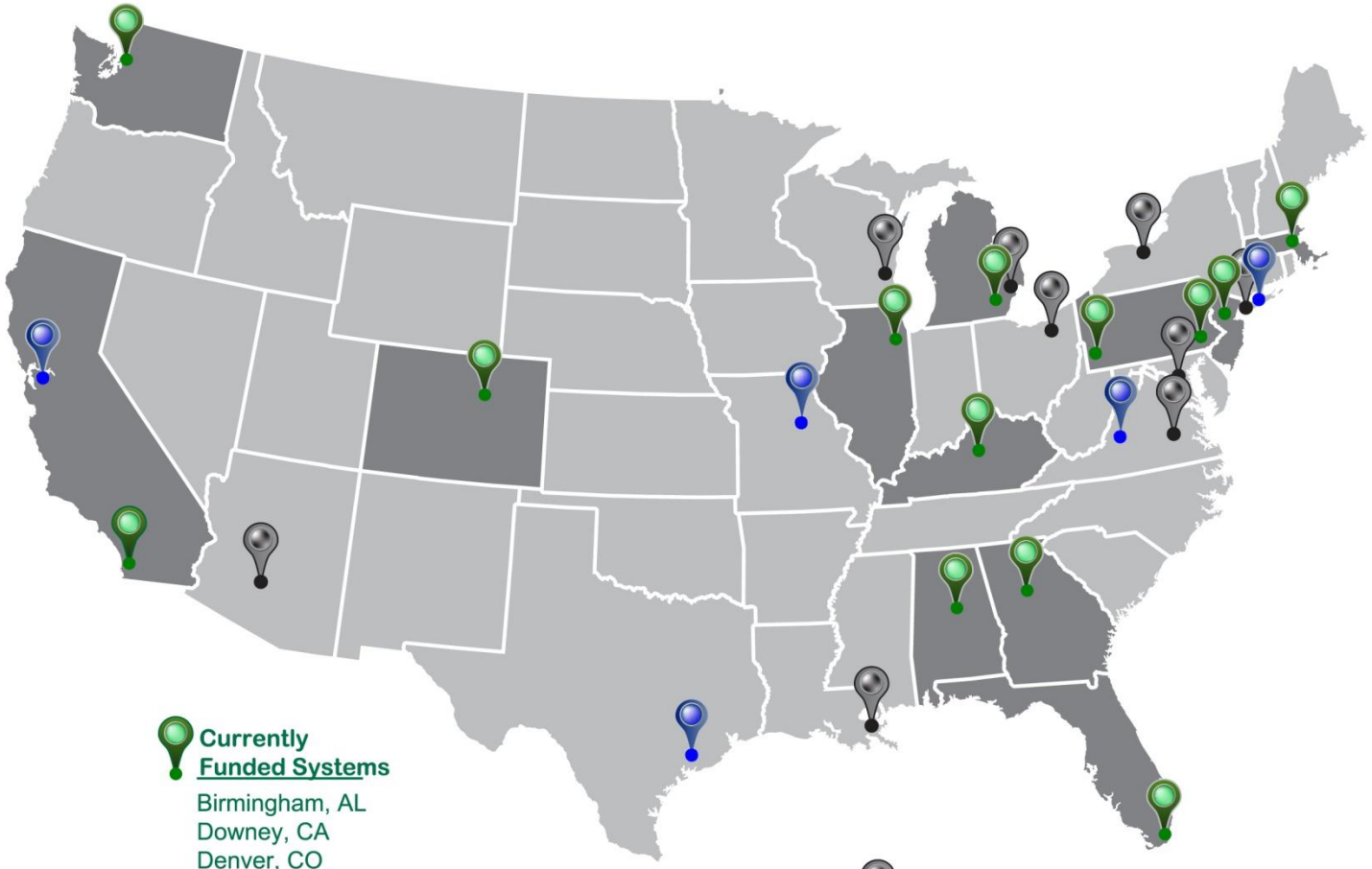
NSCISC National Spinal Cord Injury Statistical Center

Spinal Cord Injury Model Systems

2016 Annual Report – Public Version



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Spinal Cord Injury Model System
NIDILRR
National Institute on Disability, Independent Living, and Rehabilitation Research

NATIONAL INSTITUTE ON DISABILITY, INDEPENDENT LIVING, AND REHABILITATION RESEARCH
NIDILRR

COMPLETE PUBLIC VERSION OF

THE 2016 ANNUAL STATISTICAL REPORT

for the

SPINAL CORD INJURY MODEL SYSTEMS

This is a publication of the National Spinal Cord Injury Statistical Center, Birmingham, Alabama

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Part I
The National Spinal Cord Injury Statistical Center Activities
October 2011 – September 2016

The present cycle of the Spinal Cord Injury Model Systems (SCIMS) and National Spinal Cord Injury Statistical Center (NSCISC) began on October 1, 2011 and ended on September 30, 2016. This report summarizes the activities pertaining to SCIMS data collection as well as database management and utilization that have occurred during the five-year grant cycle.

National SCI Statistical Center

In 1983, the University of Alabama at Birmingham's Department of Rehabilitation Medicine received federal grant funds to establish a national SCI data center. The UAB operation succeeded the National Spinal Cord Injury Data Research Center that served the Model SCI Care Systems Project between 1973 and 1981. Today, UAB's National Spinal Cord Injury Statistical Center (NSCISC) supervises and directs the collection, management and analysis of the world's largest spinal cord injury database. Organizationally, UAB's SCI Statistical Center is at the hub of a network of 14 federally-sponsored regional Spinal Cord Injury Model Systems located at major medical centers throughout the United States. In each of these settings, SCI Model System personnel collect and submit acute, rehabilitation and follow-up (viz. annual, long-term post-discharge) data on SCI patients who received care in the "System" following injury.

To assure comparability of data acquired by personnel in various centers, rigid scientific criteria have been established for the collection, management and analysis of information entered into the database. Moreover, the NSCISC staff has developed extensive quality control procedures that further enhance the reliability and validity of the database.

Model SCI Systems

Presently there are 14 systems and 5 follow-up centers sponsored by the National Institute on Disability and Rehabilitation Research, Office of Special Education and Rehabilitative Services, U.S. Department of Education:

Current Model Systems

- **Alabama**
  University of Alabama at Birmingham SCI Care System -- UAB Spain Rehabilitation Center
  Birmingham, AL (205) 934-3283
- **Rancho**
  Southern California Spinal Cord Injury Model System -- Rancho Los Amigos National Rehabilitation Center, CA (562) 401-8111

- **Colorado**
  Rocky Mountain Regional SCI System -- Craig Hospital
  Englewood, CO (303) 789-8306
- **Florida**
  South Florida Spinal Cord Injury Model System -- University of Miami, Miami, FL (305) 243-9516
- **Georgia**
  Georgia Regional Spinal Cord Injury Care System -- Shepherd Center, Inc., Atlanta, GA (404) 350-7591
- **Illinois**
  Midwest Regional SCI Care System -- Rehabilitation Institute of Chicago
  Chicago, IL (312) 238-6207
- **Kentucky**
  Kentucky Regional Model Spinal Cord Injury System -- Frazier Rehabilitation, Louisville, KY (502) 582-7443
- **Massachusetts**
  - New England Regional SCI Center -- Boston University Medical Center Boston, MA (617) 638-7380
  - Spaulding-Harvard Spinal Cord Injury System -- Spaulding Rehabilitation, Boston, MA (617) 573-2862
- **Michigan**
  University of Michigan SCI Model System -- University of Michigan Medical Center
  Ann Arbor, MI (734) 763-0971
- **New Jersey**
  Northern New Jersey SCI System -- Kessler Institute for Rehabilitation
  West Orange, NJ (973) 243-6973
- **Pennsylvania**
  - Regional SCI System of Delaware Valley -- Thomas Jefferson University Hospital Philadelphia, PA (215) 955-6579
  - University of Pittsburgh Model System on Spinal Cord Injury - University of Pittsburgh, Pittsburgh, PA (412) 232-7949
- **Washington**
  Northwest Regional SCI System -- University of Washington
  Seattle, WA (800) 366-5643

Follow-up Centers

These five systems are subcontracted to submit follow-up data and are also former model systems.

- **California**
  Santa Clara Valley Medical Center, San Jose, CA (408) 885-2383 or 1-800-352-1956

- **New York**
  Mount Sinai SCI Model System -- Mt. Sinai Medical Center, New York, NY (212) 659-9369

- **Texas**
  Texas Regional SCI System – TIRR Memorial Hermann, Houston, TX (713) 797-5972

- **Missouri**
  Columbia, Missouri (collected by NSCISC (205) 934-3283)

- **Virginia**
  Fishersville, Virginia (collected by NSCISC (205) 934-3283)

Former and Non-participating SCI Systems

Data from currently non-participating SCI systems (Phoenix, AZ; NRH, DC; New Orleans, LA; Detroit, MI; NYU, NY; Rochester, NY; Cleveland, OH; Richmond, VA and Milwaukee) have been included.

For more information:

National Spinal Cord Injury Statistical Center
www.nscisc.uab.edu

Spinal Cord Injury Information Network
www.spinalcord.uab.edu

National Institute on Disability, Independent Living and Rehabilitation Research
https://www.acl.gov/programs/research-and-development

NSCISC Web Site

The NSCISC public information web pages include Frequently Asked Questions, National SCI Database information, life expectancy calculator, intercultural resources, publications, and documents that are available free of charge to anyone in the world at any time via the internet. An analysis was done recently of the new NSCISC domain using Google Analytics to track the visitors and hits to our website. From November 1, 2015 to December 31, 2016, the NSCISC website drew approximately 38,332 visits; 82.65% were from the Americas, 9.40 % were from Europe,5.36% from Asia, and the rest were from other continents.

In December 2016, when using the Google web site to search for "spinal cord injury", rankings on our UAB Spinal Cord Information Network web site appeared 15th in the list of top 20 web sites among approximately 31 million results found. Other internet search engines such as Bing, list these UAB web sites in the top 10-15 results when searching for keywords similar to "spinal cord injury statistics". When using the narrower search for "national spinal cord injury statistics", the NSCISC web site is number one and also has related pages in the second and third results out of 1.1 million results listed by Google. Moreover, almost all of the top 20 "national spinal cord injury statistics" sites found used data taken directly from the NSCISC web site, and for many of those sites the NSCISC data were the only data provided.

In December 2016, there were roughly 2,500 links on the World Wide Web to one or more pages of our new NSCISC web site. The number of links to the NSCISC site by other sites as well as the replication of NSCISC data on other sites is a reflection of the value, usefulness, and clarity of the information offered by the NSCISC SCI Facts and Figures at a Glance.

Public versions of the NSCISC Annual Reports

The NSCISC Annual Report includes a comprehensive examination of almost all variables in the database with historic variable-oriented information and tables of descriptive analysis using data from the fall data submission. The 2004 - 2015 Annual Statistical Reports are available to the public by request and also available on the NSCISC web site. Stratifications of the data by SCIMS have been removed from this report so that only aggregate information is available.

Facts and Figures at a Glance

The Facts and Figures at a Glance reports demographic and high interest variables, such as cause of injury, occupational status, lifetime costs and life expectancy by categorical level of injury. The Journal of Spinal Cord Medicine publishes this report on a regular basis. Historic Facts and Figures at a Glance have been archived and are available on the NSCISC web site for download.

Fact Sheets

The NSCISC is creating a set of informational fact sheets which summarize data and recent trends in spinal cord injury. The first of the set is entitled 'Recent Trends in Causes of Spinal Cord Injuries' and is on the NSCISC web site.

Quick Search Public Tools: Causes of SCI and Life Expectancy

To better serve NSCISC consumers, two new tools were made available for the public: Causes of SCI and Life Expectancy Calculator. 'Causes of SCI' is a quick search tool to find the leading causes of spinal cord injury over time. Consumers may sort the national database by type of report (full or condensed), multiple timeframes dating back to 1973, race/ethnicity, and gender. The total numbers represent injuries reported by 28 Spinal Cord Injury Model Systems and do not include causes of all injuries that occurred in the US. Life Expectancy is a quick search tool to provide an estimate for the life expectancy of a person with spinal cord injury who: is at least 2 years post-spinal cord injury, has access to good quality healthcare, is not on a ventilator and has not regained all normal feeling and movement, in which case life expectancy is considered the same as the general population.

Publications

NSCISC investigators

There were 18 peer-reviewed journal articles based in whole or in substantial part on the SCIMS database published during the last grant cycle that were either authored or co-authored by NSCISC personnel. Citations for all of these articles appeared in previous NSCISC reports. In addition, 2 book chapters were published and cited in the NSCISC 2010 Mid-Year Report. Since the start of the new grant cycle on October 1, 2011, 22 peer-reviewed journal articles and 3 book chapters based on the SCIMS database have been published. Citations for the first 14 of these articles and all 3 book chapters appeared in previous reports. The latest citations are as follows:

1. Chen Y, DeVivo MJ, Richards JS, SanAgustin TB. Spinal cord injury model systems: review of program and national database from 1970 to 2015. **Arch Phys Med Rehabil** 2016;97:1797-1804.

2. Chen Y, He Y, DeVivo MJ. Changing demographics and injury profile of new traumatic spinal cord injuries in the United States, 1972-2014. **Arch Phys Med Rehabil** 2016;97:1610-1619.

3. Chen Y, Heinemann AW. Current research outcomes from the spinal cord injury model systems. **Arch Phys Med Rehabil** 2016;97:1607-1609.

4. Krause JS, Cao Y, DeVivo MJ, DiPiro ND. Risk and protective factors for cause-specific mortality after spinal cord injury. **Arch Phys Med Rehabil** 2016;97:1669-1678.

5. Botticello AL, Boninger M, Charlifue S, Chen Y, Fyffe D, Heinemann A, Hoffman JM, Jette A, Kalpakjian C, Rohrbach T. To what extent do neighborhood differences mediate racial disparities in participation after spinal cord injury? **Arch Phys Med Rehabil** 2016;97:1735-1744.

6. Pretz CR, Kozlowski AJ, Chen Y, Charlifue S, Heinemann AW. Trajectories of life satisfaction after spinal cord injury. **Arch Phys Med Rehabil** 2016;97:1706-1713.

7. Charlifue S, Tate D, Biering-Sorensen F, Burns S, Chen Y, Chun S, Jakeman LB, Kowalski RG, Noonan VK, Ullrich P. Harmonization of databases: a step for advancing the knowledge about spinal cord injury. **Arch Phys Med Rehabil** 2016;97:1805-1818.

8. Herzer KR, Chen Y, Heinemann AW, Gonzalez-Fernandez M. Association between time to rehabilitation and outcomes after traumatic spinal cord injury. **Arch Phys Med Rehabil** 2016;97:1620-1627

Non-NSCISC investigators

To the knowledge of the NSCISC, there were 27 published papers using the SCIMS database with non-NSCISC authors during the last 2006-2011 grant cycle. Overall, there were 24 of these papers published during the 2000-2006 grant cycle. A list of these papers appears in previous annual and semiannual reports. The NSCISC encourages the use of the database and is willing to provide any assistance necessary to those who conduct research using the SCIMS database. The NSCISC also appreciates being notified of any ongoing work and publications that involve the use of the NSCISC database. Since the start of the current grant cycle, we are aware of 16 published peer-reviewed journal articles using the NSCISC database with non-NSCISC authors. Citations for the first 12 of these appeared in previous reports.

1. Kirshblum SC, Botticello AL, Dyson-Hudson TA, Byrne R, Marino RJ, Lammertse DP. Patterns of sacral sparing components on neurologic recovery in newly injured persons with traumatic spinal cord injury. **Arch Phys Med Rehabil** 2016;97:1647-1655.

2. Oleson CV, Marino RJ, Leiby BE, Ditunno JF. Influence of age alone, and age combined with pinprick, on recovery of walking function in motor complete, sensory incomplete spinal cord injury. **Arch Phys Med Rehabil** 2016;97:1635-1641.

3. Belliveau T, Jette AM, Seetharama S, Axt J, Rosenblum D, Larose D, Houlihan B, Slavin M, Larose C. Developing artificial neural network models to predict functioning one year after traumatic spinal cord injury. **Arch Phys Med Rehabil** 2016;97:1663-1668.

4. Lee BA, Leiby BE, Marino RJ. Neurological and functional recovery after thoracic spinal cord injury. **J Spinal Cord Med** 2016;39:67-76.

Part II

Status of the National SCI Database

All data submitted to the NSCISC by December 2, 2016 are included in this report. In brief, the Form I dataset includes baseline demographic and clinical information of persons who met eligibility criteria and the Form II dataset includes sociodemographic and outcome data of Form I participants obtained at follow-up. In 1987, the Registry dataset was created to store limited baseline information of persons who did not fully qualify for enrollment.

As of December 2, 2016, the National SCI Database contained information on 32,159 Form I participants and 116,985 Form II records successfully collected by phone, in person, by chart review, or by mailed survey from 26,677 participants. Records with no collected data (those Lost to Follow-up) are not included in these tables. The combined total of Registry, Form I, and Form II records in the National SCI Database is 162,794 records. (***Table 1: Total forms entered into the National SCI Database as of December, 2016)***

Table 2 presents the total number of follow-up records in the database for each post-injury year. Totals do not include the Form II records that are coded 'Lost to Follow-up.'

Increase in the Number of Records: Tables 3 – 5

Table 3 reports the number of new records entered into the database since the last Annual Report on September 18, 2015. The number of Registry participants has increased by 639, the number of Form I records has increased by 907, and the number of Form II records has increased by 2,652 (excluding those deemed 'Lost to Follow-up').

Since the beginning of the 2011-2016 funding cycle, the number of Registry records has increased by 1,720, the number of Form I records has increased by 3,711, and the number of Form II records has increased by 12,047 (excluding those 'Lost to Follow-up') **(Table 4)**.

Table 5 presents the total number of Form I participants who were admitted to a System since October 2011 and the count and percentage of these participants who were admitted the day of or the day following the injury (classified as Day-1 Admissions). This information is provided because the reporting procedures implemented in November 1995 resulted in a substantial increase in the number of variables collected on participants who enter the System as Day-1 Admissions.

Nationally, 35.6% of participants admitted since October 2011 have been Day-1 Admissions. System percentages range from 80.9% to 1.3%.

Participants by Year of Injury and Year of Data Collection: Tables 6 – 9

The number of participants entered into the National SCI Database by both years of injury and individual SCI Model System are depicted in **Tables 6 - 8**. These tables represent Registry, Form I, and Form I Day-1 admission records. Again, data for non-funded, non-Form II systems are included in 'Other.'

In December 1981, funding was suspended for the National SCI Data Research Center (NSCIDRC) in Phoenix, AZ. Its successor, the UAB-SCI Data Management Service, did not initiate formal operations until March 1, 1983. The decline in participants entered into the database in both 1981 and 1982 is undoubtedly the result of this interruption. The decline in participants enrolled in the National SCI Database since 1984 is the result of fewer Systems being funded by NIDILRR than in previous years.

Table 6 presents the number of Registry participants enrolled by year of injury. The data reflect the historical changes in the SCIMS program. In 1987, criteria for enrollment in the National SCI Database were changed by restricting eligibility to participants admitted to the system within 60 days of injury (the previous criterion was 1 year) and more narrowly defining system catchment areas. Because of this restriction, an additional Registry form was created to collect limited demographic data on those participants who no longer meet eligibility requirements for full data collection.

Variation in Form I participant enrollment is primarily due to three factors: number of funded Systems, eligibility criteria, and size of funded systems (**Table 7**). The number of funded Systems changed in 1985, 1990, 2000, and 2006 (see chart immediately below) as a result of NIDDILR's competitive selection policy. Eligibility criteria were changed in 1987, restricting Form I enrollment, then in 2000, the eligibility criteria were changed to reflect pre-1987 requirements.

Years	1985-1990	1990-1995	1995-2000	2000-2006	2006-2011	2011-2016
# of Systems	13	13	18	16	14	14

'Date of Injury' and 'Date of Admission to System' data have been collected since 1973. **Table 8** reflects the Form I Day-1 Admissions since then. New reporting procedures were implemented in 1995, leading to a substantial number of additional variables collected on participants who entered the System the day of or the day following their injury.

Table 9 presents the total number of follow-up records in the database for each post-injury year by calendar year of data collection. Prospective Form II follow-up data collection began in 1975, originally on a yearly basis. From 1996 through September 2000, Form II was collected in post-injury years 1, 2, 5, and 10 and every 5 years thereafter for all participants, except for a sample of 125 participants from each System for whom a reduced set of Form II data was collected every year. To further reduce the workload, beginning in October 2000, Form II data collection

was no longer required at year 2, and the process of collecting Form II data yearly from 125 participants per System was terminated. The decrease in the number of Form II records for off-years reflects such changes in the frequency of follow-up data collection. The date on which a record is first entered into the database has been documented since October 1986. Data reported to the database between 1975 and 1986 were thus combined as one group in the table.

Cause of Death: Table 10

All survival analyses in this report use the Collaborative SCI Survival Study database maintained at the NSCISC. This database contains considerably more patients than the National SCI Database contains and has much longer follow-up on individual patients through use of the Social Security Death Index (SSDI), Equifax Nationwide Death Search, on-line obituaries, and the National Death Index (NDI). The Collaborative SCI Survival Study database includes Form I and Registry participants as well as other patients who were treated at an SCI Model System but are not in the National SCI Database. The Collaborative SCI Survival Study database is also the database that was used to produce the chapter on long-term survival and causes of death that was included in the book Spinal Cord Injury: Clinical Outcomes from the Model Systems, published in 1995. Therefore, these data represent an update of the 1992 estimates provided in that book chapter as well as an update of the 2015 Annual Report.

Primary cause of death for the 13,790 deceased participants in the Collaborative SCI Survival Study database appears in **Table 10.** Only persons admitted to a System since 1973 and treated at a System within 1 year of injury were included in this analysis. The number of deaths with unknown causes is high because searches of the NDI for causes of death have only been conducted through 2015. As a result, there are still 1,151 persons whose primary cause of death is unknown, and these were not included in the calculation of any percentages. The assumption is that unknown causes of death will be distributed the same way as known causes. These deaths of unknown causes are almost always persons who died after discharge. Therefore, causes of death that are more likely to occur after discharge, such as diseases of the genitourinary system, neoplasms, and accidents, suicides, and homicides may be somewhat underestimated proportionately.

