,553	373,558
Prevalence Rate	68.8	31.2	15.4	10.6	77.3	22.7	4.1	5.6	18.2	6
Sample Size	224,191	103,095	51,042	34,538	251,854	75,432	13,673	18,372	60,575	20,179

Continued

**Table 2 (continued). Population and Prevalence Estimates by Disability Concept (Census 2000)**

	Census 2000 Disability*		Participation Restriction*		Self-care, Mental, Physical or Sensory Disability		Activity Limitation	Impairment		
	No Disability*	At least 1 of the 6*	Employment <sup>a</sup> *	Outside Home <sup>a</sup> *	None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<i>Ages 65 and older</i>										
Population Estimate	19,356,734	13,992,082	6,142,471	6,798,932	21,073,566	12,275,250	3,182,710	3,600,774	9,543,679	4,741,734
Prevalence Rate	58	42	18.4	20.4	63.2	36.8	9.5	10.8	28.6	14.2
Sample Size	1,018,383	742,815	327,346	358,771	1,107,766	653,432	169,458	191,625	508,195	254,735

Source: Author's calculation from Census 2000 Public Use Microdata Sample (PUMS).

Notes: (a) The *employment* and *go-outside the home* participation restrictions are asked only for those ages 16 and older.

\* **Important Note: Census 2000 data may overestimate the population with disabilities.** (see text for more details)

Note this only impacts calculations of general disability and the two questions noted. Sensory, physical, mental and self-care disability calculations are unaffected.

See Appendix Table 1. for standard errors

**Table 3. Demographic Characteristics by Component of Disability Process (non-institutionalized civilians)**

Characteristic	Census 2000 Disability		Participation Restriction	Go-Outside Home	Self-care, Mental, Physical or Sensory Disability		Activity Limitation	Impairment		
	No Disability	At least 1 of the 6	Employment		None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<b>Age</b>										
% 5 to 14	18.7	4.8	N.A	N.A	7.4	17.2	5.7	15.1	1.9	4.3
% 15 to 24	15.9	9.9	10.5	9.7	6.6	15.9	4.4	11.2	2.8	4.9
% 25 to 34	15.8	11.6	15.2	11.3	6.7	16.1	5.5	8.0	4.9	5.6
% 35 to 44	17.8	16.2	20.3	15.4	12.0	18.3	10.8	12.8	11.5	9.4
% 45 to 54	14.2	15.8	18.1	14.1	14.5	14.5	13.4	13.5	15.9	12.1
% 55 to 64	8.3	13.7	13.6	12.3	14.7	8.6	13.1	10.4	17.8	12.8
% 65 to 74	5.8	11.9	9.1	13.4	15.7	5.8	14.5	9.5	18.6	17.2
% 75 to 84	3.0	11.2	8.5	15.0	15.4	3.0	19.0	11.9	17.9	20.9
% 85 or older	0.5	5.0	4.7	8.9	7.1	0.6	13.6	7.6	8.7	12.8
Total:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Gender</b>										
% Male	48.3	49.1	49.7	43.5	47.5	48.6	40.7	49.8	43.0	51.6
% Female	51.7	50.9	50.3	56.5	52.5	51.4	59.3	50.2	57.0	48.4
Total:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<b>Race</b>										
% White Alone	76.6	72.7	71.1	68.4	77.4	75.7	74.0	74.4	78.1	80.3
% Black, African American	11.1	14.8	15.0	16.6	13.3	11.6	15.9	14.8	13.5	10.6
% American Indian	0.8	1.1	1.0	0.9	1.2	0.8	1.1	1.3	1.1	1.2
% Asian Alone	3.8	3.2	3.8	4.5	2.0	3.9	2.5	2.4	1.9	2.1
% Some other race	7.7	8.3	9.1	9.5	6.2	8.1	6.5	7.1	5.4	5.8
Total:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

**Table 3 (continued). Demographic Characteristics by Component of Disability Process**

Characteristic	Census 2000 Disability		Participation Restriction		Self-care, Mental, Physical or Sensory Disability		Activity Limitation		Impairment	
	No Disability	At least 1 of the 6	Employment	Go-Outside Home	None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<i>Ethnicity</i>										
% Hispanic	11.8	13.0	14.6	16.1	9.0	12.5	10.3	10.1	8.0	8.7
<i>Education</i>										
% Less than High School	35.8	38.3	32.4	41.6	42.3	35.4	47.6	54.2	38.9	41.7
% High School/GED	21.3	28.8	31.3	29.7	27.3	22.1	26.7	22.6	29.6	27.4
% Some College	23.3	21.7	23.8	19.3	20.3	23.4	16.8	16.0	21.4	19.6
% Four Year College Graduate or more	19.5	11.2	12.6	9.4	10.1	19.0	8.9	7.1	10.2	11.3
Total:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author's calculation from the Census 2000 Public Use Microdata Sample (PUMS).

Notes: (a) The *employment* and *go-outside the home* participation restrictions are asked only for those ages 16 and older.

\* **Important Note: Census 2000 data may overestimate the population with disabilities.** (see text for more details)

Note this only impacts calculations of general disability and the two questions noted. Sensory, physical, mental and self-care disability calculations are unaffected.

See Appendix Table 2. for standard errors

**Table 4. Employment Rates, Ages 25 to 61 (non-institutionalized civilians)**

% Employed During...	Census 2000 Disability		Participation Restriction	Go-Outside Home	Self-care, Mental, Physical or Sensory Disability		Activity Limitation	Impairment		
	No Disability	At least 1 of the 6	Employment		None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<b>All</b>										
Reference Period	79.2	58	63.8	46.5	78.8	41.8	21.7	30.2	35.6	52.1
Sometime in Previous Year	86.4	67.8	73.3	58.9	86.3	51.9	31.9	40.4	45.4	61.1
Full-Time in Previous Year	59.2	40.7	45	32.2	58.8	27.1	13.1	16.7	22.6	37.4
<b>Men</b>										
Reference Period	87	62.6	66.6	52.5	86.2	46.0	23.1	32.8	37.6	57.9
Sometime in Previous Year	93.8	73.1	76.9	66.4	93.4	56.7	34.7	43.5	48.4	67.2
Full-Time in Previous Year	72.4	48	51.3	39.7	71.4	33.1	15.5	20.3	26.5	45
<b>Women</b>										
Reference Period	71.8	53.1	60.5	40.8	71.8	37.7	20.5	27.8	33.7	44
Sometime in Previous Year	79.6	62.3	69.2	52	79.6	47.2	29.6	37.4	42.8	52.6
Full-Time in Previous Year	46.8	33	38	25.1	46.8	21.3	11	13.3	19	26.9
<b>White</b>										
Reference Period	81.3	59.5	63.7	45.4	81.1	44.4	21.8	32.3	37.5	55.7
Sometime in Previous Year	87.7	68.2	71.9	56.3	87.6	53.9	31.5	42.1	47	64.1
Full-Time in Previous Year	61.3	42.2	45.4	31.8	61.1	29.2	12.8	17.9	24.1	40.8
<b>Black</b>										
Reference Period	73.1	52.6	63.1	46.4	68.9	18.4	31.2	22.1	27.7	36.6
Sometime in Previous Year	83.9	63.6	73.5	59.2	79.8	29	42.2	32.5	38.3	46.9
Full-Time in Previous Year	54.9	37.1	45.1	32.8	51.1	12.1	19.7	12.3	17.4	24.6
<b>Native American</b>										
Reference Period	69.9	48.8	54.8	35.4	69.8	37.4	20.2	27.4	32.5	41.9
Sometime in Previous Year	81.9	60.6	66.5	49.9	81.8	48.8	30.3	39.5	43.2	52.6
Full-Time in Previous Year	48.7	31.5	35.9	23.4	48.5	22.7	11.8	14.7	19.4	27.9