In participants for whom cause of death is known, diseases of the respiratory system were the leading cause of death (65.3% of these were cases of pneumonia). The second leading cause of death was infectious and parasitic diseases. These were usually cases of septicemia (90.3%) and were usually associated with decubitus ulcers, urinary tract infections, or respiratory infections. Also included in this category were 84 cases of AIDS (5.5%). Cancer ranked third, followed by hypertensive and ischemic heart disease. Specific locations of cancer included lung (336 cases, 26.3%), followed by bladder (116 cases, 7.6%); colon/rectum (113 cases, 7.4%); prostate (70 cases, 4.6%); and liver (53 cases, 3.5%). Other heart disease ranked fifth; however, these cases were often unexplained heart attacks (38.4%, ICD9CM code 427.5) that usually do not represent a true underlying cause of death. Rather, such cases reflect the relatively poor quality of cause-of-death data and reporting practices on many death certificates of SCI patients. Hence, mortality from other heart disease is probably overestimated.

Unintentional injuries were the sixth leading cause of death, followed by diseases of the digestive system, cerebrovascular disease, suicide, and diseases of pulmonary circulation (91.4% of which were cases of pulmonary emboli). Pulmonary emboli usually occurred prior to first definitive discharge.

It should be noted that the categories of 'Unintentional injuries,' 'Suicides,' and 'Homicides' do not include any persons dying from multiple injuries sustained during the original accident. However, these categories do include persons involved in fatal events following discharge. If the 127 cases of subsequent trauma of uncertain nature were divided proportionately between unintentional injuries, suicides, and homicides, then an additional 79 unintentional injuries, 37 suicides, and 11 homicides took place.

Long-Term Survival: Tables 11

Table 11 presents cumulative survival for the Collaborative SCI Survival Study database. Only persons injured since 1973 and treated at a System within 1 year of injury were included in this analysis. Data from currently non-participating Systems are included in the national table.

Patients were considered 'Withdrawn Alive' if: 1) a follow-up form (Form II) for 2015 or later was submitted, indicating the patient was known to be alive, 2) the patient's follow-up was discontinued due to neurologic recovery or transfer to another System, or 3) searches performed in 2016 did not indicate a reported death. The proportion of patients dying in each post-injury year ranged from 5.39% in year 41 to 1.52% in year 10. Annual death rates for those who survived the first post-injury year averaged 2.34% and increased over time as the population aged.

The cumulative 10-, 20-, 30-, and 40-year survival rates for patients with an SCI were 81.50%, 67.52%, 52.86%, and 38.49%, respectively. Median (50%) survival for the total sample is estimated to occur at 31.93 years ($\pm$0.15 years (standard error of the median)) after injury. However, because of the high proportion of losses to follow-up, as well as the known under-reporting of SCI fatalities occurring shortly after injury, this information should be interpreted with caution. It is likely some patients were lost to follow-up because they died. Therefore, these annual mortality rates may be underestimated.

Standardized Mortality Ratios: Tables 13A – 13B

Standardized mortality ratios (SMRs) for the Collaborative SCI Survival Study database by neurologic level of injury, ASIA Impairment Scale (AIS) grade, and current age appear in **Table 13A**. The AIS, is used to quantify the degree of residual neurologic function. All persons who were admitted within 1 year of injury to a System since 1973 and survived at least 24 hours after injury were included in this analysis. Comparable SMRs for persons who survive the first post-injury year appear in **Table 13B**. For each neurologic category and age group, the observed number of deaths was compared to an expected number of deaths based on observed length of follow-up and age-sex-race-specific mortality rates for the general U.S. population in 2000 using

methods outlined in detail by Smart and Sanders [1]. The year 2000 was chosen because it was the mid-year of follow-up for the SCI population. All follow-up data through 2017 were used.

Differences in calculated SMR values between **Tables 13A and 13B** increase with increasing injury severity due to the much higher first-year mortality rates among more severely injured persons. The SMR is statistically significant for all neurologic groups in both 24-hour and 1-year survivors. Among 1-year survivors, those who are ventilator-dependent and less than 31 years of age have 54.55 times greater mortality than persons of the same age, sex, race, and length of follow-up who do not have an SCI, while the comparable figure for persons who have an AIS D injury and are at least 61 years of age, regardless of injury level, is only a 49% increase in mortality.

Life Expectancy: Tables 14A – 14B

Life expectancies for SCI patients who survived at least 24 hours after injury, by age at injury (in 5-year intervals) and neurologic level and extent of lesion, appear in **Table 14A**. Comparable estimates for persons who survived the first post-injury year, by current age, appear in **Table 14B**. These life expectancy estimates were calculated based on applying the SMR values from **Tables 13A and 13B** to the U.S. general population life table for the year 2012.

Life expectancy estimates contained in previous NSCISC annual reports were based on applying a constant SMR for each neurologic group to all ages. That was the method used by SCI researchers when the NSCISC began making these calculations. However, as sample sizes and lengths of follow-up increased, it became clear that the SMR decreased significantly as age increased. Therefore, this method (the use of a constant SMR with advancing age) typically results in an overestimation of life expectancy at younger ages and an underestimation of life expectancy at older ages, particularly for more severely impaired persons. As a result, more recent reports of life expectancy based on the SMR method use age-specific SMR values for each neurologic group such as those appearing in **Tables 13A and 13B**. Until now, the NSCISC continued to report life expectancy estimates in its annual reports based on a single SMR for each neurologic group to maintain consistency and facilitate evaluation of trends over time. However, the NSCISC believes the benefits of comparability to recently published studies combined with enhanced precision of life expectancy estimates derived from using age-specific SMRs now outweigh the benefits of maintaining consistency with previous methods of calculation. Therefore, beginning with this annual report, life expectancy estimates will be based on age-specific SMRs.

As a result of the change in methodology, the life expectancy estimates contained in this annual report are slightly higher than those contained in previous reports with the exception of young persons with C1-4 injury levels or ventilator-dependency. This should not be interpreted to imply that life expectancies have changed. The differences with prior estimates are due entirely to the change in methodology. Readers interested in more precise estimates are referred to the NSCISC web site life expectancy calculator that includes other risk factors such as gender, cause of injury and health insurance status, separates age, injury levels and AIS grades more precisely, and takes any historical trends in life expectancy into account, by using the more flexible and

statistically powerful method of person-year multiple logistic regression. Methods for estimating life expectancy that are used by the NSCISC web site calculator are detailed in two articles by Strauss et al. [3] and DeVivo[4].

Life expectancies for SCI patients remain substantially below normal, particularly for persons with tetraplegia and ventilator-dependency. Moreover, although mortality rates during the first post-injury year have decreased steadily since the 1970s, annual mortality rates after the first post-injury year have not changed since the early 1980s. Therefore, although general population life expectancy is increasing, life expectancy for persons with an SCI who have survived the first year after injury has remained relatively constant, and the gap in life expectancy between SCI patients and the general population of comparable age, sex, and race, is increasing.

Values in these tables should be considered rough estimates of life expectancy of individual persons because the neurologic categories are rather broad. At a minimum, important prognostic factors that should be considered in determining an individual life expectancy include age, exact neurologic level of injury (particularly among persons with tetraplegia), AIS grade, length of survival that has already occurred post-injury, and to a lesser extent, etiology of injury, gender, race, education, and access to care (availability of good insurance coverage or other financial resources)[2]. Significant co-morbidities (cancer, heart disease, diabetes, etc.) should also be considered when present[3].

Form II Follow-up Status: Tables 15-19

Table 15 describes the type of medical care being provided to the participant. Out of 179,482 records, 37.6% of participants came into a System for an appointment during the follow-up window (18 months). The variation between Systems in the category of 'System Appointments' was distinct, ranging from 24.5% to 74.6%. The coding category of 'Future Follow-up Not Required' is for those participants who achieve Minimal Deficit, defined as no significant motor, bladder or bowel, or neurologic impairment. For these participants, Form II follow-up is not required, but Systems may choose to continue interviews.

Table 16 categorizes the type of follow-up by participants for each post-injury year. Including the 'Lost' due to break in funding, the percentage of eligible participants lost to follow-up ranged from 17.1% at post-injury year 1 to 65.7% at post-injury year 20. Prior to coding a Form II as 'Lost,' the following minimal tracking activities are required: 1) SSDI, Genealogy, or other death search sites are checked for record of death; 2) System records are searched for recent activity and updated contact information; 3) conduct at least two free internet searches and a fee-based search, if available; 4) viable phone numbers are called at least six times at different times of the day and week; and 5) a Form II Survey is mailed to a viable address.

Table 17 documents the reasons why follow-up data are not obtainable for those participants whose category of follow-up care is 'Lost.' This 'Reason for Lost' variable was added to the database in January 1998 with four categories, including the 'Other' category used to determine if expanded coding categories will be needed in the future. In 2007, the 'Refused/Withdrawn'

code was separated into two codes to allow participants a choice to refuse this interview (and be contacted in the next cycle) or to withdraw from the study and not be contacted again unless re-consented. The 'Identity Unknown' code was included in 2009 to be used by Systems in identifying participants whose identity is no longer available due to the break in funding. To help specify the reason for 'Unable to Contact,' the following five codes were added to the database in October 2011: 1) 'Contact made but survey not completed,' 2) 'Attempted contact but language barrier prevented collection,' 3) 'Attempted contact but moved out of country,' 4) 'No contact - Apparently valid contact information,' and 5) 'No contact - No valid contact information.' The 'Identity unknown to NSCISC' code was also added in October 2011 for participants enrolled by de-funded Systems whose identity may still be known at the enrolling System but is not available to the NSCISC for data collection.

Before October 2011, once a Form II was submitted as 'Lost,' future follow-up was still pursued but no additional Form II coded 'Lost' was required at next follow-up if that participant was still 'Lost.' This policy was changed in the 2011-2016 grant cycle. The submission of a Form II for previously lost participants is now required for the eligible anniversary year (1, 5, 10, 15, etc.) unless participants died, reached neurologic recovery, or withdrew consent, or their identifying information was lost. To fill gaps in the existing database, approximately 33,846 Form II records were inserted to reflect the 'Lost' status at the beginning of the 2011-2016 cycle, and the reason for lost was either coded as 'Break in funding' for unfunded Systems or 'Unknown' for funded Systems. This explains why a large percentage were reported as 'Unknown.'

Table 18 describes the current follow-up status of Form I participants. The status is in a hierarchical order. For example, 'Deceased' supersedes all other codes. Of 32,159 Form I participants reported to the database since 1972, 29.7% were deceased, 7.5% reached neurologic recovery, 3.0% withdrew consent, and the identity of 3.6% was lost due to break in funding; 56.3% are still eligible for Form II follow-up.

Table 19 presents how interviews were conducted; this variable has been collected since 1996. Analysis was performed on required follow-up years only (1, 5, 10, etc.). Nationally, 9.0% of all interviews were conducted in person, with percentages ranging by System from 1.2% to 59.8%. Of the 38,662 records, 71.1% were conducted by phone, with percentages ranging by System from 2.6% to 89.2%. Self-administered (mailed) interviews were conducted 8.0% of the time, with percentages ranging by System from 0.0% to 73.7%. Nationally, 8.6% of all interviews used a combination of the methods (i.e., in-person, by phone, and/or by mail), with percentages ranging by System from 0.1% to 40.7%. The interview method was unknown for 0.8% of all records.

Part III

Descriptive Analysis of the National SCI Database

Introduction

The tables presented in this report are based on a descriptive analysis of most of the variables in the National SCI Database. For most of the Form I variables, national averages are provided. The Form II variables are primarily analyzed by anniversary year of follow-up and presented in a national aggregate format. The narrative for each of the following tables is restricted to analysis of national aggregate data and intersystem variability within the database.

Starting in 1995, revised Form II reporting procedures required submission of Form IIs for all participants in post-injury years 1, 2, 5, and 10, and every 5 years thereafter. Beginning in October 2000, Form II data collection was no longer required at year 2, with one exception: if a participant was still hospitalized for his/her initial hospital care during the first anniversary year, the year 2 (but not year 1) follow-up would be required. For this reason, there has been a significant decrease in the numbers of records in all the other post-injury years. Therefore, most of the Form II analyses are restricted only to post-injury years 1, 5, 10, 15, 20, 25, 30, 35, 40 and 45.

Lost and Unknown Categories

Since differential losses to follow-up may mask time trends within the data, participants who are lost to follow-up are not included in the tables depicting Form II data. The underlying assumption is that participants who are lost to follow-up will be distributed proportionately across categories in the same way as successfully followed participants.

Data classified as 'Unknown' represent those participants who are being followed but for whom that specific information is unavailable. Therefore, a high proportion of 'Unknown' entries indicate unusual data collection difficulties.

Cross-sectional versus Longitudinal Analysis

Changes in percentages or mean scores over post-injury years must be interpreted cautiously. This is a cross-sectional analysis, and the participants in post-injury year 30 are not the same as those in post-injury year 1, for example. Part of the increase or decrease in scores over time could be due to differential survival of persons with better health or care as well as due to differential loss to follow-up. A truly accurate assessment of changes over time will require a longitudinal approach and multivariate analysis.

Statistical Measures

Data of a categorical nature are presented as frequency and percentage. For continuous variables, the central tendency is measured by mean or median as appropriate. In some tables, the standard

deviation (S.D.) is used to measure the dispersion about the population mean (i.e., how closely individual participant values cluster around the mean). If data are normally distributed, 95% of all observed values will fall within 1.96 standard deviations of the mean.

Age at Injury: Tables 20 – 22

The cumulative frequency distribution of age at injury is depicted in **Table 20**. Five participants were less than 1 year old, while one was 98 years old. The most common age of injury was 19 years. Nearly a quarter (23.8%) of all injuries occurred between the ages of 17 and 22 years, nearly half (48.2%) of all injuries occurred between the ages of 16 and 30, and 11.3% of all injuries occurred at age 60 or older. Some descriptive statistics for the age at injury distribution are shown in **Table 21**. Mean (S.D.) age for all participants was 35.1 (17.0) years, with the mean age for participants in each System ranging from a low of 30.3 years to a high of 49.7 years.

Table 22 reflects a consistent trend toward older age at time of injury. The mean age at injury has increased from 28.7 years in 1972-1979 to 42.3 years in 2010-2016. This trend reflects in large part a similar trend in the average age of the U.S. population. However, underlying changes in age-specific SCI incidence rates, changing locations of Systems, and changing referral patterns to Systems may also be contributing to the trend toward older age at injury for persons in the database.

Sex: Table 23

The number of SCI participants by gender is shown in **Table 23**. Overall, 80.7% of all reported SCIs occurred among males.

There was very little variability among Systems with regard to the composition of the participant populations by gender. Among Systems, the proportion of male participants ranged from a low of 75.4% to a high of 87.1%.

Race: Tables 24 – 28

The number of SCI participants race is shown in **Table 24**. There was substantial variability among Systems: the proportion of white participants ranged from 29.9% to 90.6%, while the proportion of African Americans ranged from 4.1% to 38.5%. Across Systems, the highest proportion of Native American Indians was 3.4% and the highest proportion of participants of Asian descent was 6.1%. High percentages of unknowns (5.2%) in the 'Race' variable are due to a database conversion process that occurred in 1995. When the 'Hispanic Origin' variable was added, all persons coded 'Spanish' in the 'Race' variable were converted to 'Yes, Hispanic origin' in this variable, and their race was then changed to 'Unknown.' For those who were not coded 'Spanish' in this variable, the 'No' code was inserted and their original race code was retained. This data conversion process resulted in high percentages of records coded 'Unknown' in the 'Race' variable.

It should not be inferred from these data that the incidence of SCI was higher among whites than non-whites. On the contrary, most participants were white because whites comprise by far the largest segment of the U.S. population. In fact, other studies have demonstrated conclusively that the SCI incidence rate is highest among non-whites[5].

Overall, 9.5% of respondents endorsed 'Hispanic Origin' (**Table 25**). By System, the percentage ranged from 0.1% to 50.2% out of a total of 32,159 records.

Table 26 depicts Hispanic origin by race: 2.9% reported as Hispanic Caucasians and 0.3% reported as Hispanic African Americans out of a total of 32,159 records.

The trends over years in racial groups (**Table 27**) reveal an increase in the percentage of participants who identify as African American (from 14.2% in 1972-1979 to 22.1% in 2010-2016). Also, there has been a slight increase in the percentage of participants who identify as Asian/Pacific Islander (from 0.9% in 1972-1979 to 2.1% in 2010-2016), while the percentage of participants who identify as Caucasian has decreased (from 76.8% in the 1972-1979 to 70.3% in 2010-2016).

Analysis of the trends in participation by those of Hispanic origin by year of injury (**Table 28**) shows a 6.8% increase in Hispanic participation into the 1990s (6.0% in 1972-1979 to 12.8% in 1990-1994). The most current time frame, however, shows that participation by those of Hispanic origin has decreased since then (10.9% in 2010-2016).

This trend is due in small part to trends in the U.S. general population. Periodic changes in the identities of participating SCI Model Systems, changes in eligibility criteria for inclusion into the National SCI Database, and changes in referral patterns to SCI Model Systems are also partly responsible for this racial trend. However, changes in underlying race-specific SCI incidence rates are also likely.

Etiology: Tables 29 – 35

Table 29 ranks the national causes of injuries and then separates by sex. For males and females, the three leading causes of SCI were the same: auto accidents, falls, and gunshot wounds.

Among males, motorcycle accidents ranked fourth, followed by diving accidents. However, for females, medical/surgical complications ranked fourth and diving ranked fifth.

Significant gender differences are evident in six etiologies: auto accidents (males, 28.9%; females, 47.5%); gunshot wounds (males, 16.7%; females 9.4%); motorcycle accidents (males, 7.1%; females, 2.1%); diving accidents (males, 6.7%; females, 2.5%); hit by falling/flying objects (males, 3.3%; females, 0.7%) and medical/surgical complications (males, 2.3%; females, 5.1%).

It should be noted that the all-terrain vehicles/ all-terrain cycles (ATV/ATC) category was created in October 1986; before that time, injuries resulting from these vehicles were coded as either 'Motorcycle' or 'Other Vehicle.' While some Systems have converted pre-1986 data where possible, this conversion was not mandatory. Therefore, the number of injuries resulting from ATV/ATC accidents is most probably underreported.

The group etiology categories reported in **Tables 30 – 34** are as follows:

'Vehicular' includes: Automobiles (includes jeeps, trucks, dune buggies, and buses; Motorcycle (2-wheeled, motorized vehicles, including mopeds and motorized dirt bikes); Boats; Fixed-wing aircraft; Rotating-wing aircraft; Snowmobiles; Bicycles (includes tricycles and unicycles); ATV and ATC (includes both 3-wheeled and 4-wheeled vehicles); and Other vehicular, unclassified (includes tractors, bulldozers, go-carts, steamrollers, trains, road graders, forklifts).

'Violence' includes: Gunshot wounds; All other penetrating wounds (includes stabbing, impalement); Person-to-person contact (includes being hit with a blunt object, falls as a result of being pushed (as an act of violence); Explosions (includes bomb, grenade, dynamite, or gasoline).

'Sports' includes: Diving, Football, Trampoline, Snow skiing, Water skiing, Wrestling, Baseball/softball, Basketball/volleyball; Surfing (includes body surfing); Horseback riding; Gymnastics (includes all gymnastic activities other than trampoline); Rodeo (includes bronco/bull riding); Track and field (includes pole vault, high jump, etc.); Field sports (includes field hockey, lacrosse, soccer, and rugby); Hang gliding; Air sports (includes parachuting, para-sailing); Winter sports (includes sled, snow tube, toboggan, ice hockey, snow-boarding); Skateboarding; and Unclassified (includes auto racing, glider kite, slide, swimming, bungee jumping, scuba diving, roller-blading, jet-skiing, cheerleading, etc.).

'Other' includes: all other and unclassified injuries, including unforeseen medical events.

The percentage of injuries in each etiology group appears in **Table 30**. Overall, 'Vehicular' ranked first in the National SCI Database (42.2%) and first in 11 Systems; 'Falls' ranked first in two Systems and 'Violence' ranked first in one system.

'Falls' ranked second nationally (22.2%) for 8 Systems; in 3 systems, 'Vehicular' ranked second as the most frequent etiology (31.2%, 29.2% and 30.4%). Violence ranked third nationally (17.1%) and second in 2 systems.

The percentage of injuries in each etiology group by age at injury is depicted in **Table 31**. Vehicular accidents were the leading cause of SCI in participants up to 45 years of age. After age 60, falls were the leading cause of SCI. The percentage of SCIs resulting from sports and violence declined with advancing age, while the percentage resulting from falls increased proportionately.

Table 32 depicts the percentage of injuries in each etiology group by sex. The percentage of injuries resulting from vehicular accidents, violence, and sports differed across sex. Females

were more likely to be injured by a vehicular accident (females, 52.2%; males, 39.9%), but violence and sports were more likely the cause of male injuries (males, 18.5% and 11.3%, respectively; females, 11.4% and 5.6%, respectively).

Table 33 depicts the percentage of injuries in each etiology group by race. Vehicular accidents were the leading cause of injuries across all races except for African Americans, for whom violence was the leading cause.

Table 34 shows the percentage of injuries in each etiology group by Hispanic origin. 'Vehicular' and 'Violence' were the most common cause of injuries for those of Hispanic origin (35.4% and 32.2%, respectively), whereas those of non-Hispanic origin were injured more commonly by 'Vehicular' (43.1%) than by 'Violence' (15.5%).

'Vehicular' ranked as the leading cause of SCI through all time periods (**Table 35**). 'Falls' ranked second through all time periods except 1990-1994, when 'Violence' ranked second. The percentage of SCI due to violence steadily increased from 13.3% prior to 1980 to 28.9% in 1990-1994. A concomitant decrease in the percentage of SCI due to sports-related activities, from 14.4% to 7.6%, occurred over this same time period. The percentage of SCI due to vehicular accidents also decreased from 46.9% to 36.3% over this period. In contrast, there has been a significant decline in SCI due to violence and an increase in injuries due to falls and vehicular accidents since 1994. These trends may be due in part to changing locations of SCI Model Systems, changing referral patterns to these Systems, changes in underlying incidence rates, aging of the population, or a combination of these factors.

Work Relatedness: Table 36

This variable was added to the database in October 2000, and only records entered after January 1, 2001, are included in Table 36. Of the 11,659 available records, 9.2% had a work-related SCI. The percentage of participants at each System with a work related SCI ranged from 4.0% to 13.2%.

Marital Status: Tables 37 - 39

Marital status at injury is depicted in **Table 37**. The code 'Living with significant other' was added to the database in October 2011. It is not surprising, given the young age at which most injuries occur, that half of the participants in the database were single/never married (51.0%) at the time of injury. Substantial intersystem variability was noted, from 36.8% to 63.7%, while the percentage of divorced participants ranged from 5.1% to 16.2%.

Table 38 shows a steady increase across post-injury year in the percentage of participants in the 'Married' category (from 32.0% of post-injury year 1 participants to 42.0% of post-injury year 40 participants) and the 'Divorced' category (from 11.1% of post-injury year 1 participants to 24.1% of post-injury year 30 participants). The percentage of participants in the 'Single, never married' category ranged from 49.4% of those at post-injury year 1 to 24.0% of those at post-injury year 40.

Table 39 reflects all changes since the last Form II with a known 'Marital Status' code (or since Form I if there is no Form II Marital Status). If a year 1 Form II has marital status, and the year 5 Form II is lost, then the year 10 Form II reflects any marital change since the year 1 Form II. Separations are ignored. Codes 'Divorced + Married,' 'Widowed + Married,' 'Divorced + Widowed + Married' may be in any order. Marital status was relatively stable over time. 'No Change' was reported for 92.7% of post-injury year 1 participants and for 82.7% of post-injury year 30 participants.

Level of Education: Tables 40 - 41

The highest level of formal education completed at time of injury appears in **Table 40**. More than 60% (excluding 'Other') of the participants were at least high school graduates at the time of injury, whereas more than 80% were at least 19 years of age at injury and would normally be expected to have completed high school. Approximately one-tenth (8.4%) of participants had an eighth grade education or less, whereas only about 2% were less than 15 years of age at injury and would normally be expected to have an eighth grade education or less.

The proportion of participants with an eighth grade education or less ranged by System from 1.3% to 21.7%. Overall, 5.9% of the participants had an unknown level of education, suggesting some Systems are having substantial difficulty collecting this information.

In **Table 41**, level of education is shown to be higher in participants at later post-injury years than in those with more recent injuries. Overall, 68.8% of post-injury year 1 participants had completed at least a high school education, compared with 91.4% of post-injury year 35 participants.

Occupational Status & Job Census Code: Tables 42 - 45

The Occupational Status tables review the primary occupational, educational or training status of the participant at the time of injury. Since these sub-categories are not mutually exclusive, the primary occupational, educational or training status is selected on the basis of the injured person's opinion.

Occupational status at the time of injury is shown in **Table 42**. Nationally, 57.6% of participants were reportedly working at the time of injury. Among Systems, this was the most common occupational status reported, ranging from 66.3% to 45.0%. The national rankings for the other most commonly reported occupational status categories ranked in order as follows: 'Unemployed' (15.6%), 'Student' (14.7%), and 'Retired' (7.3%).

Table 43 shows an increase in the percentage of working respondents over the post-injury years, from 12.3% of post-injury year 1 participants to 35.0% of post-injury year 25 participants, then declining in later years to 28.6% in post-injury year 40. Other categories with an increase across post-injury year are 'Retired' and 'Other,' whereas the percentage reporting 'Unemployed'

decreased over the post-injury years (from 54.4% of post-injury year 1 participants to 29.0% of post-injury year 40 participants).

Job Census Code **Tables 44 and 45** reflect data entered into the database since January 1, 2001. At injury, 39.8% of respondents reported 'Not Working.' The second most reported category was 'Precision, production, craft and repair,' at 11.1%. There was very little variability across Systems. **Table 45** shows Job Census Code by post-injury year. 'Not Working' was reported by 83.3% of respondents at post-injury year 1 then decreases to 64.3% at post-injury year 25. The percentage of participants in the 'Executive' and 'Professional' categories increased over the post-injury years (from 3.4% and 4.2%, respectively, of post-injury year 1 participants to 9.0% and 13.5%, respectively, of post-injury year 35 participants).

Veteran Status & VA Healthcare Services Used: Tables 46 - 47

Veteran status analysis incudes Form I records entered after January 1, 2001. This variable documents whether or not the participant is a veteran of the United States military forces (i.e., Air Force, Army, Coast Guard, Marine Corp or Navy). **Table 46** shows only 8.2% Form I participants are veterans.

Table 47 identifies the participants' use of Veteran Administration (VA) health care services since last follow-up. VA Services data were collected since October 31, 2000. A small percentage of participants also used VA services for health care, ranging from 4.1% of post-injury year 1 participants to 5.1% of post-injury year 35 participants.

Primary Payer: Tables 48 - 49

Table 48 documents the participants' primary payer of medical costs during inpatient stay. This care includes hospitalization, outpatient medical and rehabilitation services, vocational rehabilitation, education, training, equipment, medications and supplies, attendant care and custodial care, but does not include income maintenance (unemployment payments). 'Primary' is defined as the organization that pays first. 'Private Insurance' ranked first during the period of initial hospitalization, providing support for about half (49.8%) of the participants. Medicaid provided support for more than one-fourth (27.4%) of the participants during this same period.

Primary payers by post-injury year appears in **Table 49. '**Private Insurance' ranked first among participants at post-injury years 1 and 5 (44.5% and 32.4%, respectively). However, the proportion of participants receiving Medicare benefits increased substantially across post-injury years, from 7.4% of post-injury year 1 participants to 51.7% of post-injury year 35 participants. The proportion of participants receiving Medicaid support decreased steadily through all post-injury years.

The high number of records coded as 'Unknown/missing' and therefore excluded in Tables 48 and 49 is a result of the historical changes in data collection. Sponsors of care data were collected from 1973 to September 2006, with up to five entries for sponsors. Beginning in 1987,

coding position #1 (position #1 is the first of five entries) was designated for the primary payer with no order for the following 4 positions. For records prior to 1987 that had more than one entry, all codes were moved down one position, and the 'Unknown' code was inserted in coding position #1. In 2006, the 'Sponsor of care' variables were retired. In October 2011, a single primary payer variable was added back to the database and Primary Sponsor of Care was converted to 'Primary Payer'.

Family Income: Table 50

Table 50 categorizes the income level of the family members living in the same household as the participant by post-injury years. The incomes of all family members 15 years old and over, related to the respondent by birth, marriage or adoption and living in the household were included. The proportion of participants with family income less than $25,000 was above 40% through the post-injury year 25, but declines for those in the post-injury years 30, 35, and 40 (38.4%, 33.7%, and 27.8%, respectively). Family income of $75,000 or more was reported by approximately 15% of post-injury year 1, 5, 10, and 15 participants, but increased across the remaining years, to 28.6% of post-injury year 40 participants.

The 'Family income' variable was first added to the database in 1996, as one of the items included in the Craig Handicap Assessment and Reporting Technique (CHART) economic self-sufficiency subscale. Use of the CHART economic self-sufficiency subscale was discontinued after September 2006. The 'Family income' variable, however, was added to the database in October 2011. To a large extent, these historical changes explain the high number of unknown/missing data in this variable.

Injuries & Spinal Surgery: Table 51 - 53

Table 51, Vertebral Injury, documents spinal fractures and/or dislocations that occurred at the same time as the SCI. A spinal fracture or dislocation is defined as any break, rupture, or crack through or between any parts of the vertebral column from the occiput to coccyx. On average, 79.8% of participants had at least one vertebral injury, with percentages ranging by System from 64.5% to 92.7%.

Associated injuries are summarized in **Table 52**. This variable documents at least one of the following conditions: moderate to severe traumatic brain injury (Glasgow Coma Scale score of 12 or below), non-vertebral fractures requiring surgery, severe facial injuries affecting sensory organs, major chest injury requiring chest-tube or mechanical ventilation, traumatic amputations of an arm or leg or injuries severe enough to require surgical amputation, severe hemorrhaging, or damage to any internal organ requiring surgery. This variable excludes associated injuries not listed, negative findings from exploratory surgeries, and injuries that pre-date the SCI. Associated injuries occurred in 38.8% of cases, ranging by System from 20.8% to 58.7%.

The 'Spinal Surgery' variable (**Table 53**) documents whether any of the following spinal surgical procedures were performed at any point during the inpatient hospitalization period following the SCI: laminectomy, neural canal restoration, open reduction, spinal fusion, or

internal fixation of the spine. On average, 79.1% of participants underwent spinal surgery, ranging by System from 67.4% to 89.5%.

Place of Residence: Tables 54 – 58

Table 54 summarizes place of residence at the time of injury. This variable has been collected for System admissions since December 1, 1995. In October 2000, 'Convent, monastery, or other religious order' was added to 'Group Living Situation.' In October 2011, a new code, 'Assisted Living,' was added. At the time of injury, the majority (97.9%) of participants were living in a private residence, which includes house, apartment, or individual residence in a retirement village. There is very little variability between Systems.

Place of residence at discharge is shown in **Table 55**. Most participants (87.4%) were discharged to a private residence. The proportion of participants discharged to a private residence ranged by System from 74.6% to 99.2%.

Table 56 shows place of residence across post-injury years. By far, private residence was most common, ranging from 91.5% for post-injury year 1 participants to 98.1% for post-injury year 40 participants. The percentage of those reporting nursing home residences decreased across years, from 3.9% of post-injury year 1 participants to 0.8% of post-injury year 40 participants.

A variable to document whether the participant was discharged to a residence inside the System's catchment area (**Table 57**) was added in October 2006. The catchment area is defined by each System and typically consists of surrounding counties, the state, and surrounding states. Most participants were discharged to residences inside the catchment areas (96.6%), with very little variation between Systems.

Collection of data on participant's residence in the System's catchment area at the time of the post-injury follow-up Form II (**Table 58**) began in October 2006. There was a trend for migration out of the catchment area as post-injury years increased, from 3.7% of post-injury year 1 participants to 36.1% of post-injury year 35 participants living outside the catchment area.

Days Hospitalized: Tables 59 - 63

Table 59 depicts median days from injury to System admission by year of injury. Median days from injury to System admission were at the peak (20 days) in 1972-1979 and at the lowest (1 day) in 1990-1999. A change in eligibility criteria implemented in January 1987 resulted in a decrease in median days from injury to System Admission. The eligibility criteria allowed only patients admitted to the System within 60 days of injury to be entered into the National SCI Database. In 2000, eligibility criteria resumed the previous standards (allowing injuries within 1 year of admission). For the recent years (2010-2016), the longest median duration from injury to System Admission is 14.5 days at one System and five Systems had a median of 1 day from injury to System Admission.

Database revisions in November 1995 resulted in the separation of the single 'Length of stay' variable into 'Acute care length of stay' and 'Rehabilitation care length of stay.' Data on the

length of stay were separated based on formulas involving days from injury to rehabilitation and total days hospitalized, with all short-term discharge days applied to rehabilitation. The next four tables (Tables 60-63) include records for those patients who were admitted to the system within 1 day of their injury (Day-1 Admissions), therefore, the resulting statistics reflect lengths of stay for patients treated entirely within the respective SCI Model System.

Table 60 reflects median days spent in acute care by year of injury. Median acute care length of stay has declined from 24 days in 1972-1979 to 11 days in 2010-2016. Median rehabilitation length of stay has also declined over the last 40 years, from 98 days in 1972-1979 to 35 days in 2010-2016 (**Table 61**).

Table 62 depicts median days hospitalized in the acute care unit by year of injury and by neurologic level and extent of lesion (neurological category). Participants with complete tetraplegia injuries typically had the longest acute stays (25 days for all years), while participants with minimal deficits had the shortest stays. The decrease in median acute length of stay over the past 40 years is noted across various levels of neurological category. Minimal deficit categories ('Paraplegia, Minimal Deficit' and 'Tetraplegia, Minimal Deficit') were added in October 1987 to better describe participants with minimal or no neurologic deficit. Retrospective updates were allowed but not required for minimal deficit categories.

Table 63 shows that median days hospitalized in the rehabilitation unit were greatest for participants with complete tetraplegia (95 days for all years), ranging from 142 days in 1972-1979 to 52 days in 2010-2016. For those with incomplete paraplegia, the rehabilitation length of stay ranged from 68 days in 1972-1979 to 29 days in 2005-2016.

Neurologic Level at Discharge: Tables 64 - 67

The proportion of participants with cervical, thoracic, lumbar, and sacral levels of injury at discharge is presented in the next four tables. To determine a single neurologic level of injury, the most rostral (highest) sensory and motor level on the left and right side at discharge was used. Percentages presented in all four tables were calculated based on the total number of records (cervical, thoracic, lumbar and sacral = 30,393 records).

Overall, 54.2% of participants had cervical lesions at discharge, 35.0% had thoracic lesions, 10.4% had lumbar lesions, and 0.4% had sacral lesions. Close to half (45.5%) of the participants in the database were discharged with cervical lesions at C4 (15.0%), C5 (15.2%), C6 (10.2%), or C7 (5.1%). The next most common levels of lesion at discharge were T12 (6.2%) and L01 (4.9%).

Neurologic Categories: Tables 68 - 71

'Neurologic category at discharge,' which documents the level and extent of lesion at discharge, is separated into paraplegia complete, incomplete, or minimal deficit, and tetraplegia complete,

incomplete, or minimal deficit. As above, minimal deficit groups were added in 1987, and retrospective updates were allowed but not required.

Table 68 shows that, at the time of discharge most participants had neurologically incomplete tetraplegia (32.1%), followed by neurologically complete paraplegia (24.3%), neurologically complete tetraplegia (18.9%), and neurologically incomplete paraplegia (18.6%).

Neurologic categories at discharge by etiology group are depicted in **Table 69**. Neurologically incomplete tetraplegia ranked first for etiologies of vehicular accidents (32.8%), sports (47.7%) and falls (40.7%). Neurologically complete paraplegia ranked first (42.2%) for SCIs resulting from violence. Neurologically incomplete paraplegia ranked first (32.2%) in 'Other' (which includes medical complications). Interestingly, 85.2% of all sports-related injuries resulted in tetraplegia, while 68.0% of all violence-related injuries resulted in paraplegia.

The neurologic category at discharge grouped by year of injury is depicted in **Table 70**. Both tetraplegia complete and paraplegia complete injuries have declined since the 1970s (25.3% and 27.7%, respectively) to current levels (12.1% and 18.2%, respectively, in 2010-2016).

Neurologic data in **Table 71** was collected from only those participants who completed a clinical System neurologic exam. This exam may be collected from 6 months prior to the first anniversary of the injury (year 1) to 6 months after the first anniversary. At the year 1 exam, neurologically incomplete tetraplegia ranked first (22.1%), followed by neurologically complete paraplegia (19.5%), neurologically incomplete paraplegia (14.4%), and neurologically complete tetraplegia (14.2%).

ASIA Impairment Scale: Tables 72 – 77

As mentioned above, the ASIA Impairment Scale (AIS), formerly known as the Frankel Grade, is used to quantify the degree of residual neurologic function. The next six tables report AIS grades, by Rehabilitation Admission and System Discharge, and by cervical, thoracic, lumbar, and sacral levels.

Table 72 depicts the proportion of participants with each AIS grade at discharge. Nationally, 'Complete (A)' injuries at discharge constitute the largest category (43.2%), and 'Functional Motor Incomplete (D)' injuries constitute the second largest category (29.2%).

AIS grade at admission to acute care, admission to rehabilitation, and discharge from the System appears in **Table 73** (for Day-1 Admissions only). The collection of data regarding neurologic function at admission to rehabilitation began October 31, 2000, and accordingly, the values in the 'Rehabilitation admission' column were generated from a smaller 'known value' sample. Between acute admission and System discharge, the proportion of participants declined in three out of the four categories ('Complete (A),' 'Sensory Incomplete (B),' and 'Non-functional Motor Incomplete (C)'). Conversely, the percentage of participants with injuries in the 'Functional Motor Incomplete (D)' category increased from 18.9% at acute admission to 31.7% at System discharge.

AIS grade by neurologic level of lesion at discharge appears in **Tables 74-77**. Among persons with cervical lesions, neurologically complete (A) and Functional Motor Incomplete (D) lesions were equally common. Thoracic lesions were more likely to be neurologically complete (A). Lumbar lesions were more likely to be Functional Motor Incomplete (D).

Table 77 depicts the proportion of participant's AIS grade at the first anniversary after the injury. These data require a System exam and can be collected from 6 months prior to the 1-year anniversary to 6 months after the anniversary. Of the participants with completed year 1 follow-ups, 33.6% had neurologically complete (A) injuries and 22.3% had Functional Motor Incomplete (D) injuries.

ASIA Motor Index Scores: Tables 78 - 79

The ASIA Motor Index Score is a measure of motor function, ranging from 0 to 100, used to document neurologic recovery. The 'ASIA Motor Index Score' variable was added in 1986 and data collection at the time of admission to rehabilitation was added in 1993. The analyses for Tables 78 and 79 used data entered since October 1993.

Mean ASIA Motor Index Scores (Day-1 Admissions only) at acute admission, admission to rehabilitation, and first definitive System discharge appear in **Table 78**. Nationally, the mean score increased from 44.0 at System admission to 47.9 at rehabilitation admission and to 55.6 at discharge. A similar trend was observed at each System.

Table 79 shows the mean ASIA Motor Index Scores (56.7 for all Systems combined) at 1 year post-injury. These data require a System exam and may be collected from 6 months prior to the 1-year anniversary to 6 months after the anniversary.

Functional Independence Measure Scores: Tables 80 - 82

Functional status of participants at System discharge and gain in function from rehabilitation admission to System discharge are important measures of the quality of care provided by SCI Model Systems. The instrument chosen by the SCIMS to assess functional status is the Functional Independence Measure (FIM), introduced in 1986 by the Task Force to Develop a Uniform Data System (UDS) for Medical Rehabilitation. Although the complete FIM consists of 18 items, only the motor items are currently documented in the National SCI Database. The FIM Total Motor Score has 13 units as the lowest possible score and 91 units as the highest possible score (representing the most independent level of motor function). Items include feeding, grooming, bathing, dressing upper and lower body, toileting, bladder and bowel control, transfer to bed or chair, toilet, tub or shower, locomotion and stair climbing. Form I required FIM data after October 1988, and Form II required FIM data after February 1996. FIM data is not collected from those less than 6 years old.

Table 80 shows the national mean FIM Total Motor Score increased from rehabilitation admission to discharge (25.3 and 54.5, respectively). There is very little variability between Systems in rehabilitation admission and discharge scores.

Table 81 shows an increase in mean FIM Total Motor Score from rehabilitation admission to discharge, regardless of the neurologic category. Persons with complete tetraplegia had the lowest FIM scores (15.0 at rehabilitation admission and 28.6 at discharge).

Mean FIM Total Motor Score and year post-injury is depicted in **Table 82**. There was little variability in FIM scores across all post-injury years after year 1, regardless of neurologic category. The FIM Motor score was highest for the incomplete and minimal deficit groups and lowest for the complete tetraplegia group throughout the years.

Respirator Use: Tables 83 - 85

These tables document the use of mechanical ventilation to sustain respiration. In October 2000, data collection of respirator use during System hospitalization was deleted and the data are now collected at the time of System rehabilitation admission and at the time of System discharge. The database collects three different categories of mechanical ventilator use: 1. 'Yes, limited, short-term use for pulmonary complications;' 2. 'Yes, ventilator-dependent or ventilator use requiring a weaning process;' and 3. 'Yes, phrenic nerve stimulator.' These three groups have been combined into the mechanical ventilator ('Respirator Use') required category.

Tables 83 and 84 separate paraplegia from tetraplegia level lesions. Of the participants with paraplegia level lesions admitted to the System rehabilitation, 5.7% required respirator assistance. Most persons with paraplegia were discharged with no respirator use (only 0.5% required respirator use at discharge). **Table 84** shows 20.4% of the persons with tetraplegia required the use of a mechanical respirator at the time of admission to rehabilitation, whereas only 5.8% were discharged requiring a respirator. Intersystem variability in the proportion of persons with tetraplegia who required the use of a respirator at System rehabilitation admission was substantial, ranging from 1.1% to 33.8%. The proportion of those with tetraplegia who were discharged requiring a respirator also varied considerably, ranging from 0.0% to 17.1%. This variability may be partly attributed to whether Systems provide services for participants requiring mechanical ventilation.

Table 85 shows the proportion of participants who required the use of a mechanical respirator at 1 year post-injury. Only 3.5% of participants in the tetraplegia group and 0.2% of participants in the paraplegia group still required the respirator at 1 year post-injury.

Method of Bladder Management: Tables 86 - 89

These tables represent the primary method of bladder management being used at discharge and year post-injury. In November 1995, new categories were added (codes: 2-'Indwelling catheter after augmentation or continent diversion;' 3-'Catheter free with external collector, no sphincterotomy;' 4-'Catheter free with external collector and sphincterotomy;' 7-'Intermittent catheter program (ICP) only;' 8-'ICP with external collector;' and 9-'ICP after augmentation or continent diversion'). Considering this is a recent change, the minimal number of participants in those categories is not surprising, and as a result, the tables must be interpreted cautiously.

Tables 86 and 87 show the method of bladder management at System discharge, separated by gender. The most common discharge categories for men were ICP (with or without an external collector) (44.4%), followed by normal micturition (17.1%), indwelling catheter (14.3%), and condom catheter drainage (11.9%). Most females were discharged with ICP (40.0%) as well, followed by indwelling catheterization (28.0%), and normal micturition (21.0%). There is intersystem variation in bladder management. For example, suprapubic cystostomy is used more often in two Systems than in the other Systems, regardless of gender.

Tables 88 and 89 show the method of bladder management used by year post-injury, separated by gender. Because of increasingly short lengths of stay in rehabilitation, many males have not yet completed the ICP and graduated to the use of condom catheter drainage before discharge. This trend is reflected by the decline in all forms of ICP use reported by post-injury year 1 and year 5 participants (34.1% and 28.9%, respectively, for males; 32.9% and 29.9%, respectively for females) and concomitant increase in all condom usage ('Catheter free with external collector') reported for males (17.3% and 21.5%, respectively), as compared with method of bladder management at discharge. The gradual decrease in normal micturition over time for both males and females may result from aging or individuals being increasingly less likely over time to return for follow-up. The high percentages of individuals with suprapubic cystostomies after year 20 is the result of a high proportion of records from one System, in which this is a more common method of management.

Stabilizing Devices: Table 90-91

The use of halo devices and thoracolumbosacral orthoses (TLSO) are documented at rehabilitation discharge and data have been collected since October 2006.

The use of a halo device is coded 'yes' when a participant requires spinal column stabilization using a halo at the time of discharge from the inpatient System rehabilitation. All other neck orthoses are excluded. **Table 90** shows that overall, 1.1% of participants were discharged from rehabilitation with a halo device, and there was very little variation among Systems.