Continued

**Table 4 (continued). Employment Rates, Ages 25 to 61**

% Employed During...	Census 2000 Disability		Participation Restriction	Go-Outside Home	Self-care, Mental, Physical or Sensory Disability		Activity Limitation	Impairment		
	No Disability	At least 1 of the 6	Employment		None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<b>Asian</b>										
Reference Period	72.5	64.6	73	60.2	72.6	42.7	34.3	30.5	38.5	49.8
Sometime in Previous Year	80.9	76	84.3	73.7	81.5	53.9	46.5	40.5	49.2	58.6
Full-Time in Previous Year	51.5	44.5	50.7	41.1	51.6	27	22.1	17	24.1	33.8
<b>Hispanic</b>										
Reference Period	66.7	54.4	63.2	46.2	66.4	36.1	23.9	26.3	31.3	43.4
Sometime in Previous Year	79	70.3	79.5	66	79.5	49.9	39.8	39.2	43.6	56.2
Full-Time in Previous Year	46.3	36.4	42.5	30.7	45.9	22.1	15.1	14.6	18.7	28.4
<b>LT High School</b>										
Reference Period	61	42.6	51.7	35.2	61.4	26.5	15.6	21.1	21.5	32.5
Sometime in Previous Year	72.8	54.6	64.1	49.4	73.7	36.7	25.7	30.3	30.8	42
Full-Time in Previous Year	42	27.4	33.5	22.1	42.1	15.3	8.6	10.3	12.2	20.6
<b>High School</b>										
Reference Period	76.1	58.1	64.4	47.5	76.3	40.2	20.2	30.1	33.5	51.8
Sometime in Previous Year	84.2	67.6	73.4	59.6	84.5	50.3	30.1	40.1	43.7	61.1
Full-Time in Previous Year	58.2	42	47	34.1	58.2	26.5	12.6	16.8	21.7	38.1
<b>More Than High School</b>										
Reference Period	84.2	68.4	71.1	56.7	84.1	54.4	29.5	40.4	47.9	65.7
Sometime in Previous Year	90.2	77	79.2	67.9	90.2	64.4	40.1	51.7	58	74.1
Full-Time in Previous Year	63.1	48.8	51.1	40.6	63	36.4	18.3	23.8	31.1	48.5

Source: Author's calculation from the Census 2000 Public Use Microdata Sample (PUMS).

**Definitions:**

**Reference Period** – ESR measurement

**Sometime in Previous Year** – Last year, 1999, did this person work at a job or business at any time?

**Full-time, year-round workers (in the past 12 months)** All people who usually worked 35 hours or more per week for 50 to 52 weeks in the past 12 months.

\* **Important Note: Census 2000 data may overestimate the population with disabilities.** (see text for more details)

Note this only impacts calculations of general disability and the two questions noted. Sensory, physical, mental and self-care disability calculations are unaffected.

See Appendix Table 3. for standard errors

**Table 5. Number of persons reporting disabilities by a various of geographic levels based on Census 2000 summary file (non-institutionalized civilians aged 21-64)**

<b>Location</b>	<b>Total Population</b>	<b>Self-care, Mental, Physical or Sensory Disability (at least 1 of the 4)</b>	<b>Self-care Disability</b>	<b>Mental Disability</b>	<b>Physical Disability</b>	<b>Sensory Disability</b>
<b>"Nested" Locations:</b>						
United States	159,131,544	16,178,313	3,001,133	5,990,890	10,866,665	3,893,177
North East Region	30,679,712	2,851,549	555,143	1,080,001	1,882,729	629,590
New York	10,932,732	1,056,416	219,282	393,414	709,250	218,617
Tompkins County, NY	55,158	4,966	744	2,077	3,186	929
Ithaca City, NY	16,167	1,278	178	654	653	276
Census Tract 7, Tompkins County, NY	2,601	224	48	104	104	74
<b>Other Locations:</b>						
Onondaga Reservation, NY	615	12	6	2	10	6
Syracuse, NY MSA	405,079	44,826	7,560	15,369	31,470	9,420
NY Congressional District 31	308,437	40,486	6,648	14,389	28,419	8,796

Source: Census 2000 Summary Files

See Appendix Table 4. for standard errors



**Table 6. Residence Type, Group Quarters, Institutionalization and Persons with Disabilities at the National and State Level**

Location	Persons with Self-Care, Mental, Physical, and/or Sensory Disabilities (PUMS data) <sup>a</sup>				Persons residing in disability related Group Quarters (GQs) (summary data) <sup>b</sup>	
	Total	Residing in	Residing in	Residing in Non-	Institutional GQs	Non-institutional GQs
		Housing Units	Institutional	institutional GQs		
U.S. Total	34,409,295	31,408,919	2,196,086	804,290	213,504	322,317
Alabama	677,718	633,900	34,361	9,457	2,982	3,028
Alaska	64,029	59,969	1,849	2,211	282	1,224
Arizona	607,494	569,532	23,803	14,159	1,884	5,042
Arkansas	438,339	403,998	27,032	7,309	2,250	2,692
California	3,639,660	3,349,157	176,403	114,100	20,535	49,270
Colorado	448,678	413,688	24,414	10,576	2,104	2,874
Connecticut	376,807	333,524	34,833	8,450	2,231	3,964
Delaware	96,099	85,761	8,461	1,877	525	883
D.C.	71,019	61,970	4,820	4,229	1,300	2,025
Florida	2,198,642	2,035,965	123,387	39,290	11,212	11,014
Georgia	952,480	880,480	51,804	20,196	4,266	4,341
Hawaii	126,924	116,781	4,701	5,442	1,030	2,884
Idaho	159,688	147,933	7,885	3,870	741	859
Illinois	1,345,013	1,217,088	101,302	26,623	8,955	12,566
Indiana	771,929	700,149	57,318	14,462	4,359	5,824
Iowa	347,104	300,813	36,072	10,219	3,396	3,898
Kansas	325,011	290,703	29,005	5,303	1,751	2,286
Kentucky	674,239	630,474	36,011	7,754	2,871	2,814
Louisiana	637,751	583,675	43,708	10,368	4,846	5,216
Maine	185,913	171,029	9,676	5,208	425	1,880
Maryland	571,022	517,918	38,737	14,367	4,091	5,170
Massachusetts	739,129	658,451	60,208	20,470	6,845	9,084
Michigan	1,242,237	1,141,829	65,735	34,673	5,253	12,532
Minnesota	516,175	449,834	45,088	21,253	3,713	13,471
Mississippi	442,615	409,917	25,561	7,137	4,818	3,523
Missouri	751,518	678,758	58,525	14,235	4,064	5,362
Montana	118,847	107,366	8,547	2,934	1,036	975
Nebraska	189,715	167,722	17,406	4,587	1,851	1,613
Nevada	223,623	211,058	8,919	3,646	436	957
New Hampshire	144,831	132,766	9,396	2,669	513	631
New Jersey	884,339	802,608	62,337	19,394	7,407	9,595
New Mexico	234,672	220,511	9,217	4,944	734	1,299
New York	2,285,839	2,053,213	159,189	73,437	21,933	42,546

Continued

**Table 6 (continued). Residence Type, Group Quarters, Institutionalization and Persons with Disabilities at the National and State Level**