The 'Use of thoracolumbosacral orthoses (TLSO)' variable documents whether a participant was fitted for a TLSO brace at the time of inpatient System rehabilitation discharge. The TLSO is a custom-fitted brace that is used to stabilize the spine after spinal surgery. Lumbar supports, corsets, and binders are not included. **Table 91** shows that nationally, TLSOs were fitted for 9.9% of participants. The percentage of participants using TLSOs ranged by System from 5.4% to 23.5%.

Body Mass Index: Table 92-93

Height and weight have been collected since October 2006. Both measurements are taken near admission to rehabilitation as well as at each Form II interview. Height may be collected by self-report but weight requires a calibrated scale measurement at a System exam, which results in a large number of missing records for Table 93, as more than 70% of follow-up data were obtained by phone interviews or mail.

Weight and height were used to calculate BMI (kg/m^2). Nationally, the mean BMI near the time of System rehabilitation admission is 26.5 (**Table 92**), ranging by System from 25.0 to 27.6. **Table 93** shows the mean BMI for each post-injury year, which ranged from 25.5 to 26.9. There was little variability in mean BMI across all post-injury years and across all Systems.

Re-hospitalizations: Tables 94 - 96

These variables document all re-hospitalizations in all hospitals (i.e., System and non-System) that occurred during the 12 months prior to the date of the interview. Cause of re-hospitalization was added in March 2001.

Tables 94 and 95 show the total number of re-hospitalizations and mean total days by post-injury year. By far, the majority of participants reported no rehospitalization across all post-injury year categories. Percentages ranged from 63.6% of post-injury year 1 participants to 73.3% of post-injury year 25 participants. Among those re-hospitalized, mean total of days hospitalized ranged from 23.5 days for post-injury year 1 participants to 20.0 days for post-injury year 20 participants.

Diseases of the genitourinary system were the leading cause of re-hospitalization during most post-injury years, ranging from 28.9% for post-injury year 40 participants to 46.3% for post-injury year 1 participants. Disease of the skin was the second most common cause of re-hospitalization, ranging from 18.7% for post-injury year 1 participants to 34.9% for post-injury year 20 participants. Other common causes of re-hospitalization included respiratory, digestive, circulatory, and musculoskeletal diseases (**Table 96**). The relatively high percentages of 'Other, Unclassified' causes suggest that additional categories may need to be identified for this variable. Percentages may total more than 100 because each participant may endorse multiple re-hospitalizations and reasons.

Self-Perceived Health Status: Tables 97 - 98

"In general, would you say that your health is excellent, very good, good, fair or poor?" is question 1 from the Short Form Health Survey (SF-36). It was added to the database in 1995. "*Compared to a year ago, how would you rate your health in general now?"* is question 2 from the SF-36. If the interview is conducted at year 1, then the time frame is 'since rehabilitation discharge' instead of 'compared to a year ago.' This variable was added in May 1998. These questions are not collected from participants less than 18 years old.

Table 97 depicts the participants' perception of their current health by post-injury year. At the year 1 interview, participants are asked to rate their health since rehabilitation discharge. Most participants (31.9%) endorsed 'Good' and the fewest (5.7%) endorsed 'Poor.' Endorsements of 'Excellent' and 'Very good' increased slightly across post-injury years until post-injury year 25, then the percentage of these responses decreased slightly in post-injury years 30 and 35.

Most post-injury year 1 participants reported their health as 'Much Better' or 'Somewhat Better' (33.0% and 22.8%, respectively). However, reports of 'Somewhat Worse' health increased

across post-injury years, from 7.6% for post-injury year 1 participants to 21.7% for post-injury year 35 participants (**Table 98**).

Satisfaction with Life: Table 99

This table reflects the mean total score measuring the concept of life satisfaction based on the participant's responses to these five statements: "*1. In most ways my life is close to my ideal; 2. The conditions of my life are excellent; 3. I am satisfied with my life; 4. So far I have gotten the important things I want in life; and 5. If I could live my life over, I would change almost nothing."* Response options are: Strongly Disagree (1), Disagree (2), Slightly Disagree (3), Neither Agree or Disagree (4), Slightly Agree (5), Agree (6), or Strongly Agree (7). Total Score ranges from 5 to 35; higher scores imply more satisfaction with life.

Only records entered into the database after 1995 for participants aged 18 or older were used in this analysis. Nationally, mean life satisfaction total score increases across the years post-injury, from 19.0 for post-injury year 1 participants to 24.5 for post-injury year 40 participants.

CHART: Tables 100 - 103

The Craig Handicap Assessment and Reporting Technique (CHART) questionnaire is widely used in measuring societal participation for persons with disabilities. CHART data were added to the National SCI Database in November 1995. It is administered at follow-up to individuals who are 18 years or older. From 1995 to October 2000, the version of the CHART that was used in the database consisted of 26 questions and five subscales (physical independence, mobility, occupation, social integration, and economic self-sufficiency). In 2000, the version included in the database was changed to the short form that consists of only 20 questions and includes a sixth subscale (cognitive independence). CHART data collected from 1996 through 2000 were converted to the short form by the NSCISC so that all CHART data in the database are in the same format. In 2006, the CHART was further reduced to 15 questions and four subscales by removing the economic self-sufficiency questions and subscale and the cognitive independence subscale. The following tables show the mean score of four subscales: physical independence, mobility, occupation, and social integration. Each subscale score is capped at 100, and scores of less than 100 imply the presence of a handicap.

Table 100 depicts the mean CHART physical independence subscale score by year post-injury for each model system. The mean physical independence score increased across post-injury years, from 71.3 for post-injury year 1 participants to 88.7 for post-injury year 40 participants. However, there was considerable intersystem variability in physical independence scores. For example, for post-injury year 1 participants, mean physical independence scores by System ranged from 53.4 to 85.8.

Table 101 depicts the mean CHART mobility subscale score by year post-injury. The mean mobility score shows little variability across years, ranging from 73.5 for post-injury year 1

participants to 79.0 for post-injury year 15 participants then declining slightly to 74.9 in post-injury year 40.

Table 102 depicts the mean CHART occupation subscale score by year post-injury for each System. The mean occupation score increased over years, from 49.2 for post-injury year 1 participants to 66.2 for post-injury year 25 participants then declining slightly to 58.1 in post-injury year 40. However, there was considerable intersystem variability in occupation scores. For example, mean occupation scores for post-injury year 1 participants by System ranged from 37.1 to 62.2. Although the occupation subscale includes other activities besides competitive employment, the trend over post-injury years in this subscale score is consistent with many previous studies of return to work after SCI that have shown a gradual increase in the employment rate over time.

Table 103 depicts the mean CHART social integration subscale by year post-injury. There was very little change across years in social integration scores, which ranged from the lowest of 84.2 (post-injury year 40 participants) to the highest of 87.2 (post-injury year 15 and post-injury year 25 participants).

Patient Health Questionnaire (PHQ): Tables 104 - 105

The PHQ consists of nine questions reflecting the frequency of problems associated with possible depression of persons, plus a tenth question reflecting the overall level of difficulty caused by these problems. The PHQ was added to the Form II collection in October 2000. Beginning in October 2012, only the first two items of the PHQ were required.

Table 104 depicts the frequency and percentage of persons who were bothered by little interest or pleasure in doing things over the last 2 weeks. The majority of respondents reported 'Not at all' across all post-injury years, ranging from the lowest of 47.9% of post-injury year 1 participants to the highest of 62.6% of post-injury year 40 participants. The percentages of those who reported 'More than half the days' and 'Nearly every day' were fairly consistent over the years, ranging from the highest of 17.4% of post-injury year 1 participants to the lowest of 14.1% of post-injury year 20 participants.

Table 105 depicts the frequency and percentage of persons who were bothered by feeling down, depressed, or hopeless over the last 2 weeks. The percentage of those responding 'Not at all' increased over post-injury years, from 46.1% of post-injury year 1 participants to 64.8% of post-injury year 25 participants, while the percentage of those responding 'Nearly every day' decreased slightly over years, from 9.1% of post-injury year 1 participants to 6.0% of post-injury year 35 participants.

Pain: Tables 106 - 107

The severity of pain score is measured on a 0 to 10 scale and asks the participant to rate the usual level of pain over the past 4 weeks. These data were required after March 1, 2001. **Table 106** depicts the mean pain severity score. The usual level of pain did not vary across post-injury

years, staying between 4.2 and 4.5. Furthermore, reported pain severity scores did not vary substantially between Systems.

Table 107 reflects responses to the question of the degree to which pain interfered with work or usual routine. This is a variable from the SF-12 that was added to the NSCISC database in May 1998. It was retained in the National SCI Database along with the self-reported rating of overall health when the remainder of the SF-12 was dropped from the database in September 2000.

Overall, most persons who reported that they had pain also reported that the pain either did not interfere with work or that it interfered only a little bit. The percentage of participants who reported pain interference as 'Not at all' was 18.4% for post-injury year 1 participants and was highest, at 30.0%, for post-injury year 25 participants; the percentage then decreased for those at post-injury years 30, 35 and 40 (28.1%, 26.4% and 24.8, respectively). Approximately 15%–20% of persons reported pain interference with work/routine as 'Quite a bit' to 'Extremely' across all post-injury years.

Ambulation: Tables 108 - 111

Tables 108-110 reflect ambulation ability by year post-injury. These three variables were added May 1, 2004, and reflect the yes/no responses to these three questions: *Are you able to walk (with or without mobility aid) for 150 feet in your home? Are you able to walk (with or without mobility aid) for one street block outside? Are you able to walk (with or without mobility aid) up one flight of steps?*

Among 7,152 participants who were interviewed at year 1, 37.5% reported that they can walk for 150 feet at home, 32.6% can walk for one street block outside the home, and 32.1% can walk up one flight of stairs. The gradual decrease in ambulation ability reported over post-injury years may be the result of aging or because as ambulation improves, follow-up decreases.

Table 111 reflects the types of mobility aids most often used by participants by year post-injury. Percentages may equal more than 100 because some participants used more than one mobility aid (up to five entries per record is possible). Approximately one-half of participants were not ambulatory at post-injury year 1 (52.6%), this increased to 80.5% at post-injury year 40. Of those who were ambulatory, 16.8% did not use a mobility aid at post-injury year 1 to only 2.7% at post-injury year 40. A straight cane was the most commonly used aid across most of the post-injury years. Only a small percentage of participants reported use of an 'Other' aid, suggesting the categories established for this variable are adequate.

Wheelchair Use: Tables 112 - 113

Variables in Tables 112 and 113 were added in May 2004. **Table 112** reflects the participants who use wheelchairs or scooters more than 40 hours per week by year post-injury. The use of wheelchairs tended to increase over the post-injury years, from 59.0% of post-injury year 1 participants to 80.0% of post-injury year 30 participants. The increase may be the result of aging

or reduced follow-up as ambulation improves. **Table 113** identifies the most common type of wheelchair was 'manual' in all years, but use of power chairs increased over the years, from 22.1% of post-injury year 1 participants to 38.2% of post-injury year 40 participants.

Technology Use: Tables 114 – 118

The next five tables describe variables that were required after May 1, 2004.

Table 114 reflects computer use by participants by post-injury year. Overall, computer use increased across post-injury years, from 67.8% of post-injury year 1 participants to 78.8% of post-injury year 35 participants. Slightly over one third of respondents (36.2% to 39.8%) used a computer only at home, with little variability across all post-injury years.

Table 115 reflects internet or email usage by participants by post-injury year. This includes the use of electronic devices that access the internet or email in addition to a computer. Daily internet or email access increased across post-injury years, from 50.7% of post-injury year 1 participants to 72.9% of post-injury year 40 participants.

Table 116 shows ownership of a modified vehicle. The percentage of participants who owned a modified vehicle increased across post-injury years, from 26.2% of post-injury year 1 participants to 73.7% of post-injury year 40 participants. The most common type of modified vehicle owned by participants or their families is a van, followed by car.

Table 117 shows approximately 15% of respondents who own a modified vehicle do not drive. The majority of the respondents who drive transferred into their vehicle to drive, rather than driving from their wheelchairs.

Table 118 reflects cell phone usage by post-injury year. The percentage of participants using a cell phone shows little variation across years, from 77.2% of post-injury year 1 participants to 82.8% of post-injury year 40 participants.

Source of Health & Disability Information: Table 119

Table 119 documents the medium the participant used to access health and disability news and information in the past 12 months. This variable has been collected since October 2006. Up to five sources are documented, with the primary source entered in the first data entry position. Percentages may total more than 100 because each participant may endorse up to five sources. The codes for 'Conversation with family or friends' and 'Conversation with health professionals', were added October 2011. The majority of respondents used the internet, television, or both for health and disability information. Conversations with health care professionals were used by about one-third of post-injury year 1 participants followed by a dip to 24.4 post-injury year 25 participants, then a rise in post-injury years 35 and 40 (41.4% and 61.5% respectively).

Ability to Speak and Understand English at Time of Injury: Table 120

This Form I variable documents the participant's self-report of his or her ability to speak and understand English. A similar variable, 'English as Primary Language' was part of the National SCI Database from October 2000 to 2011. In 2011, the current version of the question was adopted; existing data were converted to either 'Not at all' or to 'Speaks English, but unknown ability'. Most participants speak at least some English (97.3%) and only 2.0% of participants report not speaking English 'Not at all'.

Family Household Income Level at Time of Injury: Table 121

Table 121 categorizes the income level of the family members living in the same household as the participant. The incomes of all family members 15 years old and over, related to the respondent by birth, marriage or adoption, and living in the household were included. Overall, about one quarter (24.1%) of participants endorsed income of less than $25,000 with System variability ranging from 14.6% to 77.2%. Less than one fifth (19.8%) of participants had income of $75,000 or more ranging from 6.5% to 33.5%. Participant responses of 'Decline to answer' or 'Participant doesn't know' comprised 17.3%, making the unknown rate of response above 20%.

Alcohol Use – AUDIT C: Table 122 – 127

These variables document alcohol use over the past 12 months as defined by the AUDIT-C for participants at least 18 years old. The variables were added to the database for all Form I participants with *System Admission* dates on or after October 1, 2011 and all Form II interviews conducted on or after October 1, 2011. Data are collected by interview only according to the AUDIT-C manual. Across the three Alcohol Use tables, the declined rate was less than 2.0%.

Table 122 categorizes the number of times a participant drank alcohol in the 12 months prior to injury (Form I). One quarter (25.7%) of participants endorsed not drinking during the year prior to injury with ranges from 12.8% to 44.8%. Prior to injury, about 30% of participants reported having a drink at least twice a week.

Table 123 categorizes the number of times a participant drank alcohol in the past 12 months prior to the follow-up interview. For post-injury year 1 participants, almost half (45.0%) endorsed not drinking at all since discharge. The percentage of non-alcohol users hovered near 40% across all post-injury years. The number of drinks was fairly consistent across post-injury years.

Table 124 categorizes the number of drinks a participant drank on the days drinking in the 12 months prior to injury (Form I). Over one third of participants (36.2%) endorsed having '1 or 2 drinks' when drinking and System participant responses ranged from 21.1% to 43.6%. Slightly over 10% of participants reported drinking 5 or more drinks on one occasion.

Table 125 categorizes the number of drinks a participant drank on the days drinking in the 12 months prior to the post-injury interview. At post-injury year 1, 34.1% of participants endorsed

drinking ‘1 or 2 drinks’ on one occasion, and the percentage increased over time to 53.4% for post-injury year 40 participants. The percentage of participants drinking 5 or more drinks at one occasion varies by post-injury years, ranging from 0.8% for post-injury year 40 to 7.3% for post-injury year 20 participants.

Table 126 categorizes the number of times a participant drank 6 or more drinks on the days drinking in the 12 months prior to injury (Form I). Over one half of respondents (58.0%) did not have at least 6 drinks on one occasion. Almost one tenth (9.4%) of participants reported drinking 6 or more drinks on a monthly basis. Another 9.0% of participants reported drinking 6 or more drinks at least weekly.

Table 127 categorizes the number of times a participant drank 6 or more drinks on the days drinking prior to post-injury interview. About 80% of participants endorsed not drinking 6 or more drinks with the percent remaining stable until post-injury year 25 participants; responses rose slightly across years to 90.1% for post-injury year 40 participants. Across all follow-up years, participants reported drinking 6 or more drinks at least weekly from 1.5% in post-injury year 1 to 4.1% in post-injury year 25.

Smoking Cigarettes by Post-Injury year: Table 128

This variable documents the use of cigarettes for participants 16 years and older (all other tobacco products are excluded). This variable was added for all post-injury interviews conducted on or after October 1, 2011. **Table 128** shows an increase in reported smoking from post-injury year 1 to post-injury year 5 (18.5% and 23.9%, respectively), then a slight decrease across the remaining post-injury years to 11.9% for post-injury year 40 participants.

Sensory Scores: Table 129 – 132

The Sensory Index and Summary Scores, as described in the International Standards for Neurological Classification of Spinal Cord Injury guidelines, were measured by testing 28 key dermatomes on each side (right and left) from C2 to S4-5, ranging from 0 (no sensation) to 2 (intact). The total maximum score for Light Touch and Pin Prick on the left and right is 56 each (total 112 on the right and 112 on the left). The associated table averages excluded records categorized as ‘No exam’. These variables were added October 1, 2011 and were collected at three time points: Rehabilitation Admission, System Discharge, and post-injury year 1 exam. Comparison of the averages must be interpreted cautiously as multiple factors impact System differences.

Table 129 shows the mean Light Touch Total score at Rehabilitation Admission was 66.1. Rehabilitation Admission averages ranged from 55.9 to 74.1. The mean Light Touch Total at System Discharge was 71.2, and mean System Light Touch Total scores ranged from 64.1 to 80.5.

Table 130 shows the mean Pin Prick Total score at Rehabilitation Admission was 58.1. Rehabilitation Admission averages ranged from 47.2 to 68.5. The mean Pin Prick Total at System Discharge was 63.1, and mean System Pin Prick Total scores ranged from 53.7 to 74.3.

Tables 131 and 132 show descriptive statistics for Light Touch and Pin Prick Total Scores at post-injury year 1. The mean Light Touch Total score for all Systems was 67.1, scores ranged from 31.5 to 78.9. The mean Pin Prick Total Score for all Systems was 63.7, scores ranged from 33.8 to 77.6.

Reason for Change in Bladder Management by Point-Injury Year: Table 133

This variable documents the reason for the most recent change in primary method of bladder management since the Form I or last followed Form II (whichever is most recent). Change is defined as using a different Bladder Management code from the last known Bladder Management. If there is more than one change in Bladder Management, the most recent reason for change was reported. The primary reason was defined by the participant when more than one reason for change was reported; when the participant does not specify the primary reason, the codes are in hierarchical order. This variable was added for all Form II interviews conducted on or after October 1, 2011.

At post-injury year 1, 68.5% of participants reported no change to the primary type of bladder management and after post-injury year 1, approximately 80% of participants reported 'No change' in bladder management. Regained bladder control was the main reason for bladder management changes during the early post-injury years (ranging from 16.5% for post-injury year 1 participants to 5.5% at post-injury year 10 participants), while medical complications were an increasing factor for a change in bladder management during the later years, 6.9% for post-injury year 30 participants and 10.3% for post-injury year 40 participants.

Presence and Severity of Traumatic Brain Injury Symptoms at Injury: Table 134

These variables document the symptoms and severity of traumatic brain injury (TBI) at the time of the spinal cord injury. Interviewer asks two questions: *At the time of your spinal cord injury, were you knocked out or did you lose consciousness (LOC)? If yes, for how long* and *At the time of your spinal cord injury, were you dazed or did you have a gap in your memory from the injury.* NSCISC software uses these two variables to categorize the presence and severity of the symptoms of TBI as 'Improbable TBI', 'Possible TBI', 'Mild TBI', 'Moderate TBI' or 'Severe TBI'. The variables were added to the database on October 1, 2011.

Almost half (45.8%) of respondents reported 'Improbable TBI' and 8.7% report 'Possible TBI'. More than one third of participants were categorized as having mild, moderate, or severe TBI symptoms. Mild TBI symptoms were reported more often than Moderate or Severe (21.3%, 11.6%, and 4.1%, respectively).

Depression Diagnosis: Tables 135-136

These variables document a self-reported diagnosis by a health professional of depression prior to the spinal cord injury (Form I) and during the past 12 months for Form II follow-up (for Year 1, the time frame is 'since discharge'). Interviewer asks *Have you ever been told (or told in the past 12 months) by a health professional that you have depression?* Data are collected primarily by self-report and includes major depression and clinical depression but excludes bipolar, adjustment disorder, grief and bereavement. These variables were added to the database for Form I and Form II in October 2011.

Depression diagnosis prior to injury was endorsed by 14.1% of participants, System percentages ranged from 8.5% to 22.2%. For post-injury year 1 participants, 20.3% endorsed depression diagnosis since injury onset; 16.9% of post-injury year 5 participants reported being diagnosed with depression; following years decrease slightly to 9.9% for post-injury year 40 participants.

Anxiety Diagnosis: Tables 137-138

These variables document self-reported diagnosis by a health professional of anxiety (post-traumatic stress disorder, panic disorder or generalized anxiety disorder) prior to the spinal cord injury (Form I) and during the past 12 months for Form II follow-up (for Year 1, the time frame is 'since discharge'). Data are collected primarily by self-report. When more than one diagnosis is reported, the first chronologic disorder is entered to the database. These variables were added to the database for Form I and Form II in October 2011.

Almost 90% of participants have no anxiety disorder prior to injury. General anxiety disorder is endorsed most often (6.4%) prior to injury with system ranges from 1.9% to 9.8%. For post-injury year 1 participants, 81.9% reported no anxiety with a slight increase across years to 93.5% for post injury year 40 participants. For post-injury year 1 participants, Post-Traumatic Stress Disorder was reported at 6.3%, General Anxiety Disorder at 5.7% and panic disorders was reported 0.7%.

Diabetes Diagnosis: Tables 139 – 140

These variables identify the self-reported presence and treatment of diabetes prior to the injury and at each required follow-up year. Response categories are: controlled by medication, controlled by diet and/or exercise, or no method of control. These variables were added to the database for Form I and Form II in October 2011.

Prior to injury, 10.3% of participants endorsed some type of diabetes diagnosis with the majority controlled by medication (8.6%). For post-injury year 1 participants, 10.7% endorsed some type of diabetes diagnosis and this rate is steady over the years with a slight increase in later years (16.0% for post-injury year 40 participants). Once again, most self-reported diabetes diagnosis was controlled by medication.