Location	Persons with Self-Care, Mental, Physical, and/or Sensory Disabilities (PUMS data) <sup>a</sup>			Persons residing in disability related Group Quarters (GQs) (summary data) <sup>b</sup>		
	Total	Residing in Housing Units	Residing in Institutional	Residing in Non-institutional GQs	Institutional GQs	Non-institutional GQs
North Carolina	1,048,236	963,369	59,292	25,575	6,415	6,178
North Dakota	76,267	66,502	7,681	2,084	536	957
Ohio	1,458,207	1,323,583	109,966	24,658	5,442	9,671
Oklahoma	526,974	482,165	37,677	7,132	2,813	2,480
Oregon	450,959	417,645	20,576	12,738	1,913	3,290
Pennsylvania	1,580,911	1,399,433	130,446	51,032	15,173	22,269
Rhode Island	133,168	119,708	9,932	3,528	459	1,405
South Carolina	541,552	500,999	25,937	14,616	2,404	4,496
South Dakota	90,031	78,918	8,337	2,776	1,063	1,148
Tennessee	851,110	790,271	47,853	12,986	5,161	5,020
Texas	2,353,644	2,144,901	173,893	34,850	15,754	15,594
Utah	217,764	202,727	10,820	4,217	1,690	1,166
Vermont	74,752	67,871	4,651	2,230	321	257
Virginia	807,881	744,809	47,249	15,823	5,010	3,828
Washington	727,746	675,496	30,748	21,502	2,224	4,871
West Virginia	332,008	313,598	14,620	3,790	1,477	1,256
Wisconsin	588,856	523,115	46,768	18,973	4,570	6,610
Wyoming	60,130	55,269	3,930	931	440	479

Source: Author's calculation from Census 2000 Public Use Microdata Sample (PUMS).

Note (a): PUMS data only available down to the Institutionalized/Non-institutionalized Group Quarter level. No finer level information available.

Note (b): Summary data available down to the "disability related" Group Quarter categories listed below:

**Disability Related Institutional Group Quarters:**

- Hospices or homes for chronically ill
- Military hospitals or wards for chronically ill
- Other hospitals or wards for chronically ill
- Hospitals or wards for drug/alcohol abuse
- Mental (Psychiatric) hospitals or wards
- Schools, hospitals, or wards for the mentally retarded
- Institutions for the deaf
- Institutions for the blind
- Orthopedic wards and institutions for the physically handicapped
- Residential treatment centers for emotionally disturbed children

**Disability Related Non-institutional Group Quarters:**

- Homes or halfway houses for drug/alcohol abuse
  - Homes for the mentally ill
  - Homes for the mentally retarded
  - Homes for the physically handicapped
- See Appendix Table 5. for standard errors

**Table 7. Estimated Population of Persons with Disabilities, by Data Source**

	No Disability	Disability	Participation Restriction		Activity Limitation	Impairment		
			Employment	IADL	Self-Care	Mental	Physical	Sensory
<i>Ages 18 to 24</i>								
Census 2000	<b>24,790,000</b>	<b>1,442,000</b>	NA	NA	<b>207,000</b>	<b>883,000</b>	<b>456,000</b>	<b>326,000</b>
American Community Survey, 2003	24,194,401	1,667,355	714,229	399,423	187,904	953,448	535,666	356,820
Current Population Survey, March 2004	26,803,529	816,662	816,662	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	25,225,000	2,126,000	927,000	228,000	147,000	786,000	859,000	78,000
Panel Study on Income Dynamics, 2001	9,123,000	690,000	690,000	NA	NA	NA	NA	NA
Survey of Income and Program Participation, 2002	24,820,000	2,426,337	1,209,000	366,000	146,000	1,076,000	982,000	533,000
<i>Ages 25 to 61</i>								
Census 2000	<b>124,493,000</b>	<b>14,005,000</b>	NA	NA	<b>2,627,000</b>	<b>5,218,000</b>	<b>9,447,000</b>	<b>3,346,000</b>
American Community Survey, 2003	126,649,510	17,146,845	9,854,223	4,227,427	2,925,715	5,745,569	10,819,521	3,944,388
Current Population Survey, March 2004	132,649,606	12,102,093	12,102,093	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	115,934,000	23,192,000	13,725,000	3,169,000	1,350,000	4,627,000	14,545,000	2,730,000
Panel Study on Income Dynamics, 2001	117,273,000	20,054,000	20,054,000	NA	NA	NA	NA	NA
Survey of Income and Program Participation, 2002	115,900,000	26,620,000	14,420,000	4,931,000	3,362,000	4,394,000	18,790,000	6,490,000
<i>Ages 62 to 64</i>								
Census 2000	<b>4,806,000</b>	<b>1,413,000</b>	NA	NA	<b>257,000</b>	<b>348,000</b>	<b>1,134,000</b>	<b>373,000</b>
American Community Survey, 2003	4,941,802	1,795,533	1,111,762	404,875	293,507	393,782	1,292,381	455,364
Current Population Survey, March 2004	5,482,126	1,278,528	1,278,528	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	4,239,000	2,045,000	1,281,000	300,000	127,000	144,000	1,466,000	310,000
Panel Study on Income Dynamics, 2001	3,911,000	1,684,000	1,684,000	NA	NA	NA	NA	NA
Survey of Income and Program Participation, 2002	3,958,000	2,581,000	1,496,000	567,000	376,000	252,000	2,165,000	672,000

Continued

**Table 7 (continued). Estimated Population of Persons with Disabilities, by Data Source**

	No Disability	Disability	Participation Restriction		Activity Limitation	Impairment		
			Employment	IADL	Self-Care	Mental	Physical	Sensory
<i>Ages 18 to 64</i>								
Census 2000	<b>154,091,000</b>	<b>16,861,000</b>	NA	NA	<b>3,093,000</b>	<b>6,450,000</b>	<b>11,039,000</b>	<b>4,046,000</b>
American Community Survey, 2003	155,785,713	20,609,733	11,680,214	5,031,725	3,407,126	7,092,799	12,647,568	4,756,572
Current Population Survey, March 2004	164,935,261	14,197,283	14,197,283	NA	NA	NA	NA	NA
National Health Interview Survey, 2002	145,399,000	27,363,000	15,934,000	3,697,000	1,626,000	5,558,000	16,871,000	3,119,000
Panel Study on Income Dynamics, 2001	130,309,000	22,429,000	22,429,000	NA	NA	NA	NA	NA
Survey of Income and Program Participation, 2002	144,678,000	31,627,000	17,126,000	5,864,000	3,885,000	5,723,000	21,938,000	7,695,000

Source: Calculations from the various Cornell StatsRRTC User Guides.

Note: (1) For the Census 2000, the disability column is represented by those persons with sensory, physical, mental, and/or self-care disabilities.

Note: (2) Instrumental Activities of Daily Living (IADLs) include a broader set of participation restrictions than the “go-outside-home” definition in the American Community Survey. It also includes participation restrictions that affect the ability to: manage money and keep track of bills, prepare meals, and do work around the house.

Note: (3) The March 2004 Current Population Supplement collects 2003 calendar year information on poverty and household income. Population and prevalence estimates are collected in March 2004.

Note: (4) The PSID only asks this question for the Head and Wife of the Household. Children of the Head and Wife are not asked this question, and the PSID assigns missing values to children for this question. As a result, the population with and without a work limitation is small relative to the other national surveys.

Note: Standard errors for Census 2000 estimates are in Appendix Table 1. Standard errors for other datasets available in respective user guides.