Urinary Tract Infection requiring antibiotic treatment by post-injury year: Table 141

This variable identifies the self-reported occurrence of a urinary tract infection requiring treatment with an antibiotic in the past 12 months with the presence of chills or fever. This variable was added to the database for Form II in October 2011. For post-injury year 1 participants, over one half (54.4%) endorsed urinary tract infections (with chills and fever (28.7%), without chills or fever (23.1%) or unknown chills and fever (2.6%)). Levels of endorsement are fairly stable over the post-injury years.

Pressure ulcer occurrence in past 12 months by post-injury year: Table 142

This variable identifies the self-reported occurrence of a pressure ulcer of grade 2 or higher in the past 12 months. This variable as added to the database for Form II in October 2011. At post-injury year 1, 24.6% of participants endorsed the occurrence of pressure ulcers since discharge from rehabilitation. There was an increase over the post-injury years to endorse occurrence of pressure ulcers (36.3% at post-injury year 40).

Computer use with assistance from another person by post-injury year: Table 143

This variable documents the need for assistance of another person to use a computer including turning the computer on or off; positioning the computer or individual for computer use; assistance with set up or devices; using a computer by proxy. This variable was added to the database for Form II in October 2011. For post-injury year 1 participants, 10.1% required assistance from another person to operate a computer. By post-injury year 40, only 6.1% needed assistance. Participants who reported not using a computer remain fairly stable across years at approximately 18%.

Utilization of Assistive Devices for computer use by post-injury year: Table 144

This variable recorded up to five assistive devices used to operate a computer. The first device listed was the most frequently used device. This variable was added to the database for Form II in October 2011. Totals may equal more than 100% because each participant may endorse up to five devices. Across post-injury years, about two-thirds of participants endorsed no assistive devices (range from 62.9% at post-injury year 30 to 67.1% at post-injury year 10). Across all post-injury years, the most often used devices were speech recognition or a brace/splint (near 5%).

Tables

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 1. Total forms entered into the National SCI Database as of December, 2016

Form II excludes Lost to Follow-up

	Registry	Form I	Form II	Total
Total	13,650	32,159	116,985	162,794

Footnote: Form II includes 26,677 participants with Follow-up records.

Table 2. Number of Form IIs by post-injury year.

Excludes Lost to Follow-up

	Post-Injury Year																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Total	24,160	12,965	9,530	8,121	13,298	5,894	5,042	4,161	3,440	7,658	2,117	1,566	1,122	885	5,037	489	344

	Post-Injury Year																			
	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	35	37	39	40	Total
Total	260	191	3,851	50	24	16	19	2,956	7	5	8	9	2,299	1	1	1	1,194	1	1	262	116,985

Table 3. Number of new records entered into the National SCI Database since the last Annual Report in September 2015

Form II excludes Lost to Follow-up

	Registry	Form I	Form II	Total
Total	639	907	2,652	4,198

Table 4. Number of New Records entered into the National SCI Database for 2011-2016 funding cycle.

Form II excludes Lost to Follow-up

	Registry	Form I	Form II	Total
Total	1,720	3,711	12,047	17,478

Table 5. Percentage of Day-1 Admissions (for Form I Patients admitted to a System for 2011-2016 funding cycle).

	Total Number of Form Is Entered	Total day-1 admissions	% day-1 admissions
Total	3,711	1321	35.6

Table 6. Number of Registry Patients by Year of Injury.

	Year of Injury															
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total	73	488	437	478	521	508	553	563	560	617	568	581	608	570	444	506

	Year of Injury															
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Total	477	358	373	453	404	386	370	431	444	400	319	341	270	353	196	13,650

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 7. Number of Form I Patients by Year of Injury.

	Year of Injury															
	1972	**1973**	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**1980**	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**	**1987**
Total	3	220	401	579	684	822	848	1,005	1,130	818	749	1,155	1,097	977	930	662

(Continued)

	Year of Injury														
	1988	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Total	628	645	597	705	650	654	689	638	735	754	729	767	674	716	723

(Continued)

	Year of Injury														
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**Total**
Total	694	636	658	686	779	787	697	703	676	757	761	753	753	435	32,159

Footnote: Enrollment criteria changed in 1987 and 2000.

Table 8. Number of Form I Day-1 Admissions by Year of Injury.

	Year of Injury															
	1972	**1973**	**1974**	**1975**	**1976**	**1977**	**1978**	**1979**	**1980**	**1981**	**1982**	**1983**	**1984**	**1985**	**1986**	**1987**
Total	1	72	103	178	196	238	229	293	359	262	221	463	434	331	429	378

(continued)

	Year of Injury														
	1988	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**
Total	348	359	382	413	388	394	376	351	409	400	406	397	323	356	350

(continued)

	Year of Injury														
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**Total**
Total	290	267	282	290	277	290	249	269	286	254	274	258	273	162	13,560

Footnote: Enrollment criteria changed in 1987 and 2000.

Table 9. Number of Form IIs by post-injury year and Calendar year of data collection.

Form II excludes Lost to Follow-up *(continued on next page)*

	Calendar Year of Data Collection															
Post-injury year	**1975-1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**
1	7,514	981	693	451	427	590	521	582	529	485	506	571	590	548	454	476
2	5,999	808	723	443	381	457	333	555	440	390	407	466	467	468	389	45
3	4,669	681	624	540	390	399	275	396	445	361	245	199	87	113	48	26
4	3,635	597	496	445	421	434	263	368	306	350	254	211	197	64	60	5
5	2,921	408	430	361	328	472	254	328	300	242	335	389	348	279	296	305
6	2,277	384	254	323	280	381	295	305	295	217	114	220	230	162	119	14
7	1,713	405	248	205	258	354	257	345	260	204	107	112	213	174	142	32
8	1,268	305	279	220	141	280	221	289	301	211	92	89	100	174	160	22
9	935	239	208	228	167	181	210	222	269	234	89	104	82	98	139	20
10	634	211	147	186	174	202	146	226	216	234	259	231	212	192	181	239
11	364	176	139	152	121	186	135	140	194	179	21	57	88	82	57	13
12	148	146	110	132	107	132	129	141	118	160	12	11	62	71	57	7
13	35	81	100	105	92	107	93	134	124	99	9	5	12	42	59	9
14	0	35	59	96	71	100	70	115	128	112	7	17	13	10	35	9
15	0	0	29	57	80	98	112	83	103	140	180	224	263	252	234	237
16	0	0	0	24	38	83	53	75	69	91	18	6	10	4	2	0
17	0	0	0	0	14	32	67	57	72	59	13	5	10	0	1	4
18	0	0	0	0	0	11	25	70	49	64	7	7	12	0	1	2
19	0	0	0	0	0	0	4	26	63	47	2	20	11	8	5	1
20	0	0	0	0	0	0	0	7	20	75	111	167	170	178	160	203
21	0	0	0	0	0	0	0	0	3	20	4	3	8	2	1	0
22	0	0	0	0	0	0	0	0	0	2	2	4	5	2	2	0
23	0	0	0	0	0	0	0	0	0	0	0	3	5	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	2	2	2	4	0
25	0	0	0	0	0	0	0	0	0	0	0	0	6	55	105	155
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	32,112	5,457	4,539	3,968	3,490	4,499	3,463	4,464	4,304	3,976	2,794	3,123	3,203	2,980	2,711	1,824

Footnote 1: Date of each record first entered into the database (Indate) was added in 1986.
Footnote 2: Form II data collection frequency changed in 1995 and 2000.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 9. Number of Form IIs by post-injury year and Calendar year of data collection.

	Calendar Year of Data Collection															
Post-injury year	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**Total**
1	434	490	592	472	457	516	616	538	667	539	381	650	672	647	571	24,160
2	18	30	31	15	10	9	18	13	20	12	8	4	1	4	1	12,965
3	1	3	8	1	1	2	6	2	2	1	1	2	1	0	1	9,530
4	2	2	0	1	0	1	5	1	0	1	0	0	1	0	1	8,121
5	272	243	272	300	338	423	382	322	338	331	367	460	431	488	335	13,298
6	1	1	2	1	0	0	7	2	3	1	1	2	2	1	0	5,894
7	1	0	1	1	1	1	3	2	0	0	1	0	2	0	0	5,042
8	4	0	2	0	0	0	1	0	0	0	0	0	0	1	1	4,161
9	7	6	0	0	0	0	1	0	0	1	0	0	0	0	0	3,440
10	212	169	188	196	190	295	311	250	268	241	317	410	312	351	258	7,658
11	2	4	1	1	0	1	1	1	1	1	0	0	0	0	0	2,117
12	2	8	3	1	1	0	4	3	0	0	0	0	0	0	1	1,566
13	3	8	0	0	0	0	3	1	0	0	0	0	0	0	1	1,122
14	2	3	1	0	0	0	1	0	0	0	0	0	0	1	0	885
15	140	117	143	158	178	239	221	187	202	175	238	253	227	251	216	5,037
16	0	2	3	0	0	0	9	1	0	0	0	0	0	0	1	489
17	0	0	6	0	0	0	3	0	0	0	0	1	0	0	0	344
18	0	1	8	0	0	0	1	0	0	0	0	0	0	1	1	260
19	0	1	2	0	0	0	1	0	0	0	0	0	0	0	0	191
20	182	163	223	202	215	173	130	111	155	140	222	201	225	249	169	3,851
21	0	0	3	1	4	0	0	1	0	0	0	0	0	0	0	50
22	1	0	1	2	0	0	1	2	0	0	0	0	0	0	0	24
23	0	2	2	0	0	0	1	0	0	1	0	0	1	0	1	16
24	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	19
25	131	142	178	196	166	219	209	178	217	168	204	157	144	170	156	2,956
26	0	0	3	1	0	2	0	0	0	0	1	0	0	0	0	7
27	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
28	0	0	5	2	0	0	0	0	0	0	0	0	0	0	1	8
29	0	0	8	1	0	0	0	0	0	0	0	0	0	0	0	9
30	0	5	53	105	112	205	177	179	214	178	213	190	245	244	179	2,299
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
32	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
35	0	0	0	0	0	0	6	53	100	105	183	185	155	241	166	1,194
37	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
40	0	0	0	0	0	0	0	0	0	0	1	9	38	113	101	262
Total	1,415	1,400	1,753	1,657	1,673	2,086	2,118	1,847	2,187	1,895	2,138	2,524	2,457	2,764	2,164	116,985

Footnote 1: Date of each record first entered into the database (Indate) was added in 1986.
Footnote 2: Form II data collection frequency changed in 1995 and 2000.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 10. Primary Cause of Death

ICD9CM Codes	Primary Cause of Death	n	%
460-519	Diseases of the respiratory system	2,769	21.9
000-139	Infective and parasitic diseases	1,523	12.1
400-414	Neoplasms	1,279	10.1
140-239	Hypertensive and ischemic heart disease	1,262	10.0
420-429	Other heart disease	1,059	8.4
E800-E949	Unintentional injuries	841	6.7
520-579	Diseases of the digestive system	602	4.8
430-438	Cerebrovascular disease	456	3.6
E950-E959	Suicide	396	3.1
415-417	Disease of pulmonary circulation	396	3.1
580-629	Diseases of the genitourinary system	373	3.0
780-799	Symptoms and ill-defined conditions	368	2.9
240-279	Endocrine, nutritional, metabolic and immunity disorders	343	2.7
320-389	Diseases of the nervous system and sense organs	255	2.0
440-448	Diseases of the arteries, arterioles, and capillaries	147	1.2
710-739	Diseases of the musculoskeletal system and connective tissue	129	1.0
E980-E989	Subsequent trauma of uncertain nature (unintentional/suicide/homicide)	127	1.0
290-319	Mental disorders	124	1.0
E960-E969	Homicides	111	0.9
280-289	Diseases of blood and blood-forming organs	38	0.3
451-459	Diseases of veins, lymphatics, and other diseases of the circulatory system	24	0.2
740-759	Congenital anomalies	15	0.1
E970-E979	Legal intervention	2	<0.1

Footnote: There are 1,151 persons whose primary cause of death is unknown.

Table 11. Cumulative Survival – National

Years Post Injury	Patients Entered	Censored	Dead	Effective Number Exposed	Proportion Dead	Proportion Surviving	Cumulative Survival at Beginning of Interval
0 - 1	48,510	8,228	1955	44,396.0	0.0440	0.9560	1.0000
1 - 2	38,327	2,940	867	36,857.0	0.0235	0.9765	0.9560
2 - 3	34,520	783	590	34,128.5	0.0173	0.9827	0.9335
3 - 4	33,147	344	589	32,975.0	0.0179	0.9821	0.9173
4 - 5	32,214	659	509	31,884.5	0.0160	0.9840	0.9010
5 - 6	31,046	1,891	500	30,100.5	0.0166	0.9834	0.8866
6 - 7	28,655	886	481	28,212.0	0.0170	0.9830	0.8718
7 - 8	27,288	428	470	27,074.0	0.0174	0.9826	0.8570
8 - 9	26,390	351	453	26,214.5	0.0173	0.9827	0.8421
9 - 10	25,586	431	386	25,370.5	0.0152	0.9848	0.8276
10 - 11	24,769	1,169	448	24,184.5	0.0185	0.9815	0.8150
11 - 12	23,152	775	372	22,764.5	0.0163	0.9837	0.7999
12 - 13	22,005	493	389	21,758.5	0.0179	0.9821	0.7868
13 - 14	21,123	381	375	20,932.5	0.0179	0.9821	0.7727
14 - 15	20,367	443	393	20,145.5	0.0195	0.9805	0.7589
15 - 16	19,531	704	338	19,179.0	0.0176	0.9824	0.7441
16 - 17	18,489	700	351	18,139.0	0.0194	0.9806	0.7310
17 - 18	17,438	557	342	17,159.5	0.0199	0.9801	0.7168
18 - 19	16,539	577	316	16,250.5	0.0194	0.9806	0.7025
19 - 20	15,646	609	304	15,341.5	0.0198	0.9802	0.6889
20 - 21	14,733	742	296	14,362.0	0.0206	0.9794	0.6752
21 - 22	13,695	755	260	13,317.5	0.0195	0.9805	0.6613
22 - 23	12,680	668	299	12,346.0	0.0242	0.9758	0.6484
23 - 24	11,713	579	272	11,423.5	0.0238	0.9762	0.6327
24 - 25	10,862	571	237	10,576.5	0.0224	0.9776	0.6176
25 - 26	10,054	702	238	9,703.0	0.0245	0.9755	0.6038
26 - 27	9,114	660	213	8,784.0	0.0242	0.9758	0.5890
27 - 28	8,241	497	222	7,992.5	0.0278	0.9722	0.5747
28 - 29	7,522	493	202	7,275.5	0.0278	0.9722	0.5587
29 - 30	6,827	512	177	6,571.0	0.0269	0.9731	0.5432
30 - 31	6,138	685	163	5,795.5	0.0281	0.9719	0.5286
31 - 32	5,290	589	143	4,995.5	0.0286	0.9714	0.5137
32 - 33	4,558	508	101	4,304.0	0.0235	0.9765	0.4990
33 - 34	3,949	347	133	3,775.5	0.0352	0.9648	0.4873
34 - 35	3,469	406	114	3,266.0	0.0349	0.9651	0.4701
35 - 36	2,949	674	83	2,612.0	0.0318	0.9682	0.4537
36 - 37	2,192	446	72	1,969.0	0.0366	0.9634	0.4393
37 - 38	1,674	327	40	1,510.5	0.0265	0.9735	0.4232
38 - 39	1,307	315	33	1,149.5	0.0287	0.9713	0.4120
39 - 40	959	300	31	809.0	0.0383	0.9617	0.4002
40 - 41	628	254	27	501.0	0.0539	0.9461	0.3849
41 - 42	347	172	5	261.0	0.0192	0.9808	0.3641
42 - 43	170	149	1	95.5	0.0105	0.9895	0.3572
43 - 44	20	20	0	10.0	0.0000	1.0000	0.3534
Total	48,510	34,720	13,790				

Footnote 1: Patients entered = Number of individuals alive at start of interval.
Footnote 2: Censored = Number of individuals alive at start of interval ineligible for further follow-up due to study termination or lost to follow-up (survival status was unknown) during the interval.
Footnote 3: Dead = Number of individuals dying during the interval.
*Footnote 4: Effective Number Exposed = Number of individuals exposed to risk of dying in interval (patients entered - 0.5 * censored).*
Footnote 5: Proportion Dead = Conditional probability of death during the interval (dead / effective number exposed).
Footnote 6: Proportion Surviving = Conditional probability of surviving the interval (1 - proportion dead).
*Footnote 7: Cumulative Survival at Beginning of Interval = previous cumulative survival * proportion surviving previous interval.*

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 13A. Standardized Mortality Ratios for SCI persons surviving at least 24 hours post-injury

Neurologic Group	Age Group	Actual Deaths	Expected Deaths	SMR	95% Confidence Limits
Vent Dependent	0-30	219	2.10	104.29	90.93 – 119.05
	31-45	181	3.63	49.86	42.86 – 57.68
	46-60	195	7.58	25.73	4.90 - 5.25
	61+	355	16.92	20.98	18.86 – 23.28
C1-4 AIS A,B,C	0-30	266	22.59	11.78	10.40 – 13.28
	31-45	682	57.37	11.89	11.01 – 12.81
	46-60	782	108.03	7.24	6.74 – 7.76
	61+	777	167.05	4.65	4.33 – 4.99
C5-8 AIS A,B,C	0-30	317	47.74	6.64	5.93 – 7.41
	31-45	898	132.67	6.77	6.33 – 7.23
	46-60	1250	236.53	5.29	5.00 – 5.59
	61+	948	276.85	3.42	3.21 – 3.65
T1-S3 AIS A,B,C	0-30	396	76.13	5.20	4.70 – 5.74
	31-45	1003	216.95	4.62	4.34 – 4.92
	46-60	1285	404.92	3.17	3.00 – 3.35
	61+	1237	519.46	2.38	2.25 – 2.52
All Level AIS D	0-30	107	41.83	2.56	2.10 – 3.09
	31-45	327	140.81	2.32	2.08 – 2.59
	46-60	726	383.61	1.89	1.76 – 2.04
	61+	1561	1017.75	1.53	1.46 – 1.61

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 13B. Standardized Mortality Ratios for SCI persons surviving at least 1 year post-injury

Neurologic Group	Age Group	Actual Deaths	Expected Deaths	SMR	95% Confidence Limits
Vent Dependent	0-30	96	1.76	54.55	44.18 – 66.61
	31-45	93	3.25	28.62	23.10 – 35.06
	46-60	100	6.42	15.77	12.67 – 18.95
	61+	74	9.97	7.42	5.83 – 9.32
C1-4 AIS A,B,C	0-30	217	19.72	11.00	9.59 – 12.57
	31-45	618	54.37	11.37	10.49 – 12.30
	46-60	674	100.69	6.69	6.20 – 7.22
	61+	557	148.01	3.76	3.46 – 4.09
C5-8 AIS A,B,C	0-30	255	42.24	6.04	5.32 – 6.83
	31-45	848	128.39	6.61	6.17 – 7.06
	46-60	1159	228.89	5.06	4.78 – 5.36
	61+	792	259.34	3.05	2.84 – 3.27
T1-S3 AIS A,B,C	0-30	336	66.63	5.04	4.52 – 5.61
	31-45	945	209.28	4.52	4.23 – 4.81
	46-60	1223	394.48	3.10	2.93 – 3.28
	61+	1117	501.38	2.23	2.10 – 2.36
All Level AIS D	0-30	85	36.75	2.31	1.85 – 2.86
	31-45	314	135.00	2.33	2.08 – 2.60
	46-60	677	366.25	1.85	1.71 – 1.99
	61+	1434	961.51	1.49	1.42 – 1.57

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 14A. Life expectancy for SCI persons surviving at least 24 hours post-injury

		Neurologic Level				Ventilator Dependent
Age at Injury	**No SCI**	**Any Level *AIS-D***	**T1-S3**	**C5-C8**	**C1-C4**	**Any Level**
10 years	69.4	62.6	55.1	49.5	42.7	16.7
15 years	64.5	57.7	50.3	44.7	38.0	12.8
20 years	59.6	53.0	45.9	40.3	34.0	10.6
25 years	54.9	48.6	41.8	36.4	30.6	10.4
30 years	50.1	44.1	37.8	32.6	27.3	10.3
35 years	45.4	39.7	33.8	28.7	24.1	10.1
40 years	40.7	35.3	29.8	25.0	20.9	8.5
45 years	36.1	31.1	26.1	21.6	18.3	7.6
50 years	31.6	27.0	22.4	18.3	15.4	6.1
55 years	27.3	23.1	19.0	15.5	13.0	4.6
60 years	23.2	19.6	16.0	13.3	11.1	3.7
65 years	19.3	16.0	12.9	10.6	8.8	2.7
70 years	15.6	12.6	9.9	8.0	6.5	1.8
75 years	12.2	9.6	7.3	5.7	4.5	1.0
80 years	9.1	7.0	5.1	3.9	3.0	0.5

Footnote: Values for persons with no SCI are from the 2012 U.S. Life Tables for the general population.

Table 14B. Life expectancy for SCI persons surviving at least 1 year post-injury

		Neurologic Level				Ventilator Dependent
Current Age	**No SCI**	**Any Level *AIS-D***	**T1-S3**	**C5-C8**	**C1-C4**	**Any Level**
10 years	69.4	63.0	55.6	50.5	44.1	24.8
15 years	64.5	58.1	50.8	45.7	39.4	20.7
20 years	59.6	53.4	46.4	41.3	35.3	18.1
25 years	54.9	48.9	42.4	37.3	31.9	17.3
30 years	50.1	44.4	38.3	33.3	28.5	17.0
35 years	45.4	39.9	34.3	29.5	25.3	15.1
40 years	40.7	35.6	30.3	25.8	22.2	13.0
45 years	36.1	31.3	26.6	22.3	19.5	11.5
50 years	31.6	27.2	22.9	19.1	16.7	9.6
55 years	27.3	23.4	19.5	16.3	14.2	8.2
60 years	23.2	19.8	16.5	14.1	12.5	7.9
65 years	19.3	16.2	13.4	11.3	10.0	6.4
70 years	15.5	12.8	10.3	8.6	7.5	4.6
75 years	12.2	9.8	7.6	6.2	5.3	3.1
80 years	9.1	7.1	5.4	4.2	3.6	1.9

Footnote: Values for persons with no SCI are from the 2012 U.S. Life Tables for the general population.

Table 15. Category of Follow-up Care

	Category of Follow-up Care					
N (%)	**System Appt**	**Interview Only**	**Lost**	**Future Follow-up Not Required**	**Unknown**	**Total**
Total	67,572 (37.6)	46,958 (26.2)	62,497 (34.8)	2,115 (1.2)	340 (0.2)	179,482

Footnote 1: 'Future Follow-up Not Required'=Form IIs coded 8 (Minimal Deficit).
Footnote 2: "Lost" includes Lost to Follow-up due to breaks in funding.

Table 16. Category of Follow-up Care by Post-Injury Year

	Category of Follow-up Care by Post-Injury Year										
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**Total**
System Appt	17,700 (60.7)	6,514 (28.4)	3,166 (17.4)	1,723 (11.8)	1,030 (9.2)	645 (7.6)	343 (6.0)	139 (5.4)	31 (6.5)	0 (0.0)	31,291
Interview Only	5,306 (18.2)	6,491 (28.3)	4,390 (24.1)	3,261 (22.4)	2,791 (24.8)	2,283 (26.9)	1,935 (33.9)	1,040 (40.2)	231 (48.4)	0 (0.0)	27,728
Future Follow-up Not Required	1,066 (3.7)	256 (1.1)	97 (0.5)	46 (0.3)	27 (0.2)	26 (0.3)	21 (0.4)	14 (0.5)	0 (0.0)	0 (0.0)	1,553
Lost	5,001 (17.1)	9,625 (42.0)	10,543 (57.9)	9,534 (65.4)	7,388 (65.7)	5,535 (65.2)	3,407 (59.7)	1,396 (53.9)	215 (45.1)	1 (100.0)	52,645
Unknown	88 (0.3)	37 (0.2)	5 (0.0)	7 (0.0)	3 (0.0)	2 (0.0)	0 (0.0)	1 (0.0)	0 (0.0)	0 (0.0)	143
Total	29,161	22,923	18,201	14,571	11,239	8,491	5,706	2,590	477	1	113,360

Footnote: "Lost" includes Lost to Follow-up due to break in funding.

Table 17. Reasons for Lost by Post-Injury Year: Lost to Follow-up Records Only

	Reasons for Lost by Post-Injury Year										
Reason for Lost	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**45**	**Total**
Patient refused/withdrew consent	101 (3.3)	96 (1.1)	62 (0.6)	51 (0.5)	56 (0.8)	39 (0.7)	7 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	412
Patient incarcerated and not available	47 (1.5)	54 (0.6)	46 (0.5)	40 (0.4)	27 (0.4)	11 (0.2)	13 (0.4)	6 (0.4)	1 (0.5)	0 (0.0)	245
Unable to contact	845 (27.6)	1,120 (13.3)	994 (9.9)	665 (7.1)	609 (8.3)	575 (10.4)	306 (9.0)	54 (3.9)	0 (0.0)	0 (0.0)	5,168
Patient refused interview	48 (1.6)	57 (0.7)	64 (0.6)	58 (0.6)	44 (0.6)	74 (1.3)	52 (1.5)	37 (2.7)	6 (2.8)	0 (0.0)	440
Patient withdrew consent	147 (4.8)	145 (1.7)	131 (1.3)	116 (1.2)	94 (1.3)	123 (2.2)	139 (4.1)	75 (5.4)	19 (8.8)	0 (0.0)	989
ID Unknown Due to break in Funding	2 (0.1)	18 (0.2)	15 (0.1)	11 (0.1)	126 (1.7)	397 (7.2)	774 (22.7)	339 (24.3)	31 (14.4)	0 (0.0)	1,713
*Contact made but survey not completed	35 (1.1)	59 (0.7)	46 (0.5)	66 (0.7)	58 (0.8)	58 (1.0)	63 (1.8)	58 (4.2)	7 (3.3)	0 (0.0)	450
*Attempted contact but language barrier prevented collection	0 (0.0)	2 (0.0)	4 (0.0)	2 (0.0)	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	9
*Attempted contact but moved out of country	2 (0.1)	11 (0.1)	9 (0.1)	8 (0.1)	5 (0.1)	2 (0.0)	2 (0.1)	4 (0.3)	0 (0.0)	0 (0.0)	43
*No contact, apparently valid contact information	82 (2.7)	116 (1.4)	124 (1.2)	148 (1.6)	141 (1.9)	114 (2.1)	131 (3.8)	112 (8.0)	16 (7.4)	0 (0.0)	984
*No contact, no valid contact information	82 (2.7)	169 (2.0)	248 (2.5)	258 (2.8)	287 (3.9)	228 (4.1)	253 (7.4)	178 (12.8)	26 (12.1)	1 (100.0)	1,730
Identity unknown to NSCISC	0 (0.0)	18 (0.2)	43 (0.4)	1 (0.0)	0 (0.0)	146 (2.6)	24 (0.7)	3 (0.2)	0 (0.0)	0 (0.0)	235
Break in funding	281 (9.2)	2,262 (26.9)	2,899 (28.9)	3,302 (35.2)	2,591 (35.2)	2,060 (37.2)	1,052 (30.9)	407 (29.2)	109 (50.7)	0 (0.0)	14,963
Other	109 (3.6)	103 (1.2)	84 (0.8)	88 (0.9)	106 (1.4)	34 (0.6)	25 (0.7)	12 (0.9)	0 (0.0)	0 (0.0)	561
Unknown	1,283 (41.9)	4,165 (49.6)	5,261 (52.5)	4,567 (48.7)	3,207 (43.6)	1,674 (30.2)	566 (16.6)	111 (8.0)	0 (0.0)	0 (0.0)	20,834
Total	3,064	8,395	10,030	9,381	7,352	5,535	3,407	1,396	215	1	48,776

Footnote 1: Form IIs entered into the database since January 1, 1998.
Footnote 2: In February 2007, Refusal/Withdrawn Consent code is invalid; Withdrew Consent and Patient refusal codes were added.
Footnote 3: In February 2009, Identity Unknown code was added for participants with no personal identifiers due to break in funding.
*Footnote 4: In October 2011, Unable to contact is invalid; *codes were added.*

Table 18. Form I Participant Status

	Participant Status						
N (%)	**Deceased**	**Neuro-recovery**	**With-drawn**	**ID Unknown**	**Eligible**	**Eligible/lost**	**Total**
Total	9,539 (29.7)	2,402 (7.5)	950 (3.0)	1,168 (3.6)	12,038 (37.4)	6,062 (18.9)	32,159

Footnote: Eligible/Lost: Eligible for follow up, but last Form II coded lost (Category of Care=5).

Table 19. How was the interview conducted

	How was interview conducted						
N (%)	**In Person**	**By Phone**	**Self Admin (mail)**	**Combo**	**Not Done, N/A**	**Unkn**	**Total**
Total	3,481 (9.0)	27,496 (71.1)	3,095 (8.0)	3,330 (8.6)	947 (2.4)	313 (0.8)	38,662

Footnote 1: Form IIs entered into the database since March 1, 1996 and only required interview years (1, 5, 10...).
Footnote 2: Code 4 (combo) added in 1998.

Table 20. Age at Injury: Frequency Distribution

Age	Frequency	Percent	Cumulative Percent
<1	5	0.02	0.02
1	13	0.04	0.06
2	10	0.03	0.09
3	22	0.07	0.16
4	22	0.07	0.22
5	18	0.06	0.28
6	20	0.06	0.34
7	15	0.05	0.39
8	18	0.06	0.44
9	20	0.06	0.51
10	33	0.10	0.61
11	15	0.05	0.66
12	37	0.12	0.77
13	106	0.33	1.10
14	210	0.65	1.75
15	413	1.28	3.04
16	796	2.48	5.51
17	1134	3.53	9.04
18	1391	4.33	13.36
19	1417	4.41	17.77
20	1281	3.98	21.75
21	1262	3.92	25.68
22	1177	3.66	29.34
23	1081	3.36	32.70
24	1036	3.22	35.92
25	967	3.01	38.93
26	870	2.71	41.63
27	828	2.57	44.21
28	780	2.43	46.63
29	777	2.42	49.05
30	692	2.15	51.20
31	676	2.10	53.30
32	662	2.06	55.36
33	535	1.66	57.03
34	483	1.50	58.53
35	540	1.68	60.21
36	514	1.60	61.81
37	476	1.48	63.29
38	512	1.59	64.88
39	439	1.37	66.24
40	431	1.34	67.58
41	455	1.41	69.00
42	423	1.32	70.31
43	416	1.29	71.61
44	412	1.28	72.89
45	402	1.25	74.14
46	363	1.13	75.27
47	392	1.22	76.49
48	379	1.18	77.66
49	377	1.17	78.84
50	371	1.15	79.99
51	320	1.00	80.99
52	334	1.04	82.02
53	335	1.04	83.07
54	324	1.01	84.07
55	320	1.00	85.07
56	318	0.99	86.06
57	306	0.95	87.01
58	284	0.88	87.89
59	267	0.83	88.72
60	286	0.89	89.61
61	264	0.82	90.43
62	255	0.79	91.22
63	202	0.63	91.85
64	219	0.68	92.53
65	183	0.57	93.10
66	208	0.65	93.75
67	191	0.59	94.34
68	186	0.58	94.92
69	150	0.47	95.39
70	131	0.41	95.80
71	143	0.44	96.24
72	109	0.34	96.58
73	127	0.39	96.97
74	109	0.34	97.31
75	116	0.36	97.67
76	91	0.28	97.96
77	111	0.35	98.30
78	76	0.24	98.54
79	85	0.26	98.80
80	64	0.20	99.00
81	47	0.15	99.15
82	45	0.14	99.29
83	48	0.15	99.44
84	35	0.11	99.55
85	31	0.10	99.64
86	29	0.09	99.73
87	20	0.06	99.79
88	20	0.06	99.86
89	16	0.05	99.91
90	10	0.03	99.94
91	6	0.02	99.96
92	5	0.02	99.97
93	1	0.00	99.98
94	3	0.01	99.98
95	3	0.01	99.99
97	1	<0.01	100.00
98	1	<0.01	100.00

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 21. Age at Injury: Descriptive Statistics

	Age at Injury				
	N	**Mean**	**Standard Deviation**	**Minimum**	**Maximum**
Total	32,159	35.1	17.0	0	98

Table 22. Trend in Age by Year of Injury

Year of Injury	N	Mean	Standard Deviation	Minimum	Maximum
1972-1979	4,562	28.7	14.1	1	88
1980-1984	4,949	30.5	14.7	1	90
1985-1989	3,842	32.3	15.8	0	92
1990-1994	3,295	33.7	16.0	1	97
1995-1999	3,623	36.4	17.0	0	98
2000-2004	3,443	37.6	16.7	3	90
2005-2009	3,607	40.5	18.0	1	94
2010-2016	4,838	42.3	18.5	0	95
Total	32,159	35.1	17.0	0	98

Table 23. Sex of Spinal Cord Injury Patients

	Sex		
N (%)	**Male**	**Female**	**Total**
Total	25,937 (80.7)	6,220 (19.3)	32,157

Footnote: Excludes 2 records reporting sex as 'transgender'.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 24. Racial Group of Spinal Cord Injury Patients

	Racial Group							
N (%)	**Caucasian**	**African American**	**Native American**	**Asian**	**Other**	**Declined**	**Unkn**	**Total**
Total	21,780 (67.7)	7,264 (22.6)	306 (1.0)	548 (1.7)	572 (1.8)	8 (0.0)	1,681 (5.2)	32,159

Footnote 1: High percentages of unknowns are mainly due to database conversion process in 1995.
Footnote 2: 'Declined' code was added in October 2011.

Table 25. Hispanic Origin

	Hispanic Origin				
N (%)	**No**	**Yes**	**Declined**	**Unkn**	**Total**
Total	28,806 (89.6)	3,070 (9.5)	10(0.0)	273 (0.8)	32,159

Footnote: 'Declined' code was added in October 2011.

Table 26. Hispanic Origin by Race.

	Racial Group (ARace)							
Hispanic Origin n (%)	**Caucasian**	**African American**	**Native Ameri-can**	**Asian**	**Other**	**Declined**	**Unknown**	**Total**
Not of Hispanic Origin	20,747 (64.5)	7,089 (22.0)	272 (0.8)	530 (1.6)	160 (0.5)	2 (0.0)	6 (0.0)	28,806
Hispanic Origin	923 (2.9)	94 (0.3)	33 (0.1)	17 (0.1)	407 (1.3)	4 (0.0)	1,592 (5.0)	3,070
Declined	5 (0.0)	2 (0.0)	0 (0.0)	0 (0.0)	1 (0.0)	2 (0.0)	0 (0.0)	10
Unknown	105 (0.3)	79 (0.2)	1 (0.0)	1 (0.0)	4 (0.0)	0 (0.0)	83 (0.3)	273
Total	21,780	7,264	306	548	572	8	1,681	32,159

Footnote 1: High percentage of unknowns are mainly due to a database conversion process in 1995.
Footnote 2: 'Declined' code was added in October 2011.

Table 27. Trend in Race by Year of Injury.

	Year of Injury								
Racial Group n (%)	**1972-1979**	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**	**2005-2009**	**2010-2016**	**Total**
Caucasian	3,505(76.8)	3,524(71.2)	2,488(64.8)	1,804(54.7)	2,251(62.1)	2,416(70.2)	2,392(66.3)	3,400(70.3)	21,780
African American	648 (14.2)	873 (17.6)	957 (24.9)	958 (29.1)	982 (27.1)	814 (23.6)	962 (26.7)	1,070(22.1)	7,264
Native American	88 (1.9)	65 (1.3)	29 (0.8)	15 (0.5)	17 (0.5)	11 (0.3)	31 (0.9)	50 (1.0)	306
Asian/Pacific Islander	42 (0.9)	61 (1.2)	55 (1.4)	62 (1.9)	83 (2.3)	71 (2.1)	74 (2.1)	100 (2.1)	548
Other, Unclassified	16 (0.4)	17 (0.3)	10 (0.3)	47 (1.4)	110 (3.0)	98 (2.8)	114 (3.2)	160 (3.3)	572
Declined	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	8 (0.2)	8
Unknown	263 (5.8)	409 (8.3)	303 (7.9)	409 (12.4)	180 (5.0)	33 (1.0)	34 (0.9)	50 (1.0)	1,681
Total	4,562	4,949	3,842	3,295	3,623	3,443	3,607	4,838	32,159

Footnote 1: High percentage of unknowns are mainly due to a database conversion process in 1995.
Footnote 2: 'Declined' code was added in October 2011.

Table 28. Trend in Hispanic Origin by Year of Injury.

	Year of Injury								
Hispanic Origin n (%)	**1972-1979**	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**	**2005-2009**	**2010-2016**	**Total**
Not of Hispanic Origin	4,288(94.0)	4,539(91.7)	3,534(92.0)	2,856(86.7)	3,120(86.1)	2,992(86.9)	3,252(90.2)	4,225(87.3)	28,806
Hispanic Origin	272 (6.0)	408 (8.2)	307 (8.0)	421 (12.8)	398 (11.0)	429 (12.5)	310 (8.6)	525 (10.9)	3,070
Declined	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.0)	9 (0.2)	10
Unknown	2 (0.0)	2 (0.0)	1 (0.0)	18 (0.5)	105 (2.9)	22 (0.6)	44 (1.2)	79 (1.6)	273
Total	4,562	4,949	3,842	3,295	3,623	3,443	3,607	4,838	32,159

Footnote: 'Declined' code was added in October 2011.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 29. Etiology of Spinal Cord Injury by Sex.

Rank	Etiology	Males n (%)	Females n (%)	Total n (%)
1	Auto accident	7,503 (28.9)	2,954 (47.5)	10,458 (32.5)
2	Fall	5,764 (22.2)	1,385 (22.3)	7,149 (22.2)
3	Gunshot wound	4,336 (16.7)	583 (9.4)	4,920 (15.3)
4	Motorcycle accident	1,834 (7.1)	132 (2.1)	1,966 (6.1)
5	Diving	1,742 (6.7)	153 (2.5)	1,895 (5.9)
6	Medical/surgical complication	586 (2.3)	320 (5.1)	906 (2.8)
7	Hit by falling/flying object	848 (3.3)	44 (0.7)	892 (2.8)
8	Bicycle	457 (1.8)	60 (1.0)	517 (1.6)
9	Pedestrian	377 (1.5)	132 (2.1)	509 (1.6)
10	Person-to-person contact	246 (0.9)	70 (1.1)	316 (1.0)
11	Other unclassified	261 (1.0)	25 (0.4)	286 (0.9)
12	All other penetrating wounds	200 (0.8)	57 (0.9)	257 (0.8)
13	All-terrain vehicle (ATV) and all-terrain cycle (ATC)	200 (0.8)	33 (0.5)	233 (0.7)
14	Other vehicular	174 (0.7)	19 (0.3)	193 (0.6)
15	Snow skiing	160 (0.6)	17 (0.3)	177 (0.6)
16	Winter sports	131 (0.5)	29 (0.5)	160 (0.5)
17	Football	149 (0.6)	0 (0.0)	149 (0.5)
18	Horseback riding	73 (0.3)	76 (1.2)	149 (0.5)
19	Other sport	121 (0.5)	27 (0.4)	148 (0.5)
20	Surfing: includes body surfing	133 (0.5)	5 (0.1)	138 (0.4)
21	Fixed-wing aircraft	72 (0.3)	29 (0.5)	101 (0.3)
22	Wrestling	94 (0.4)	2 (0.0)	96 (0.3)
23	Trampoline	63 (0.2)	8 (0.1)	71 (0.2)
24	Gymnastics	37 (0.1)	20 (0.3)	57 (0.2)
25	Snowmobile	45 (0.2)	7 (0.1)	52 (0.2)
26	Field sports	43 (0.2)	2 (0.0)	45 (0.1)
27	Hang gliding	38 (0.1)	2 (0.0)	40 (0.1)
28	Air sports	36 (0.1)	1 (0.0)	37 (0.1)
29	Water skiing	33 (0.1)	2 (0.0)	35 (0.1)
30	Boat	22 (0.1)	12 (0.2)	34 (0.1)
31	Rotating wing aircraft	31 (0.1)	2 (0.0)	33 (0.1)
32	Rodeo	24 (0.1)	1 (0.0)	25 (0.1)
33	Baseball/softball	23 (0.1)	1 (0.0)	24 (0.1)
34	Explosion	14 (0.1)	2 (0.0)	16 (0.0)
35	Basketball/volleyball	13 (0.1)	0 (0.0)	13 (0.0)
36	Skateboard	7 (0.0)	0 (0.0)	7 (0.0)
37	Track and field	6 (0.0)	0 (0.0)	6 (0.0)
	Unknown	41 (0.2)	8 (0.1)	49 (0.2)
	Total	25,937 (80.7)	6,220 (19.3)	32,157 (100)

Footnote: Excludes 2 records reporting unknown etiology and/or unknown /other sex.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 30. Grouped Etiology

	Etiology						
n (%)	**Vehicular**	**Violence**	**Sports & Recreation**	**Falls**	**Other**	**Unkn**	**Total**
Total	13,587(42.2)	5,509 (17.1)	3,272 (10.2)	7,149(22.2)	2,593(8.1)	49 (0.2)	32,159

Footnote: Vehicular=codes 1-9; Violence=codes 10-15; Sports=codes 20-29, 70-78; Falls=code 30.

Table 31. Grouped Etiology by Age at Injury.

	Age at Injury						
Etiology N (%)	**<15**	**16-30**	**31-45**	**46-60**	**61-75**	**76 & above**	**Total**
Vehicular Accidents	362 (37.1)	7,178 (46.3)	3,273 (44.4)	1,877 (37.7)	740 (28.5)	157 (21.0)	13,587
Violence	224 (22.9)	3,676 (23.7)	1,214 (16.5)	326 (6.6)	61 (2.4)	8 (1.1)	5,509
Sports	235 (24.1)	2,202 (14.2)	536 (7.3)	225 (4.5)	68 (2.6)	6 (0.8)	3,272
Falls	78 (8.0)	1,651 (10.7)	1,690 (22.9)	1,910 (38.4)	1,328 (51.2)	492 (65.8)	7,149
Other	78 (8.0)	764 (4.9)	652 (8.8)	627 (12.6)	390 (15.0)	82 (11.0)	2,593
Unknown	0 (0.0)	18 (0.1)	11 (0.1)	11 (0.2)	6 (0.2)	3 (0.4)	49
Total	977	15,489	7,376	4,976	2,593	748	32,159

Footnote: Vehicular=codes 1-9; Violence=codes 10-15; Sports=codes 20-29, 70-78; Falls=code 30.

Table 32. Grouped Etiology by Sex.

	Sex		
Etiology N (%)	**Male**	**Female**	**Total**
Vehicular Accidents	10,338 (39.9)	3,248 (52.2)	13,586
Violence	4,796 (18.5)	712 (11.4)	5,508
Sports	2,926 (11.3)	346 (5.6)	3,272
Falls	5,764 (22.2)	1,385 (22.3)	7,149
Other	2,072 (8.0)	521 (8.4)	2,593
Unknown	41 (0.2)	8 (0.1)	49
Total	25,937	6,220	32,157

Footnote 1: Vehicular=codes 1-9; Violence=codes 10-15; Sports=codes 20-29, 70-78; Falls=code 30.

Table 33. Grouped Etiology by Racial Group.

	Racial Group							
Etiology N (%)	**Caucasian**	**African American**	**Native Ameri-can**	**Asian**	**Other**	**Declined**	**Unkn**	**Total**
Vehicular Accidents	10,404 (47.8)	2,036 (28.0)	177 (57.8)	238 (43.4)	220 (38.5)	1 (12.5)	511 (30.4)	13,587
Violence	1,413 (6.5)	3,146 (43.3)	41 (13.4)	87 (15.9)	127 (22.2)	2 (25.0)	693 (41.2)	5,509
Sports	2,868 (13.2)	215 (3.0)	14 (4.6)	42 (7.7)	31 (5.4)	0 (0.0)	102 (6.1)	3,272
Falls	5,161 (23.7)	1,396 (19.2)	54 (17.6)	130 (23.7)	146 (25.5)	5 (62.5)	257 (15.3)	7,149
Other	1,900 (8.7)	463 (6.4)	20 (6.5)	49 (8.9)	48 (8.4)	0 (0.0)	113 (6.7)	2,593
Unknown	34 (0.2)	8 (0.1)	0 (0.0)	2 (0.4)	0 (0.0)	0 (0.0)	5 (0.3)	49
Total	21,780	7,264	306	548	572	8	1,681	32,159

Footnote: Vehicular=codes 1-9; Violence=codes 10-15; Sports=codes 20-29, 70-78; Falls=code 30.