**Table 8. Estimated Disability Prevalence Rates, By Data Source**

	Disability	Participation Restriction		Activity Limitation	Impairment		
		Employment	IADL	Self-Care	Mental	Physical	Sensory
<i>Ages 18 to 24</i>							
Census 2000	<b>5.5</b>	NA	NA	<b>0.8</b>	<b>3.4</b>	<b>1.7</b>	<b>1.2</b>
ACS, 2003	6.5	2.8	1.5	0.7	3.7	2.1	1.4
CPS, March 2004	3.0	3.0	NA	NA	NA	NA	NA
NHIS, 2002	7.8	3.4	0.8	0.5	2.9	3.1	0.3
PSID, 2001	7.0	7.0	NA	NA	NA	NA	NA
SIPP, 2002	8.9	4.4	1.3	0.5	4.0	3.6	2.0
<i>Ages 25 to 61</i>							
Census 2000	<b>10.1</b>	NA	NA	<b>1.9</b>	<b>3.8</b>	<b>6.8</b>	<b>2.4</b>
ACS, 2003	11.9	6.9	2.9	2.0	4.0	7.5	2.7
CPS, March 2004	8.4	8.4	NA	NA	NA	NA	NA
NHIS, 2002	16.7	9.9	2.3	1	3.3	10.5	2.0
PSID, 2001	14.6	14.6	NA	NA	NA	NA	NA
SIPP, 2002	18.7	10.1	3.5	2.4	3.1	13.2	4.6
<i>Ages 62 to 64</i>							
Census 2000	<b>22.7</b>	NA	NA	<b>4.1</b>	<b>5.6</b>	<b>18.2</b>	<b>6.0</b>
ACS, 2003	26.7	16.5	6.0	4.4	5.8	19.2	6.8
CPS, March 2004	18.9	18.9	NA	NA	NA	NA	NA
NHIS, 2002	32.5	20.4	4.8	2.0	2.3	23.3	4.9
PSID, 2001	30.1	30.1	NA	NA	NA	NA	NA
SIPP, 2002	39.5	22.9	8.7	5.8	3.9	33.1	10.3
<i>Ages 18 to 64</i>							
Census 2000	<b>9.9</b>	NA	NA	<b>1.8</b>	<b>3.8</b>	<b>6.5</b>	<b>2.4</b>
ACS, 2003	11.7	6.6	2.9	1.9	4.0	7.2	2.7
CPS, March 2004	7.9	7.9	NA	NA	NA	NA	NA
NHIS, 2002	15.8	9.2	2.1	0.9	3.2	9.8	1.8
PSID, 2001	14.7	14.7	NA	NA	NA	NA	NA
SIPP, 2002	17.9	9.7	3.3	2.2	3.2	12.4	4.4

Source: Calculations from the various Cornell StatsRRTC User Guides.

Note: (1) For the Census 2000, the disability column is represented by those persons with sensory, physical, mental, and/or self-care disabilities.

Note: (2) Instrumental Activities of Daily Living (IADLs) include a broader set of participation restrictions than the “go-outside-home” definition in the American Community Survey. It also includes participation restrictions that affect the ability to: manage money and keep track of bills, prepare meals, and do work around the house.

Note: (3) The March 2004 Current Population Supplement collects 2003 calendar year information on poverty and household income. Population and prevalence estimates are collected in March 2004.

Note: (4) The PSID only asks this question for the Head and Wife of the Household. Children of the Head and Wife are not asked this question, and the PSID assigns missing values to children for this question. As a result, the population with and without a work limitation is small relative to the other national surveys.

Note: Standard errors for Census 2000 estimates are in Appendix Table 1. Standard errors for other datasets available in respective user guides.

**Table 9. Estimated Employment Rates for Persons With Disabilities Ages 25 to 61, By Data Source**

	No Disability	Disability	Participation Restriction		Activity Limitation	Impairment		
			Employment	IADL	Self-Care	Mental	Physical	Sensory
<i>Reference Week, Ages 25 to 61</i>								
Census 2000	<b>78.8</b>	<b>41.8</b>	NA	NA	<b>21.7</b>	<b>30.2</b>	<b>35.6</b>	<b>52.1</b>
ACS, 2003	79.5	39.3	18.9	17.9	18.3	28.2	33.8	49.9
CPS, March 2004	81.4	19.6	19.6	NA	NA	NA	NA	NA
NHIS, 2002	83.3	47.3	29.8	18.3	14.1	37.1	43.8	58.6
PSID, 2001	83.8	53.2	53.2	NA	NA	NA	NA	NA
SIPP, 2002	82.4	48.9	27.7	20.3	22.8	37	46.4	53.5
<i>Some Attachment, Ages 25 to 61</i>								
Census 2000	<b>86.3</b>	<b>51.9</b>	NA	NA	<b>31.9</b>	<b>40.4</b>	<b>45.4</b>	<b>61.1</b>
ACS, 2003	87.1	48.9	28.3	25.8	26.2	37.2	42.8	58.1
CPS, March 2004	86.2	27.9	27.9	NA	NA	NA	NA	NA
NHIS, 2002	88.3	57.9	42	25.7	19.9	51.8	53.8	66.6
PSID, 2001	91.9	67.8	67.8	NA	NA	NA	NA	NA
SIPP, 2002	90.6	61.1	41	34.1	38.8	46.3	59	63.7
<i>Full-Year Full-Time, Ages 25 to 61</i>								
Census 2000	<b>58.8</b>	<b>27.1</b>	NA	NA	<b>13.1</b>	<b>16.7</b>	<b>22.6</b>	<b>37.4</b>
ACS, 2003	59.6	24.5	9.1	9	9.4	15	20.3	34.5
CPS, March 2004	65.3	9.4	9.4	NA	NA	NA	NA	NA
NHIS, 2002	62.8	29.8	16.3	9.3	6.2	21.3	27.2	43.4
PSID, 2001	70.5	45.1	45.1	NA	NA	NA	NA	NA
SIPP, 2002	58.1	31.2	15.3	12	15	20.3	29.6	35.6

Source: Calculations from the various Cornell StatsRRTC User Guides.

Note: (1) For the Census 2000, the disability column is represented by those persons with sensory, physical, mental, and/or self-care disabilities.

Note: (2) Instrumental Activities of Daily Living (IADLs) include a broader set of participation restrictions than the “go-outside-home” definition in the American Community Survey. It also includes participation restrictions that affect the ability to: manage money and keep track of bills, prepare meals, and do work around the house.

Note: (3) The March 2004 Current Population Supplement collects 2003 calendar year information on poverty and household income. Population and prevalence estimates are collected in March 2004.

Note: (4) The PSID only asks this question for the Head and Wife of the Household. Children of the Head and Wife are not asked this question, and the PSID assigns missing values to children for this question. As a result, the population with and without a work limitation is small relative to the other national surveys.

Note: Standard errors for Census 2000 estimates are in Appendix Table 3. Standard errors for other datasets available in respective user guides.