Table 34. Grouped Etiology by Hispanic Origin.

	Hispanic Origin				
Etiology N (%)	**No**	**Yes**	**Declined**	**Unkn**	**Total**
Vehicular	12,412 (43.1)	1,086 (35.4)	2 (20.0)	87 (31.9)	13,587
Violence	4,459 (15.5)	988 (32.2)	1 (10.0)	61 (22.3)	5,509
Sports	3,064 (10.6)	191 (6.2)	1 (10.0)	16 (5.9)	3,272
Falls	6,483 (22.5)	577 (18.8)	6 (60.0)	83 (30.4)	7,149
Other	2,349 (8.2)	222 (7.2)	0 (0.0)	22 (8.1)	2,593
Unknown	39 (0.1)	6 (0.2)	0 (0.0)	4 (1.5)	49
Total	28,806	3,070	10	273	32,159

Footnote: Vehicular=codes 1-9; Violence=codes 10-15; Sports=codes 20-29, 70-78; Falls=code 30.

Table 35. Trend in Grouped Etiology by Year of Injury.

	Year of Injury								
Etiology N (%)	**1972-1979**	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**	**2005-2009**	**2010-2016**	**Total**
Vehicular Accidents	2,141 (46.9)	2,236 (45.2)	1,620 (42.2)	1,197 (36.3)	1,449 (40.0)	1,634 (47.5)	1,459 (40.4)	1,851 (38.3)	13,587
Violence	605 (13.3)	792 (16.0)	723 (18.8)	952 (28.9)	764 (21.1)	478 (13.9)	544 (15.1)	651 (13.5)	5,509
Sports	655 (14.4)	705 (14.2)	390 (10.2)	249 (7.6)	254 (7.0)	302 (8.8)	289 (8.0)	428 (8.8)	3,272
Falls	752 (16.5)	836 (16.9)	796 (20.7)	659 (20.0)	846 (23.4)	792 (23.0)	1,000 (27.7)	1,468 (30.3)	7,149
Other	406 (8.9)	377 (7.6)	311 (8.1)	235 (7.1)	305 (8.4)	232 (6.7)	311 (8.6)	416 (8.6)	2,593
Unknown	3 (0.1)	3 (0.1)	2 (0.1)	3 (0.1)	5 (0.1)	5 (0.1)	4 (0.1)	24 (0.5)	49
Total	4,562	4,949	3,842	3,295	3,623	3,443	3,607	4,838	32,159

Footnote: Vehicular=codes 1-9; Violence=codes 10-15; Sports=codes 20-29, 70-78; Falls=code 30.

Table 36. Work Relatedness

	Injury Related to Work			
n (%)	**No**	**Yes**	**Unkn**	**Total**
Total	10,464(89.8)	1,067 (9.2)	128 (1.1)	11,659

Footnote: Form Is entered to the database since January 1, 2001.

Table 37. Marital Status at Time of Spinal Cord Injury

	Marital Status at Injury								
n (%)	**Single**	**Married**	**Divorced**	**Separated**	**Widowed**	**Living with signifi-cant other**	**Other**	**Unkn**	**Total**
Total	16,388 (51.0)	10,499(32.6)	3,026 (9.4)	1,068(3.3)	829 (2.6)	108(0.3)	37 (0.1)	204 (0.6)	32,159

Footnote: 'Living with significant other' was added in October 2011.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 38. Marital Status by Post-Injury Year.

	Post-Injury Year									
Marital Status n (%)	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**Total**
Single	11,934 (49.4)	6,033 (45.4)	3,108 (40.6)	1,880 (37.3)	1,361 (35.3)	969 (32.8)	686 (29.8)	327 (27.4)	63 (24.0)	26,361
Married	7,734 (32.0)	4,256 (32.0)	2,554 (33.4)	1,710 (33.9)	1,351 (35.1)	1,075 (36.4)	890 (38.7)	499 (41.8)	110 (42.0)	20,179
Divorced	2,677 (11.1)	2,070 (15.6)	1,459 (19.1)	1,094 (21.7)	902 (23.4)	713 (24.1)	554 (24.1)	269 (22.5)	63 (24.0)	9,801
Separated	816 (3.4)	370 (2.8)	196 (2.6)	123 (2.4)	87 (2.3)	57 (1.9)	52 (2.3)	22 (1.8)	4 (1.5)	1,727
Widowed	559 (2.3)	322 (2.4)	189 (2.5)	121 (2.4)	95 (2.5)	100 (3.4)	83 (3.6)	42 (3.5)	11 (4.2)	1,522
Living with significant other	95 (0.4)	65 (0.5)	52 (0.7)	43 (0.9)	24 (0.6)	20 (0.7)	26 (1.1)	32 (2.7)	10 (3.8)	367
Other, unclassified	25 (0.1)	16 (0.1)	7 (0.1)	7 (0.1)	1 (0.0)	5 (0.2)	2 (0.1)	1 (0.1)	0 (0.0)	64
Unknown	320 (1.3)	166 (1.2)	93 (1.2)	59 (1.2)	30 (0.8)	17 (0.6)	6 (0.3)	2 (0.2)	1 (0.4)	694
Total	24,160	13,298	7,658	5,037	3,851	2,956	2,299	1,194	262	60,715

Footnote: 'Living with significant other' was added in October 2011.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 39. Change in Marital Status by Post-Injury Year.

	Post-Injury Year									
Change in Marital Status N (%)	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**Total**
No Change	8,085 (92.7)	4,783 (85.3)	3,542 (84.2)	2,667 (83.8)	2,506 (84.6)	2,315 (83.0)	1,901 (82.7)	995 (83.3)	220 (84.0)	27,014
Divorce	189 (2.2)	330 (5.9)	202 (4.8)	152 (4.8)	143 (4.8)	123 (4.4)	98 (4.3)	45 (3.8)	9 (3.4)	1,291
Marriage	159 (1.8)	250 (4.5)	249 (5.9)	184 (5.8)	176 (5.9)	184 (6.6)	141 (6.1)	72 (6.0)	12 (4.6)	1,427
Widowed	34 (0.4)	48 (0.9)	39 (0.9)	17 (0.5)	18 (0.6)	38 (1.4)	25 (1.1)	18 (1.5)	6 (2.3)	243
Divorce + Marriage	21 (0.2)	43 (0.8)	43 (1.0)	53 (1.7)	54 (1.8)	70 (2.5)	69 (3.0)	29 (2.4)	8 (3.1)	390
Widowed + Marriage	0 (0.0)	6 (0.1)	4 (0.1)	5 (0.2)	4 (0.1)	8 (0.3)	11 (0.5)	5 (0.4)	0 (0.0)	43
Divorce, Marriage + Widowed	4 (0.0)	1 (0.0)	0 (0.0)	1 (0.0)	0 (0.0)	3 (0.1)	5 (0.2)	1 (0.1)	0 (0.0)	15
Significant Other or Partner	63 (0.7)	56 (1.0)	47 (1.1)	47 (1.5)	21 (0.7)	16 (0.6)	28 (1.2)	24 (2.0)	6 (2.3)	308
Other	45 (0.5)	34 (0.6)	30 (0.7)	9 (0.3)	11 (0.4)	13 (0.5)	12 (0.5)	2 (0.2)	0 (0.0)	156
Unknown	118 (1.4)	56 (1.0)	51 (1.2)	47 (1.5)	30 (1.0)	20 (0.7)	9 (0.4)	3 (0.3)	1 (0.4)	335
Total	8,718	5,607	4,207	3,182	2,963	2,790	2,299	1,194	262	31,222

Footnote 1: Form IIs entered into the database since January 1, 2001.
Footnote 2: Significant other or partner was added in October 2011.

Table 40. Highest Level of Education at Time of Injury

	Education Level									
n (%)	8th Grade or Less	9th-11th Grade	High School or GED	Assoc	Bachs	Mas-ters	Doc-torate	Other	Unkn	Total
Total	2,705 (8.4)	7,311 (22.7)	15,611 (48.5)	957 (3.0)	2,417 (7.5)	640 (2.0)	355 (1.1)	271 (0.8)	1,892 (5.9)	32,159

Table 41. Highest Level of Education Completed by Post-Injury Year

	Post-Injury Year									
Education Level	1	5	10	15	20	25	30	35	40	Total
8th Grade or Less	1,690 (7.0)	725 (5.5)	356 (4.6)	164 (3.3)	99 (2.6)	67 (2.3)	61 (2.7)	26 (2.2)	11 (4.2)	3,199
9th through 11th Grade	5,038 (20.9)	1,842 (13.9)	925 (12.1)	521 (10.3)	362 (9.4)	220 (7.4)	136 (5.9)	63 (5.3)	7 (2.7)	9,114
High School/GED	12,761 (52.8)	7,499 (56.4)	3,856 (50.4)	2,497 (49.6)	1,784 (46.3)	1,329 (45.0)	1,001 (43.5)	476 (39.9)	80 (30.5)	31,283
Associate Degree	903 (3.7)	734 (5.5)	623 (8.1)	454 (9.0)	400 (10.4)	302 (10.2)	245 (10.7)	138 (11.6)	32 (12.2)	3,831
Bachelor's Degree	2,078 (8.6)	1,549 (11.6)	1,176 (15.4)	852 (16.9)	726 (18.9)	633 (21.4)	507 (22.1)	304 (25.5)	77 (29.4)	7,902
Master's Degree	592 (2.5)	387 (2.9)	352 (4.6)	293 (5.8)	262 (6.8)	251 (8.5)	222 (9.7)	124 (10.4)	41 (15.6)	2,524
Doctorate Degree	295 (1.2)	173 (1.3)	135 (1.8)	103 (2.0)	102 (2.6)	91 (3.1)	87 (3.8)	48 (4.0)	12 (4.6)	1,046
Other, Unclassified	246 (1.0)	166 (1.2)	124 (1.6)	85 (1.7)	76 (2.0)	41 (1.4)	27 (1.2)	9 (0.8)	2 (0.8)	776
Unknown	557 (2.3)	223 (1.7)	111 (1.4)	68 (1.4)	40 (1.0)	22 (0.7)	13 (0.6)	6 (0.5)	0 (0.0)	1,040
Total	24,160	13,298	7,658	5,037	3,851	2,956	2,299	1,194	262	60,715

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 42. Occupational Status at Time of Injury

	Occupational Status at Injury									
n (%)	**Work**	**Home-maker**	**OJT**	**Work-shop**	**Retired**	**Student**	**Unemployed**	**Other**	**Unkn**	**Total**
Total	18,514 (57.6)	590 (1.8)	84 (0.3)	20 (0.1)	2,337 (7.3)	4,742 (14.7)	5,026 (15.6)	450 (1.4)	396 (1.2)	32,159

Footnote 1: Occupational Status 'Other' includes those on disability leave.
Footnote 2: OJT = on the job training.

Table 43. Occupational Status by Post-Injury Year.

	Post-Injury Year									
Occupational Status	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**Total**
Working	2,963 (12.3)	2,728 (20.5)	2,076 (27.1)	1,556 (30.9)	1,290 (33.5)	1,035 (35.0)	747 (32.5)	377 (31.6)	75 (28.6)	12,847
Homemaker	400 (1.7)	263 (2.0)	178 (2.3)	107 (2.1)	67 (1.7)	52 (1.8)	58 (2.5)	25 (2.1)	6 (2.3)	1,156
On-the-Job Training	32 (0.1)	19 (0.1)	8 (0.1)	3 (0.1)	6 (0.2)	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	69
Sheltered Workshop	13 (0.1)	5 (0.0)	7 (0.1)	2 (0.0)	1 (0.0)	3 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	31
Retired	1,662 (6.9)	1,064 (8.0)	652 (8.5)	439 (8.7)	316 (8.2)	316 (10.7)	391 (17.0)	302 (25.3)	88 (33.6)	5,230
Student	3,662 (15.2)	2,014 (15.1)	505 (6.6)	176 (3.5)	96 (2.5)	39 (1.3)	14 (0.6)	9 (0.8)	0 (0.0)	6,515
Unemployed	13,149 (54.4)	6,233 (46.9)	3,623 (47.3)	2,321 (46.1)	1,745 (45.3)	1,214 (41.1)	818 (35.6)	378 (31.7)	76 (29.0)	29,557
Other, Unclassified	1,679 (6.9)	707 (5.3)	473 (6.2)	348 (6.9)	286 (7.4)	274 (9.3)	257 (11.2)	101 (8.5)	17 (6.5)	4,142
Unknown	600 (2.5)	265 (2.0)	136 (1.8)	85 (1.7)	44 (1.1)	22 (0.7)	14 (0.6)	2 (0.2)	0 (0.0)	1,168
Total	24,160	13,298	7,658	5,037	3,851	2,956	2,299	1,194	262	60,715

Footnote: Occupational Status 'Other' includes those on medical or disability leave.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 44. Job Census Code at Time of Injury

(continued)

	Job Census Code								
n (%)	**Exec, Admin, Manager**	**Professions**	**Techs and related support**	**Sales**	**Admin support**	**Private House-hold**	**Protective services**	**Service, except protective and household**	**Farming, forestry, and fishing**
Total	684 (5.9)	984 (8.4)	336 (2.9)	429 (3.7)	366 (3.1)	29 (0.2)	165 (1.4)	702 (6.0)	232 (2.0)

Footnote: Form Is entered to the database since January 1, 2001.

Table 44. Job Census Code at Time of Injury

	Job Census Code							
n (%)	**Precision production craft, and repair**	**Machine operators, assemble, and inspectors**	**Transport and material moving**	**Handlers, equipment cleaners, helpers, and laborers**	**Military occupations**	**N/A, Not Working**	**Unknown**	**Total**
Total	1,289 (11.1)	311 (2.7)	440 (3.8)	664 (5.7)	36 (0.3)	4,645 (39.8)	347 (3.0)	11,659

Footnote: Form Is entered to the database since January 1, 2001.

Table 45. Job Census Code by Post-Injury Year

	Post-Injury Year									
Job Census Code	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**Total**
Executive, Administrative, and managerial	297 (3.4)	241 (4.3)	213 (5.1)	197 (6.2)	234 (7.9)	218 (7.8)	183 (8.0)	107 (9.0)	20 (7.6)	1,710
Professional specialty	367 (4.2)	317 (5.7)	343 (8.2)	315 (9.9)	345 (11.6)	369 (13.2)	298 (13.0)	161 (13.5)	31 (11.8)	2,546
Technicians and related support	69 (0.8)	75 (1.3)	71 (1.7)	57 (1.8)	54 (1.8)	59 (2.1)	44 (1.9)	23 (1.9)	2 (0.8)	454
Sales	116 (1.3)	133 (2.4)	129 (3.1)	83 (2.6)	70 (2.4)	70 (2.5)	51 (2.2)	20 (1.7)	5 (1.9)	677
Administrative support including clerical	105 (1.2)	142 (2.5)	129 (3.1)	126 (4.0)	110 (3.7)	124 (4.4)	80 (3.5)	31 (2.6)	8 (3.1)	855
Private Household	4 (0.0)	2 (0.0)	2 (0.0)	1 (0.0)	3 (0.1)	2 (0.1)	2 (0.1)	1 (0.1)	0 (0.0)	17
Protective service	19 (0.2)	12 (0.2)	6 (0.1)	9 (0.3)	10 (0.3)	10 (0.4)	7 (0.3)	1 (0.1)	1 (0.4)	75
Service, except protective and household	81 (0.9)	77 (1.4)	55 (1.3)	39 (1.2)	37 (1.2)	23 (0.8)	12 (0.5)	7 (0.6)	1 (0.4)	332
Farming, forestry, and fishing	29 (0.3)	22 (0.4)	17 (0.4)	16 (0.5)	12 (0.4)	18 (0.6)	15 (0.7)	5 (0.4)	0 (0.0)	134
Precision production, craft, and repair	75 (0.9)	67 (1.2)	64 (1.5)	56 (1.8)	36 (1.2)	39 (1.4)	29 (1.3)	13 (1.1)	3 (1.1)	382
Machine operators, assemblers, and inspectors	32 (0.4)	26 (0.5)	18 (0.4)	10 (0.3)	14 (0.5)	6 (0.2)	5 (0.2)	3 (0.3)	1 (0.4)	115
Transportation and material moving	25 (0.3)	17 (0.3)	14 (0.3)	6 (0.2)	12 (0.4)	10 (0.4)	8 (0.3)	3 (0.3)	3 (1.1)	98
Handlers, equipment cleaners, helpers, and laborers	25 (0.3)	18 (0.3)	14 (0.3)	10 (0.3)	5 (0.2)	10 (0.4)	7 (0.3)	0 (0.0)	0 (0.0)	89
Military occupations	3 (0.0)	2 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	6
N/A, Not Working	7,262 (83.3)	4,352 (77.6)	3,048 (72.5)	2,182 (68.6)	1,957 (66.0)	1,793 (64.3)	1,538 (66.9)	815 (68.3)	187 (71.4)	23,134
Unknown	209 (2.4)	104 (1.9)	84 (2.0)	75 (2.4)	64 (2.2)	38 (1.4)	20 (0.9)	4 (0.3)	0 (0.0)	598
Total	8,718	5,607	4,207	3,182	2,963	2,790	2,299	1,194	262	31,222

Footnote: Form IIs entered to the database since January 1, 2001.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 46. Veteran Status at Time of Injury

	Veteran Status			
n (%)	**No**	**Yes**	**Unkn**	**Total**
Total	10,503(90.1)	953 (8.2)	203 (1.7)	11,659

Footnote: Form Is entered to the database since January 1, 2001.

Table 47. VA Healthcare System Services used by Year Post-Injury.

	Post-Injury Year									
VA Healthcare Services Used	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**Total**
No	1,084 (12.4)	481 (8.6)	401 (9.5)	297 (9.3)	260 (8.8)	268 (9.6)	227 (9.9)	103 (8.6)	14 (5.3)	3,135
Yes	356 (4.1)	216 (3.9)	154 (3.7)	85 (2.7)	107 (3.6)	123 (4.4)	112 (4.9)	61 (5.1)	9 (3.4)	1,223
N/A, Not a Veteran	7,132 (81.6)	4,813 (85.8)	3,585 (85.2)	2,749 (86.3)	2,558 (86.3)	2,373 (85.1)	1,947 (84.7)	1,021 (85.5)	238 (90.8)	26,416
Unknown	165 (1.9)	97 (1.7)	68 (1.6)	53 (1.7)	39 (1.3)	26 (0.9)	13 (0.6)	9 (0.8)	1 (0.4)	471
Total	8,737 (28.0)	5,607 (17.9)	4,208 (13.5)	3,184 (10.2)	2,964 (9.5)	2,790 (8.9)	2,299 (7.4)	1,194 (3.8)	262 (0.8)	31,245

Footnote: Form IIs entered into the database since October 31, 2000.

Table 48. Primary Payer of Medical Costs during Initial Hospital Stay

	Primary Payer									
n (%)	**Private Insurance**	**Medi-care**	**Medicaid**	**Worker's Compensation**	**Vet Admin**	**Other Government**	**No Pay**	**Private funds**	**Other**	**Total**
Total	9,602 (49.8)	1,470 (7.6)	5,280 (27.4)	1,338 (6.9)	31 (0.2)	272 (1.4)	746 (3.9)	340 (1.8)	203 (1.1)	19,282

Footnote: This variable was not collected between 2006 and 2011.

Table 49. Primary Payer of Medical Costs by Post-Injury Year.

	Primary Payer									
Primary Payer	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**Total**
Private Insurance	6,483 (44.5)	2,849 (32.4)	1,716 (30.6)	1,297 (32.9)	1,026 (32.9)	665 (34.0)	450 (33.7)	301 (32.3)	94 (36.2)	14,881
Medicare	1,080 (7.4)	2,594 (29.5)	2,046 (36.5)	1,528 (38.7)	1,266 (40.6)	823 (42.1)	611 (45.8)	481 (51.7)	134 (51.5)	10,563
Medicaid	4,865 (33.4)	2,255 (25.7)	1,170 (20.9)	615 (15.6)	431 (13.8)	221 (11.3)	135 (10.1)	64 (6.9)	17 (6.5)	9,773
Worker's Compensation	1,107 (7.6)	605 (6.9)	395 (7.0)	293 (7.4)	235 (7.5)	125 (6.4)	76 (5.7)	38 (4.1)	9 (3.5)	2,883
Veterans Administration	119 (0.8)	82 (0.9)	65 (1.2)	38 (1.0)	40 (1.3)	37 (1.9)	29 (2.2)	20 (2.1)	4 (1.5)	434
Other Government	298 (2.0)	114 (1.3)	40 (0.7)	37 (0.9)	23 (0.7)	11 (0.6)	6 (0.4)	6 (0.6)	0 (0.0)	535
No Pay	196 (1.3)	38 (0.4)	25 (0.4)	27 (0.7)	24 (0.8)	10 (0.5)	10 (0.7)	5 (0.5)	1 (0.4)	336
Private funds	318 (2.2)	205 (2.3)	111 (2.0)	83 (2.1)	60 (1.9)	52 (2.7)	12 (0.9)	12 (1.3)	1 (0.4)	854
Other	115 (0.8)	44 (0.5)	38 (0.7)	27 (0.7)	14 (0.4)	10 (0.5)	6 (0.4)	4 (0.4)	0 (0.0)	258
Total	14,581	8,786	5,606	3,945	3,119	1,954	1,335	931	260	40,517

Footnote: Exclude 20,120 records coded as "unknown/decline". This variable was not collected between 2006 and 2011.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 50. Family Household Income Level by Post-Injury Year.