**Table 10. Economic Well Being Estimates for Persons with Disabilities Ages 25 to 61, By Data Source**

	No Disability	Disability	Participation Restriction		Activity Limitation	Impairment		
			Employment	IADL	Self-Care	Mental	Physical	Sensory
<b><i>Poverty Rates, Ages 25 to 61</i></b>								
Census 2000	7.9	23.2	NA	NA	30.0	30.6	24.2	20.1
ACS, 2003	7.7	23.7	29.6	29.7	28.9	30.8	25.0	20.8
CPS, March 2004	8.0	28.8	28.8	NA	NA	NA	NA	NA
NHIS, 2002	7.5	21.2	26.5	32.3	30.1	29.8	22.1	20.7
PSID, 2001	4.6	11.8	11.8	NA	NA	NA	NA	NA
SIPP, 2002	6.5	18.8	26.0	26.3	25.1	24.9	19.1	17.6
<b><i>Median Household Income, Ages 25 to 61</i></b>								
Census 2000	\$56,860	\$33,600	NA	NA	\$27,200	\$26,170	\$32,000	\$37,400
ACS, 2003	\$60,000	\$34,600	\$28,000	\$28,600	\$28,000	\$27,400	\$32,100	\$38,000
CPS, March 2004	\$61,999	\$27,955	\$27,955	NA	NA	NA	NA	NA
NHIS, 2002	\$55,000 - \$64,000	\$25,000 - \$34,999	\$25,000 - \$34,999	\$20,000 - \$24,999	\$20,000 - \$24,999	\$20,000 - \$24,999	\$25,000- \$34,999	\$35,000- \$44,999
PSID, 2001	\$62,000	\$42,000	\$42,000	NA	NA	NA	NA	NA
SIPP, 2002	\$53,313	\$33,895	\$25,664	\$24,989	\$26,735	\$26,218	\$33,490	\$33,776
<b><i>Median Size-Adjusted Household Income, Ages 25 to 61</i></b>								
Census 2000	\$33,234	\$20,412	NA	NA	\$16,330	\$16,000	\$19,676	\$22,617
ACS, 2003	\$35,796	\$21,304	\$17,487	\$17,615	\$17,667	\$17,321	\$20,207	\$23,415
CPS, March 2004	\$36,770	\$17,967	\$17,967	NA	NA	NA	NA	NA
NHIS, 2002	NA	NA	NA	NA	NA	NA	NA	NA
PSID, 2001	\$38,891	\$28,000	\$28,000	NA	NA	NA	NA	NA
SIPP, 2002	NA	NA	NA	NA	NA	NA	NA	NA

Source: Calculations from the various Cornell StatsRRTC User Guides.

Note: (1) For the Census 2000, the disability column is represented by those persons with sensory, physical, mental, and/or self-care disabilities.

Note: (2) Instrumental Activities of Daily Living (IADLs) include a broader set of participation restrictions than the “go-outside-home” definition in the American Community Survey. It also includes participation restrictions that affect the ability to: manage money and keep track of bills, prepare meals, and do work around the house.

Note: (3) The March 2004 Current Population Supplement collects 2003 calendar year information on poverty and household income. Population and prevalence estimates are collected in March 2004.

Note: (4) The PSID only asks this question for the Head and Wife of the Household. Children of the Head and Wife are not asked this question, and the PSID assigns missing values to children for this question. As a result, the population with and without a work limitation is small relative to the other national surveys.

## Appendix A: Sample Design and Computation of Standard Errors

The population estimates reported in the paper are drawn from a 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 compute standard errors and confidence intervals must take into account the sample design.

The purpose of this Appendix is to provide a brief description of the Census 2000 sample design as well as the Census 2000 PUMS sample design. It will describe the basics involved in computing standard errors that account for the Census 2000 and Census 2000 PUMS sample design. See chapter 5 of the PUMS technical documentation for a complete description of the sample design, housing and person weights (<http://www.census.gov/prod/cen2000/doc/pums.pdf>). See chapter 4 regarding detailed SE calculations. Standard errors may be used to construct confidence intervals. The Census Bureau uses 90 percent confidence intervals in its tables. Confidence intervals provide a more intuitive description of the accuracy of the estimates.

### *Sample Design.*

The PUMS are selected from the universe of the Census 2000 long form records. As described previously in this Guide the Census 2000 sample unit was a household. Every household was asked the basic short form questions and a more detailed long form survey was distributed to an average 1-in-6 sample of households. A variable distribution sample rate (1-in-8, 1-in-6, 1-in-4, 1-in-2) was used based on pre-census housing unit counts. This was designed to provide more reliable estimates for smaller areas while reducing respondent burden in more populous areas. Long Form Sampling Entities (LFSE) were used to determine an area's actual sampling rate. Examples of LFSEs include counties (and equivalents), cities, school districts, incorporated places, and American Indian reservations. A different sampling strategy was taken for persons enumerated at long form eligible service sites (soup kitchens and shelters) and persons living in group quarters, with the sampling unit being a person with a sampling rate of 1-in-6.



### *Census 2000 Public Use Microdata Sample (PUMS).*

The Census 2000 PUMS consists of a sample drawn from the Census Long Form universe which includes all housing units (occupied and unoccupied), all occupants of those units, and group quarters people in the Census sample. A stratified systematic selection procedure with equal probability was used to select each of the PUMS samples. The occupied housing unit stratification sample matrix was made by combining 71 race groups, 5 Hispanic origin groups, 3 family types, 2 tenure groups, 4 groups based on maximum householder age, and the 4 long form sampling rates (34,080 cells altogether). For occupied units the Primary Sampling Unit (PSU) were housing units, all person records associated with those units were extracted after the housing unit was selected. Vacant units were stratified by the four long form sample rates and three vacancy statuses. The group quarters stratification utilized a matrix that combined 71 race groups, 5 Hispanic Origin groups, 4 group quarters person age groups, and two types of group quarters, resulting in 2,840 cells.

The PUMS subsample process was performed separately for each of the three subsample universes – occupied units (with the residents), vacant units and group quarters. The number of public use microdata samples for a state was based on the full census sample size for that state. Example: if the full long form sample for the state was 20 percent then the sample is divided into 20 approximately equal subsamples. One of these subsamples is randomly selected to comprise the 1 percent PUMS sample. Five of the remaining 19 subsamples are then randomly selected and combined to create the 5 percent PUMS sample.

### *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.

The Census Bureau attempted to minimize systematic errors by researching and analyzing new sampling techniques, questionnaire designs, and data collection and processing procedures. The Census 2000 operation used a variety of methods to minimize systematic error, such as the enumerator follow-up process for non-respondents as described earlier in this document. Chapter 4 of the PUMS technical documentation contains further information regarding potential Census 2000 non-sampling errors (<http://www.census.gov/prod/cen2000/doc/pums.pdf>).

#### ***U.S. Census Bureau Methods for Computing Standard Errors.***

Calculating the Standard Error for the PUMS estimates is a three step process as shown below.

1. Calculate the unadjusted standard error. If the calculated SE approaches zero, it may require substitution with a Census Bureau recommended value (see note below).<sup>4</sup>
2. Select the appropriate design factor values based on the geography and the appropriate characteristic(s) from Table E located in Chapter 4 (pgs. 4-21 to 4-73) of the PUMS technical documentation (<http://www.census.gov/prod/cen2000/doc/pums.pdf>). Design factor tables are available for individual states and the US as a whole. If the location is a state or located within a state use the state DF table, if the location includes multiple states, or crosses state borders use the US DF values. If the estimate involves several characteristics (i.e. age, Hispanic and disability) the characteristic with the largest design factor should be used for the SE calculation. In this example age DF=1.3, Hispanic DF=2.1, and disability DF=1.4 are

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<sup>4</sup> Note that in the case of zero or very small estimates or percentages, the unadjusted standard error will approach zero. This situation also occurs in the case of very large percentages and estimates approaching the size of the population areas to which they correspond. These are special cases and are still subject to sampling and nonsampling error. The Census bureau recommends substituting standard errors from their tables located in the PUMS Technical Documentation. <http://www.census.gov/prod/cen2000/doc/pums.pdf>

the DF values for the US geographic area. As the Hispanic characteristic has the largest Design Factor (DF=2.1), the value 2.1 should be used as the DF for the SE calculation.

3. Multiply the unadjusted standard error by the appropriate design factor for the area.

Below are two of the basic equations used for the calculation of SE. Chapter 4 “Accuracy of the Microdata Sample Estimate (Census 2000)” of the PUMS Technical Documentation contains several other examples of how to calculate standard errors for a variety of estimates, statistics and situations.

*Population Estimates.*

Equation (1) shows the “Design Factor Method” used to compute the standard error of the disability population estimate. This equation combines both the design factor and the unadjusted standard error into a single equation.

**Equation (1)** 
$$SE(\hat{Y}) = \left( \sqrt{19 * \hat{Y} \left( 1 - \frac{\hat{Y}}{N} \right)} \right) * DF$$

- $\hat{Y}$  is the 5 percent PUMS estimate of a sub-population (e.g., the population with a disability)
- N is the total PUMS population for the geographic area (e.g., United States, New York, etc.)
- DF is the Design Factor.

For example, the standard error for the population estimate of the number of persons with at least one of the four disabilities (Self-care, Mental, Physical or Sensory disability) for the US non-institutionalized civilian population ages 5 and older :

- $\hat{Y} = 32,189,200$  The population estimate of those with at least one of the four disabilities
- $N = 257,221,957$  The total PUMS population
- $DF = 1.4$ , taken from US location Table E Design Factor for Disabled and Employment disability

$$SE(32,189,200) = \left( \sqrt{19 * 32,189,200 \left( 1 - \frac{32,189,200}{257,221,957} \right)} \right) * 1.4$$

Result:  $SE(32,189,200)=32,384$

The standard error for the percentage estimate (such as prevalence or employment) is shown in equation (2).

**Equation (2)**  $SE(\hat{P}) = DF * \sqrt{\frac{19}{B} * \hat{P} * (100 - \hat{P})}$

DF is the Design Factor,  $\hat{P}$  is the estimated percentage and B is the base (denominator) of the estimated percentage.

Example:

From the Employment Table 4: Hispanic persons aged 25-61 have an employment rate of 36.1 percent (for the reference week)

- $\hat{P} = 36.1$  percent
- $B = 1,516,512$  total number of Hispanics aged 25-61 with at least 1 or of the four disabilities (Self-care, Mental, Physical or Sensory)
- $DF = \text{Hispanic or Latino}=2.1$  largest design factor of those relevant to the estimate: Age  $DF=1.3$ , Disabled and Employment disability  $DF = 1.4$ , Employment status  $DF = 1.2$

Taken from US location Table E Design Factor for Disabled and Employment disability

$$SE(36.1) = 2.1 * \sqrt{\frac{19}{1,516,512} * 36.1 * (100 - 36.1)}$$

Result:  $SE(36.1) = 0.36$

## **Appendix B: Census Online Resources**

### ***Web Sites***

Introduction to 2000 Census Data Products (US Census Bureau)  
<http://www.census.gov/prod/2001pubs/mso-01icdp.pdf>

Census Guide 2000 (University of Michigan)  
<http://www.lib.umich.edu/govdocs/cen2000.html>

Census 2000 at ICPSR (Inter-University Consortium for Political and Social Research)  
<http://www.icpsr.umich.edu/CENSUS2000/>

US Census Resources on the Web (University of Wisconsin-Madison)  
[www.library.wisc.edu/guides/govdocs/census/2000int.htm](http://www.library.wisc.edu/guides/govdocs/census/2000int.htm)

Census Tutorial (Alaska Library Association)  
[http://daniel.cornwall.home.att.net/census\\_tutorial.html](http://daniel.cornwall.home.att.net/census_tutorial.html)

Census operational plan  
<http://www.census.gov/dmd/www/pdf/Operational2000.pdf>  
<http://www.lib.umich.edu/govdocs/census2/centool.pdf>

Census 2000 Topic Reports and Corresponding Evaluation Reports  
[http://www.census.gov/pred/www/eval\\_top\\_rpts.htm](http://www.census.gov/pred/www/eval_top_rpts.htm)

### ***Census Staff Papers***

Stern, S. (2003). Counting People With Disabilities: How Survey Methodology Influences Estimates in Census 2000 And The Census 2000 Supplementary Survey. Census Bureau Staff Research Report. Washington DC: U.S. Census Bureau, Poverty and Health Statistics Branch. Retrieved April 19, 2005 from  
<http://www.census.gov/acs/www/Downloads/ACS/finalstern.pdf>

Stern, S., & Brault, M. (2005). Disability Data from the American Community Survey: A Brief Examination of the Effects of a Question Redesign in 2003. Census Bureau Staff Research Report. Washington DC:U.S. Census Bureau, Housing and Household Economic Statistics Division. Retrieved April 19, 2005 from  
[http://www.census.gov/hhes/www/disability/ACS\\_disability.pdf](http://www.census.gov/hhes/www/disability/ACS_disability.pdf)

## Appendix C: Estimated Standard Errors

**Appendix Table 1. Standard Errors for Population and Prevalence Estimates by Disability Concept (Census 2000, non-institutionalized civilians).**

	Census 2000 Disability*		Participation Restriction*		Self-care, Mental, Physical or Sensory Disability		Activity Limitation		Impairment	
	No Disability*	At least 1 of the 6*	Employment <sup>a</sup> *	Go-Outside Home <sup>a</sup> *	None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<i>All, Age 5-99</i>										
Population Estimate	45,067	39,067	30,389	25,193	40,978	32,582	15,663	21,048	26,979	18,316
Prevalence Rate	0.59	0.59	0.43	0.30	0.42	0.42	0.10	0.18	0.29	0.13
<i>Ages 5 to 17</i>										
Population Estimate	38,927	11472.2597	NA	NA	39,090	10,604	4,197	9,407	4,518	4,433
Prevalence Rate	0.53	0.53	NA	NA	0.46	0.46	0.07	0.36	0.09	0.08
<i>Ages 18 to 24</i>										
Population Estimate	27,771	11,698	9,459	7,108	29,015	7,311	2,781	5,727	4,121	3,485
Prevalence Rate	1.45	1.45	1.00	0.59	0.62	0.62	0.09	0.39	0.20	0.15
<i>Ages 25 to 61</i>										
Population Estimate	50,105	29,928	24,719	18,012	50,845	22,263	9,846	13,810	18,440	11,097
Prevalence Rate	0.80	0.80	0.57	0.32	0.47	0.47	0.10	0.19	0.33	0.12
<i>Ages 62 to 64</i>										
Population Estimate	12,526	8,475	5,967	4,937	13,265	7,236	3,096	3,599	6,487	3,727
Prevalence Rate	5.25	5.25	3.19	2.31	4.30	4.30	0.97	1.29	3.65	1.38
<i>Ages 65 and older</i>										
Population Estimate	25,909	22,252	14,958	15,719	26,945	20,909	10,825	11,506	18,530	13,176
Prevalence Rate	2.57	2.57	1.59	1.72	2.46	2.46	0.91	1.02	2.16	1.29

Source: Author's calculation from Census 2000 Public Use Microdata Sample (PUMS).

Notes: (a) The *employment* and *go-outside the home* participation restrictions are asked only for those ages 16 and older.

\* **Important Note: Census 2000 data may overestimate the population with disabilities.** (see text for more details)

Note this only impacts calculations of general disability and the two questions noted. Sensory, physical, mental and self-care disability calculations are unaffected.

**Appendix Table 2. Standard Errors for Demographic Characteristics by Component of Disability Process (non-institutionalized civilians)**

Characteristic	Census 2000 Disability		Participation Restriction	Self-care, Mental, Physical or Sensory Disability	Activity Limitation	Impairment				
	No Disability	At least 1 of the 6	Employment	Go-Outside Home	None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<b>Age</b>										
% 5 to 14	0.64	0.39	NA	NA	0.28	1.53	1.26	2.22	0.25	0.82
% 15 to 24	0.57	0.77	1.09	1.25	0.25	1.44	0.99	1.72	0.37	0.93
% 25 to 34	0.56	0.89	1.50	1.43	0.25	1.46	1.21	1.28	0.62	1.06
% 35 to 44	0.62	1.18	1.89	1.86	0.43	1.61	2.26	1.93	1.35	1.71
% 45 to 54	0.52	1.15	1.73	1.73	0.51	1.33	2.73	2.02	1.78	2.12
% 55 to 64	0.32	1.02	1.36	1.54	0.51	0.84	2.68	1.61	1.94	2.24
% 65 to 74	0.23	0.90	0.97	1.66	0.54	0.58	2.92	1.48	2.01	2.85
% 75 to 84	0.12	0.86	0.91	1.83	0.53	0.32	3.62	1.81	1.95	3.30
% 85 or older	0.02	0.41	0.52	1.15	0.27	0.06	2.75	1.21	1.05	2.24
<b>Gender</b>										
% Male	1.06	2.16	2.91	3.51	1.01	2.69	5.67	4.32	3.25	4.99
% Female	1.06	2.16	2.91	3.51	1.01	2.69	5.67	4.32	3.25	4.99
<b>Race</b>										
% White Alone	1.19	2.70	3.76	4.86	1.12	3.11	7.09	5.18	3.57	4.98
% Black, African American	0.65	1.71	2.34	3.11	0.74	1.73	4.93	3.42	2.43	2.97
% American Indian	0.05	0.14	0.18	0.21	0.07	0.14	0.41	0.35	0.23	0.38
% Asian Alone	0.24	0.42	0.67	0.97	0.13	0.64	0.88	0.64	0.38	0.65
% Some other race	0.47	1.03	1.52	1.93	0.37	1.25	2.25	1.80	1.07	1.73

**Appendix Table 2 (continued). Standard Errors for Demographic Characteristics by Component of Disability Process**

Characteristic	Census 2000 Disability		Participation Restriction		Self-care, Mental, Physical or Sensory Disability		Activity Limitation		Impairment	
	No Disability	At least 1 of the 6	Employment	Go-Outside Home	None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<i><b>Ethnicity</b></i>										
% Hispanic	0.66	1.47	2.18	2.90	0.50	1.76	3.26	2.35	1.46	2.38
<i><b>Education</b></i>										
% Less than High School	0.97	2.04	2.55	3.47	0.99	2.46	5.86	4.29	3.15	4.86
% High School/GED	0.71	1.77	2.50	2.98	0.81	1.85	4.59	3.03	2.76	3.98
% Some College	0.76	1.47	2.11	2.23	0.66	1.93	3.28	2.33	2.23	3.15
% Four Year College Graduate or more	0.67	0.86	1.28	1.22	0.37	1.66	1.91	1.14	1.22	2.00

Source: Author's calculation from the Census 2000 Public Use Microdata Sample (PUMS).

Notes: (a) The *employment* and *go-outside the home* participation restrictions are asked only for those ages 16 and older.

**\* Important Note: Census 2000 data may overestimate the population with disabilities.** (see text for more details)

Note this only impacts calculations of general disability and the two questions noted. Sensory, physical, mental and self-care disability calculations are unaffected.



**Appendix Table 3. Standard Errors for Employment Rates, Ages 25 to 61 (non-institutionalized civilians)**

% Employed During...	Census 2000 Disability		Participation Restriction	Go-Outside Home	Self-care, Mental, Physical or Sensory Disability		Activity Limitation	Impairment		
	No Disability	At least 1 of the 6	Employment		None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<i>All</i>										
Reference Period	0.02	0.06	0.07	0.10	0.02	0.08	0.15	0.12	0.09	0.16
Sometime in Previous Year	0.02	0.05	0.06	0.10	0.02	0.08	0.17	0.13	0.10	0.16
Full-Time in Previous Year	0.03	0.06	0.07	0.09	0.03	0.07	0.12	0.10	0.08	0.16
<i>Men</i>										
Reference Period	0.03	0.08	0.09	0.14	0.03	0.11	0.22	0.17	0.13	0.21
Sometime in Previous Year	0.02	0.07	0.08	0.14	0.02	0.11	0.25	0.18	0.14	0.20
Full-Time in Previous Year	0.04	0.08	0.10	0.14	0.04	0.10	0.19	0.14	0.12	0.21
<i>Women</i>										
Reference Period	0.04	0.08	0.10	0.14	0.03	0.11	0.20	0.16	0.13	0.25
Sometime in Previous Year	0.03	0.08	0.10	0.14	0.03	0.11	0.23	0.18	0.13	0.25
Full-Time in Previous Year	0.04	0.08	0.10	0.12	0.04	0.09	0.15	0.12	0.11	0.22
<i>White</i>										
Reference Period	0.04	0.11	0.13	0.20	0.04	0.15	0.28	0.22	0.17	0.30
Sometime in Previous Year	0.03	0.10	0.13	0.20	0.03	0.15	0.32	0.24	0.18	0.29
Full-Time in Previous Year	0.05	0.11	0.14	0.19	0.05	0.13	0.23	0.18	0.15	0.29
<i>Black</i>										
Reference Period	0.13	0.22	0.27	0.35	0.11	0.50	0.29	0.40	0.33	0.66
Sometime in Previous Year	0.11	0.22	0.25	0.35	0.10	0.59	0.31	0.47	0.37	0.70
Full-Time in Previous Year	0.14	0.21	0.27	0.33	0.12	0.42	0.25	0.32	0.28	0.59
<i>Native American</i>										
Reference Period	0.49	0.81	1.06	1.36	0.46	0.98	1.82	1.41	1.13	1.89
Sometime in Previous Year	0.41	0.80	1.01	1.44	0.38	1.02	2.11	1.57	1.21	1.92
Full-Time in Previous Year	0.53	0.75	1.02	1.21	0.49	0.85	1.49	1.13	0.96	1.71

Continued

**Appendix Table 3 (continued). Standard Errors for Employment Rates, Ages 25 to 61**

% Employed During...	Census 2000 Disability		Participation Restriction	Go-Outside Home	Self-care, Mental, Physical or Sensory Disability		Activity Limitation	Impairment		
	No Disability	At least 1 of the 6	Employment		None of the 4	At least 1 of the 4	Self-Care	Mental	Physical	Sensory
<b>Asian</b>										
Reference Period	0.20	0.46	0.49	0.65	0.18	0.87	1.77	1.25	1.13	1.82
Sometime in Previous Year	0.17	0.41	0.40	0.59	0.16	0.88	1.87	1.34	1.16	1.80
Full-Time in Previous Year	0.22	0.47	0.55	0.65	0.21	0.78	1.55	1.02	0.99	1.72
<b>Hispanic</b>										
Reference Period	0.13	0.22	0.26	0.33	0.11	0.35	0.67	0.52	0.43	0.73
Sometime in Previous Year	0.11	0.21	0.22	0.31	0.10	0.37	0.78	0.59	0.47	0.74
Full-Time in Previous Year	0.13	0.22	0.27	0.30	0.12	0.31	0.57	0.42	0.37	0.67
<b>LT High School</b>										
Reference Period	0.08	0.11	0.14	0.16	0.07	0.13	0.21	0.17	0.14	0.28
Sometime in Previous Year	0.07	0.11	0.13	0.17	0.06	0.14	0.26	0.19	0.16	0.30
Full-Time in Previous Year	0.08	0.10	0.13	0.14	0.07	0.10	0.16	0.13	0.12	0.24
<b>High School</b>										
Reference Period	0.05	0.10	0.12	0.18	0.04	0.14	0.26	0.22	0.16	0.30
Sometime in Previous Year	0.04	0.10	0.11	0.18	0.04	0.14	0.31	0.23	0.17	0.29
Full-Time in Previous Year	0.05	0.10	0.13	0.17	0.05	0.13	0.22	0.18	0.14	0.29
<b>More Than High School</b>										
Reference Period	0.03	0.09	0.10	0.17	0.13	0.03	0.28	0.22	0.16	0.24
Sometime in Previous Year	0.02	0.08	0.09	0.16	0.12	0.02	0.31	0.23	0.16	0.23
Full-Time in Previous Year	0.04	0.09	0.11	0.17	0.12	0.03	0.24	0.19	0.14	0.25

Source: Author's calculation from the Census 2000 Public Use Microdata Sample (PUMS).

**Definitions:**

**Reference Period** – ESR measurement

**Sometime in Previous Year** – Last year, 1999, did this person work at a job or business at any time?

**Full-time, year-round workers (in the past 12 months)** All people who usually worked 35 hours or more per week for 50 to 52 weeks in the past 12 months.

\* **Important Note: Census 2000 data may overestimate the population with disabilities.** (see text for more details)

Note this only impacts calculations of general disability and the two questions noted. Sensory, physical, mental and self-care disability calculations are unaffected.

**Appendix Table 4. Standard Errors for Number of persons reporting disabilities by a various of geographic levels based on Census 2000 summary file (non-institutionalized civilians aged 21-64)**

<b>Location</b>	<b>Total Population</b>	<b>Self-care, Mental, Physical or Sensory Disability (at least 1 of the 4)</b>	<b>Self-care Disability</b>	<b>Mental Disability</b>	<b>Physical Disability</b>	<b>Sensory Disability</b>
<b>"Nested" Locations:</b>						
United States	20,454	9,605	4,238	5,956	7,950	4,820
North East Region	8,908	4,042	1,823	2,530	3,315	1,940
New York	6,258	3,127	1,457	1,943	2,587	1,455
Tompkins County, NY	378	169	67	111	137	75
Ithaca City, NY	209	86	33	62	62	41
Census Tract 7, Tompkins County, NY	86	45	22	31	31	27
<b>Other Locations:</b>						
Onondaga Reservation, NY	21	5	3	2	4	3
Syracuse, NY MSA	1,046	505	213	302	427	237
NY Congressional District 31	677	390	163	238	331	187

Source: Census 2000 Summary Files

**Appendix Table 5. Standard Errors for Residence Type, Group Quarters, Institutionalization and Persons with Disabilities at the National and State Level**

Location	Persons with Self-Care, Mental, Physical, and/or Sensory Disabilities (PUMS data) <sup>a</sup>			Persons residing in disability related Group Quarters (GQs) (summary data) <sup>b</sup>		
	Total	Residing in Housing Units	Residing in Institutional	Residing in Non-institutional GQs	Institutional GQs	Non-institutional GQs
U.S. Total	26,350	25,328	7,078	4,294	1,136	1,396
Alabama	3,634	3,535	885	466	134	135
Alaska	1,150	1,117	206	225	41	86
Arizona	4,466	4,342	939	725	136	222
Arkansas	2,903	2,808	784	409	117	128
California	10,999	10,601	2,556	2,058	448	694
Colorado	3,040	2,932	747	492	113	132
Connecticut	3,280	3,108	1,052	520	137	183
Delaware	1,772	1,686	558	264	72	93
D.C.	1,413	1,332	392	367	105	131
Florida	8,403	8,134	2,135	1,208	331	328
Georgia	5,599	5,409	1,385	866	204	206
Hawaii	1,763	1,699	358	385	86	144
Idaho	1,794	1,736	424	298	67	72
Illinois	5,251	5,024	1,520	782	233	276
Indiana	4,652	4,460	1,350	681	192	222
Iowa	2,652	2,491	905	484	143	153
Kansas	2,563	2,441	812	349	103	118
Kentucky	3,594	3,498	906	422	132	130
Louisiana	3,545	3,416	998	488	171	178
Maine	1,911	1,845	470	345	51	107
Maryland	4,356	4,171	1,197	730	200	225
Massachusetts	4,932	4,688	1,490	872	259	298
Michigan	4,999	4,820	1,225	891	178	275
Minnesota	3,259	3,065	1,013	697	150	285
Mississippi	2,931	2,840	763	405	171	146
Missouri	3,867	3,703	1,154	571	157	180
Montana	1,540	1,475	441	259	79	77
Nebraska	1,969	1,865	629	324	106	99
Nevada	2,720	2,651	575	368	65	97
New Hampshire	1,714	1,651	463	247	56	62
New Jersey	5,429	5,200	1,518	849	269	306
New Mexico	2,365	2,303	501	367	73	97
New York	8,653	8,258	2,425	1,651	463	645

Continued

**Appendix Table 5 (continued). Standard Errors for Residence Type, Group Quarters, Institutionalization and Persons with Disabilities at the National and State Level**

Location	Persons with Self-Care, Mental, Physical, and/or Sensory Disabilities (PUMS data) <sup>a</sup>			Persons residing in disability related Group Quarters (GQs) (summary data) <sup>b</sup>		
	Total	Residing in Housing Units	Residing in Institutional	Residing in Non-institutional GQs	Institutional GQs	Non-institutional GQs
North Carolina	4,994	4,817	1,269	835	215	211
North Dakota	1,017	958	342	179	47	62
Ohio	5,405	5,185	1,582	752	181	242
Oklahoma	3,204	3,088	926	405	130	122
Oregon	3,000	2,903	686	540	108	141
Pennsylvania	5,627	5,339	1,723	1,081	303	367
Rhode Island	2,081	1,987	605	362	67	117
South Carolina	4,177	4,041	980	736	153	210
South Dakota	1,350	1,275	435	252	80	83
Tennessee	4,821	4,674	1,234	645	209	206
Texas	8,818	8,465	2,534	1,138	393	391
Utah	2,126	2,059	498	311	101	84
Vermont	1,005	963	267	185	36	32
Virginia	4,794	4,626	1,228	712	206	180
Washington	4,874	4,719	1,067	893	148	218
West Virginia	2,496	2,441	577	295	94	87
Wisconsin	3,472	3,294	1,032	659	166	200
Wyoming	1,102	1,062	299	146	52	54

Source: Author's calculation from Census 2000 Public Use Microdata Sample (PUMS).

Note (a): PUMS data only available down to the Institutionalized/Non-institutionalized Group Quarter level. No finer level information available.

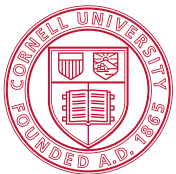
Note (b): Summary data available down to the "disability related" Group Quarter categories listed below:

**Disability Related Institutional Group Quarters:**

- Hospices or homes for chronically ill
- Military hospitals or wards for chronically ill
- Other hospitals or wards for chronically ill
- Hospitals or wards for drug/alcohol abuse
- Mental (Psychiatric) hospitals or wards
- Schools, hospitals, or wards for the mentally retarded
- Institutions for the deaf
- Institutions for the blind
- Orthopedic wards and institutions for the physically handicapped
- Residential treatment centers for emotionally disturbed children

**Disability Related Non-institutional Group Quarters:**

- Homes or halfway houses for drug/alcohol abuse
- Homes for the mentally ill
- Homes for the mentally retarded
- Homes for the physically handicapped



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