	Family Household Income Level									
Family Household Income Level	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**Total**
<$25,000	2,567 (43.2)	1,952 (47.1)	1,406 (44.8)	1,193 (43.6)	1,165 (44.9)	738 (41.7)	495 (38.4)	312 (33.7)	72 (27.8)	9,900
$25,000-$49,999	1,296 (21.8)	812 (19.6)	758 (24.1)	649 (23.7)	552 (21.3)	362 (20.5)	244 (18.9)	230 (24.8)	57 (22.0)	4,960
$50,000-$74,999	706 (11.9)	473 (11.4)	366 (11.7)	345 (12.6)	324 (12.5)	238 (13.5)	167 (13.0)	122 (13.2)	39 (15.1)	2,780
$75,000 or more	957 (16.1)	644 (15.6)	449 (14.3)	443 (16.2)	466 (18.0)	380 (21.5)	309 (24.0)	207 (22.3)	74 (28.6)	3,929
Participant doesn't know	238 (4.0)	117 (2.8)	58 (1.8)	42 (1.5)	26 (1.0)	20 (1.1)	16 (1.2)	12 (1.3)	2 (0.8)	531
Declined	174 (2.9)	143 (3.5)	103 (3.3)	64 (2.3)	59 (2.3)	31 (1.8)	58 (4.5)	44 (4.7)	15 (5.8)	691
Total	5,938	4,141	3,140	2,736	2,592	1,769	1,289	927	259	22,791

Footnote 1: Form IIs entered into the database since January 1, 1996.
Footnote 2: Exclude 15,927 unknown records. This variable was not collected between 2006 and 2011.
Footnote 3: Participant doesn't know/Declined was added in October 2011.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 51. Vertebral Injury

	Vertebral Injury			
n (%)	**No**	**Yes**	**Unkn**	**Total**
Total	1,441 (19.7)	5,831 (79.8)	35 (0.5)	7,307

Footnote: Data was required for all Admissions to System since October 1, 2006.

Table 52. Associated Injury

	Associated Injury			
n (%)	**No**	**Yes**	**Unkn**	**Total**
Total	4,422 (60.5)	2,838 (38.8)	47 (0.6)	7,307

Footnote: Data was required for all Admissions to System since October 1, 2006.

Table 53. Spinal Surgery

	Spinal Surgery			
n (%)	**No**	**Yes**	**Unkn**	**Total**
Total	1,494 (20.4)	5,783 (79.1)	30 (0.4)	7,307

Footnote: Data was required for all Admissions to System since October 1, 2006.

Table 54. Place of Residence at Time of Injury

	Place of Residence at Time of Injury											
n (%)	Private	Hospi-tal	Nursing Home	Group Living	Correc-tional Instit	Hotel Motel	De-ceased	Home-less	Assisted Living	Other	Unkn	Total
Total	14,620(97.9)	21(0.1)	37 (0.2)	108(0.7)	11(0.1)	20(0.1)	10(0.1)	79(0.5)	2 (0.0)	27(0.2)	14,935	14,031

Footnote: Data required for all admissions to system since December 1, 1995.

Table 55. Place of Residence at Discharge

	Place of Residence at Discharge											
n (%)	Private	Hospi-tal	Nursing Home	Group Living	Correc-tional Instit	Hotel Motel	De-ceased	Home-less	Assisted Living	Other	Unkn	Total
Total	28,117 (87.4)	509 (1.6)	2,118 (6.6)	412 (1.3)	48 (0.1)	83 (0.3)	706 (2.2)	24 (0.1)	17 (0.1)	13 (0.0)	112 (0.3)	32,159

Footnote: "Assisted Living" was added in October 2011

Table 56. Place of Residence by Post-Injury Year

	Post Injury Year n(%)									
Residence	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**	**Total**
Private Residence	22,099 (91.5)	12,465 (93.7)	7,313 (95.5)	4,848 (96.2)	3,726 (96.8)	2,873 (97.2)	2,232 (97.1)	1,167 (97.7)	257 (98.1)	56,980
Hospital	124 (0.5)	25 (0.2)	5 (0.1)	3 (0.1)	2 (0.1)	4 (0.1)	1 (0.0)	0 (0.0)	0 (0.0)	164
Nursing Home	941 (3.9)	380 (2.9)	199 (2.6)	101 (2.0)	69 (1.8)	41 (1.4)	43 (1.9)	12 (1.0)	2 (0.8)	1,788
Group Living Situation	308 (1.3)	179 (1.3)	46 (0.6)	22 (0.4)	12 (0.3)	4 (0.1)	4 (0.2)	2 (0.2)	1 (0.4)	578
Correctional Institution	34 (0.1)	15 (0.1)	9 (0.1)	6 (0.1)	4 (0.1)	2 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	70
Hotel/Motel	53 (0.2)	8 (0.1)	4 (0.1)	1 (0.0)	2 (0.1)	0 (0.0)	1 (0.0)	2 (0.2)	0 (0.0)	71
Homeless	17 (0.1)	6 (0.0)	4 (0.1)	3 (0.1)	0 (0.0)	1 (0.0)	0 (0.0)	1 (0.1)	0 (0.0)	32
Assisted Living	36 (0.1)	24 (0.2)	3 (0.0)	5 (0.1)	6 (0.2)	7 (0.2)	9 (0.4)	4 (0.3)	2 (0.8)	96
Other, Unclassified	29 (0.1)	3 (0.0)	2 (0.0)	3 (0.1)	3 (0.1)	2 (0.1)	3 (0.1)	3 (0.3)	0 (0.0)	48
Unknown	519 (2.1)	193 (1.5)	73 (1.0)	45 (0.9)	27 (0.7)	22 (0.7)	6 (0.3)	3 (0.3)	0 (0.0)	888
Total	24,160	13,298	7,658	5,037	3,851	2,956	2,299	1,194	262	60,715

Footnote: "Assisted Living" was added in October 2011.

Table 57. Resides in Catchment Area at Discharge

	Resides in Catchment Area at Discharge				
n (%)	**No**	**Yes**	**Deceased**	**Unkn**	**Total**
Total	141 (1.9)	7,061 (96.6)	59 (0.8)	46 (0.6)	7,307

Footnote 1: Data required for all Admissions to System since October 1, 2006.
Footnote 2: Only permanent dispositions are coded. If patient was discharged to a temporary nursing home then moved to a private residence, private (permanent) residence is recorded.

Table 58. Resides in Catchment Area by Post-Injury Year

	Post Injury Year n(%)								
Catchment n (%)	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	213 (3.7)	229 (5.9)	279 (9.3)	243 (11.0)	217 (12.2)	478 (26.2)	700 (34.6)	431 (36.1)	76 (29.0)
Yes	5,544 (95.6)	3,610 (93.1)	2,715 (90.1)	1,957 (88.6)	1,546 (87.1)	1,331 (73.1)	1,308 (64.6)	756 (63.3)	180(68.7)
Unknown	40 (0.7)	38 (1.0)	19 (0.6)	9 (0.4)	12 (0.7)	13 (0.7)	16 (0.8)	7 (0.6)	6 (2.3)
Total	5,797	3,877	3,013	2,209	1,775	1,822	2,024	1,194	262

Footnote: Data entered to the database since January 1, 2007.

Table 59. Median Days from Injury to Admission and Year of Injury

	Year of Injury median (n)								
	1972-1979	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**	**2005-2009**	**2010-2016**	**Overall**
Total	20.0 (4,562)	15.0 (4,949)	2.0 (3,842)	1.0 (3,295)	1.0 (3,623)	5.0 (3,443)	8.0 (3,607)	8.0 (4,838)	7.0 (32,159)

Footnote: Eligibility criteria changed in 1987 & 2000.

Table 60. Median Days Hospitalized in the System's Acute Care Unit and Year of Injury. (Day-1s only)

	Year of Injury median (n)								
	1972-1979	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**	**2005-2009**	**2010-2016**	**Overall**
Total	24.0 (1,224)	23.0 (1,626)	19.0 (1,747)	15.0 (1,876)	13.0 (1,900)	13.0 (1,577)	12.0 (1,351)	11.0 (1,695)	16.0 (12,996)

Footnote: In 1995, variable 'Length of Stay' was separated.

Table 61. Median Days Hospitalized in the System's Rehab Unit and Year of Injury. (Day-1s only)

	Year of Injury median (n)								
	1972-1979	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**	**2005-2009**	**2010-2016**	**Overall**
Total	98.0 (1,198)	86.0 (1,645)	73.0 (1,743)	58.0 (1,841)	44.0 (1,903)	42.0 (1,449)	38.0 (1,325)	35.0 (1,759)	54.0 (12,863)

Table 62. Median Days Hospitalized in the System's Acute Care Unit by Year of Injury and Neurologic Level and Extent of Injury. (Day-1s only)

	Year of Injury median (n)								
Neurologic Impairment	**1972-1979**	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**	**2005-2009**	**2010-2016**	**Overall**
Tetraplegia, complete	27.0 (313)	30.0 (348)	24.0 (315)	26.0 (322)	24.0 (313)	24.0 (265)	23.0 (176)	19.0 (170)	25.0 (2,222)
Tetraplegia, incomplete	24.0 (323)	22.0 (509)	18.0 (542)	15.0 (483)	10.0 (545)	11.0 (482)	10.0 (487)	10.0 (732)	14.0 (4,103)
Tetraplegia, minimal deficit	23.0 (3)	11.0 (5)	11.5 (42)	9.0 (76)	7.0 (59)	8.0 (37)	8.0 (12)	8.0 (13)	9.0 (247)
Paraplegia, complete	23.0 (327)	22.0 (401)	19.0 (408)	16.0 (513)	13.0 (482)	15.0 (353)	14.0 (287)	14.0 (310)	17.0 (3,081)
Paraplegia, incomplete	21.5 (218)	22.0 (325)	18.0 (381)	13.0 (378)	12.0 (363)	11.0 (271)	10.0 (291)	11.0 (371)	14.0 (2,598)
Paraplegia, minimal deficit	0.0 (0)	10.0 (7)	13.0 (29)	10.0 (71)	12.0 (39)	10.5 (26)	11.0 (12)	9.0 (11)	11.0 (195)
Normal, minimal deficit	19.0 (36)	18.0 (24)	12.0 (13)	10.0 (8)	10.0 (8)	9.0 (18)	13.0 (6)	8.0 (9)	14.0 (122)
Unknown	16.0 (4)	23.0 (7)	24.0 (17)	18.0 (25)	18.0 (91)	16.0 (125)	12.0 (80)	12.0 (79)	15.0 (428)
Total	24.0 (1,224)	23.0 (1,626)	19.0 (1,747)	15.0 (1,876)	13.0 (1,900)	13.0 (1,577)	12.0 (1,351)	11.0 (1,695)	16.0 (12,996)

Footnote1: Para & Tetra minimal deficit categories were added in 1987. Some records have been updated.
Footnote2: Neurologic impairment at discharge was used as the basis of comparison.

Table 63. Median Days Hospitalized in the System's Rehab Unit by Year of Injury and Neurologic Level and Extent of Injury. (Day-1s only)

	Year of Injury median (n)								
Neurologic Impairment	**1972-1979**	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**	**2005-2009**	**2010-2016**	**Overall**
Tetraplegia, complete	142.0 (293)	121.0 (349)	111.0 (289)	99.0 (308)	71.0 (327)	65.5 (244)	62.0 (165)	52.0 (171)	95.0 (2,146)
Tetraplegia, incomplete	104.0 (333)	95.0 (526)	85.0 (549)	75.0 (465)	51.0 (544)	44.0 (471)	36.0 (489)	35.0 (757)	56.0 (4,134)
Tetraplegia, minimal deficit	0.0 (0)	41.0 (5)	22.0 (41)	25.5 (78)	14.0 (59)	23.0 (29)	17.0 (8)	15.0 (15)	22.0 (235)
Paraplegia, complete	84.0 (347)	72.0 (423)	63.0 (429)	52.0 (523)	39.0 (492)	42.0 (338)	40.0 (293)	36.0 (325)	52.5 (3,170)
Paraplegia, incomplete	68.0 (218)	63.0 (322)	57.0 (394)	43.0 (378)	31.0 (364)	30.0 (267)	29.0 (296)	29.0 (379)	40.0 (2,618)
Paraplegia, minimal deficit	0.0 (0)	19.0 (7)	33.0 (28)	27.0 (66)	19.0 (41)	19.0 (23)	14.0 (12)	14.0 (9)	21.0 (186)
Normal, minimal deficit	38.5 (6)	43.0 (9)	10.0 (5)	12.5 (8)	10.0 (9)	15.0 (11)	19.0 (3)	8.5 (10)	14.0 (61)
Unknown	132.0 (1)	88.0 (4)	115.0 (8)	36.0 (15)	31.0 (67)	35.5 (66)	44.0 (59)	31.0 (93)	35.0 (313)
Total	98.0 (1,198)	86.0 (1,645)	73.0 (1,743)	58.0 (1,841)	44.0 (1,903)	42.0 (1,449)	38.0 (1,325)	35.0 (1,759)	54.0 (12,863)

Footnote1: Para & Tetra minimal deficit categories were added in 1987. Some records have been updated.
Footnote2: Neurologic impairment at discharge was used as the basis of comparison.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 64. Neurologic level at Discharge by Cervical Lesions

	Cervical Neurologic Level									
n (% of all lesions)	**C01**	**C02**	**C03**	**C04**	**C05**	**C06**	**C07**	**C08**	**Cervcl Unkn Level**	**Sub-Total**
Total	327 (1.1)	639 (2.1)	1,034 (3.4)	4,569 (15.0)	4,614 (15.2)	3,097 (10.2)	1,538 (5.1)	580 (1.9)	77 (0.3)	16,475 (54.2)

Footnote 1: A single neurologic level, the most rostral (highest) sensory & motor level, left & right at discharge, was used for analysis.
Footnote 2: (%) are calculated on Total of all levels (Cervical, Thoracic, Lumbar, Sacral) for each center.

Table 65. Neurologic level at Discharge by Thoracic Lesions

	Thoracic Neurologic Level													
n (% of all lesions)	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T10**	**T11**	**T12**	**Thorc Unkn Level**	**Sub-total**
Total	456 (1.5)	382 (1.3)	607 (2.0)	1,194 (3.9)	808 (2.7)	864 (2.8)	611 (2.0)	824 (2.7)	601 (2.0)	1,250 (4.2)	1,060 (3.6)	1,846 (6.2)	31 (0.1)	10,627 (35.0)

Footnote 1: A single neurologic level, the most rostral (highest) sensory & motor level, left & right at discharge, was used for analysis.
Footnote 2: (%) are calculated on Total of all levels (Cervical, Thoracic, Lumbar, Sacral) for each center.

Table 66. Neurologic level at Discharge by Lumbar Lesions

	Lumbar Neurologic Level						
n (% of all lesions)	**L01**	**L02**	**L03**	**L04**	**L05**	**Lmbr Unkn Level**	**Sub-Total**
Total	1,478 (4.9)	791 (2.6)	533 (1.8)	249 (0.8)	110 (0.4)	9 (0.0)	3,170 (10.4)

Footnote 1: A single neurologic level, the most rostral (highest) sensory & motor level, left & right at discharge, was used for analysis.
Footnote 2: (%) are calculated on Total of all levels (Cervical, Thoracic, Lumbar, Sacral) for each center.

Table 67. Neurologic level at Discharge by Sacral Lesions

	Sacral Neurologic Level						
n (% of all lesions)	**S01**	**S02**	**S03**	**S04**	**S05**	**Sacral Unkn Level**	**Sub-Total**
Total	56 (0.2)	33 (0.1)	8 (0.0)	12 (0.0)	11 (0.0)	1 (0.0)	121 (0.4)

Footnote 1: A single neurologic level, the most rostral (highest) sensory & motor level, left & right at discharge, was used for analysis.
Footnote 2: (%) are calculated on Total of all levels (Cervical, Thoracic, Lumbar, Sacral) for each center.

Table 68. Neurologic Category at Discharge

	Neurologic Category at Discharge								
n (%)	**Tetra Comp**	**Tetra Incomp**	**Tetra MinDef**	**Para Comp**	**Para Incomp**	**Para MinDef**	**Norm, MinDef**	**Unkn**	**Total**
Total	6,080(18.9)	10,318(32.1)	433 (1.3)	7,811 (24.3)	5,986 (18.6)	335 (1.0)	184 (0.6)	1,012(3.1)	32,159

Footnote: Para & Tetra minimal deficit categories were added in 1987. Some records have been updated.

Table 69. Neurologic Category at Discharge by Grouped Etiology.

	Neurologic Category at Discharge								
Etiology n (%)	**Tetra Comp**	**Tetra Incomp**	**Tetra MinDef**	**Para Comp**	**Para Incomp**	**Para MinDef**	**Norm, MinDef**	**Unkn**	**Total**
Vehicular	2,804 (20.6)	4,453 (32.8)	190 (1.4)	3,352 (24.7)	2,229 (16.4)	110 (0.8)	76 (0.6)	373 (2.7)	13,587
Violence	823 (14.9)	733 (13.3)	36 (0.7)	2,325 (42.2)	1,339 (24.3)	80 (1.5)	11 (0.2)	162 (2.9)	5,509
Sports	1,185 (36.2)	1,561 (47.7)	42 (1.3)	183 (5.6)	213 (6.5)	16 (0.5)	19 (0.6)	53 (1.6)	3,272
Falls	958 (13.4)	2,910 (40.7)	141 (2.0)	1,305 (18.3)	1,366 (19.1)	97 (1.4)	62 (0.9)	310 (4.3)	7,149
Other	299 (11.5)	635 (24.5)	24 (0.9)	643 (24.8)	835 (32.2)	32 (1.2)	16 (0.6)	109 (4.2)	2,593
Unknown	11 (22.4)	26 (53.1)	0 (0.0)	3 (6.1)	4 (8.2)	0 (0.0)	0 (0.0)	5 (10.2)	49
Total	6,080 (18.9)	10,318(32.1)	433 (1.3)	7,811 (24.3)	5,986 (18.6)	335 (1.0)	184 (0.6)	1,012(3.1)	32,159

Footnote 1: Para & Tetra minimal deficit categories were added in 1987. Some records have been updated.
Footnote 2: Vehicular=codes 1-9; Violence=codes 10-15; Sports=codes 20-29, 70-78; Falls=code 30.

Table 70. Trend in Neurologic Category at Discharge by Year of Injury.

	Year of Injury								
Neurologic Category	**1972-1979**	**1980-1984**	**1985-1989**	**1990-1994**	**1995-1999**	**2000-2004**	**2005-2009**	**2010-2016**	**Total**
Tetraplegia, complete	1,155 (25.3)	1,085 (21.9)	729 (19.0)	624 (18.9)	684 (18.9)	642 (18.6)	574 (15.9)	587 (12.1)	6,080
Tetraplegia, incomplete	1,282 (28.1)	1,598 (32.3)	1,198 (31.2)	821 (24.9)	1,020 (28.2)	1,120 (32.5)	1,278 (35.4)	2,001 (41.4)	10,318
Tetraplegia, minimal deficit	4 (0.1)	13 (0.3)	62 (1.6)	115 (3.5)	89 (2.5)	61 (1.8)	48 (1.3)	41 (0.8)	433
Paraplegia, complete	1,265 (27.7)	1,231 (24.9)	960 (25.0)	946 (28.7)	972 (26.8)	799 (23.2)	757 (21.0)	881 (18.2)	7,811
Paraplegia, incomplete	804 (17.6)	948 (19.2)	802 (20.9)	640 (19.4)	636 (17.6)	551 (16.0)	701 (19.4)	904 (18.7)	5,986
Paraplegia, minimal deficit	0 (0.0)	19 (0.4)	50 (1.3)	95 (2.9)	54 (1.5)	52 (1.5)	38 (1.1)	27 (0.6)	335
Normal	45 (1.0)	38 (0.8)	16 (0.4)	13 (0.4)	19 (0.5)	24 (0.7)	12 (0.3)	17 (0.4)	184
Unknown	7 (0.2)	17 (0.3)	25 (0.7)	41 (1.2)	149 (4.1)	194 (5.6)	199 (5.5)	380 (7.9)	1,012
Total	4,562	4,949	3,842	3,295	3,623	3,443	3,607	4,838	32,159

Footnote: Para & Tetra minimal deficit categories were added in 1987. Some records have been updated.

Table 71. Neurologic Impairment Category at One Year Post-Injury

	Neurologic Category								
n(%)	**Tetra Comp**	**Tetra Incomp**	**Tetra MinDef**	**Para Comp**	**Para Incomp**	**Para MinDef**	**Norm, MinDef**	**Unkn**	**Total**
Total	3,419 (14.2)	5,349 (22.1)	352 (1.5)	4,709 (19.5)	3,481 (14.4)	288 (1.2)	283 (1.2)	6,279 (26.0)	24,160

Footnote: Para & Tetra minimal deficit categories were added in 1987. Some records have been updated.

Table 72. ASIA Impairment Scale at Discharge

	ASIA Impairment Scale						
n (%)	**Complete (A)**	**Sensory Only (B)**	**Non-functional Motor (C)**	**Functional Motor (D)**	**Recovered (E)**	**Unkn**	**Total**
Total	13,891 (43.2)	3,448 (10.7)	3,909 (12.2)	9,375 (29.2)	184 (0.6)	1,352 (4.2)	32,159

Table 73. ASIA Impairment Scale at Acute Admit, Rehab Admit, and System Discharge (Day 1s Only).

ASIA Impairment Scale n (%)	Acute Admit	Rehab Admit	System Discharge
Complete (A)	6,124 (45.2)	1,804 (14.0)	5,588 (41.2)
Sensory Incomplete (B)	1,657 (12.2)	544 (4.2)	1,351 (10.0)
Non-functional Motor (C)	1,896 (14.0)	810 (6.3)	1,589 (11.7)
Functional Motor (D)	2,564 (18.9)	1,291 (10.0)	4,305 (31.7)
Recovered (E)	0 (0.0)	3 (0.0)	126 (0.9)
Unknown	1,319 (9.7)	8,463 (65.5)	601 (4.4)
Total	13,560	12,915	13,560

Footnote: Rehab admission data was required after October 31, 2000.

Table 74. ASIA Impairment Scale by Neurologic Level at Discharge- Cervical.

	Neurologic Level at Discharge									
ASIA Impairment Scale n(%)	C01	C02	C03	C04	C05	C06	C07	C08	Unkn Cervic	Total
Complete (A)	129 (39.4)	236 (36.9)	352 (34.0)	1,782 (39.0)	1,574 (34.1)	1,180 (38.1)	537 (34.9)	168 (29.0)	20 (26.0)	5,978 (36.3)
Sensory Incomplete (B)	12 (3.7)	42 (6.6)	83 (8.0)	572 (12.5)	601 (13.0)	514 (16.6)	246 (16.0)	97 (16.7)	7 (9.1)	2,174 (13.2)
Non-functional Motor Incomplete (C)	45 (13.8)	71 (11.1)	164 (15.9)	677 (14.8)	558 (12.1)	373 (12.0)	191 (12.4)	65 (11.2)	8 (10.4)	2,152 (13.1)
Functional Motor Incomplete (D)	140 (42.8)	284 (44.4)	418 (40.4)	1,496 (32.7)	1,825 (39.6)	1,001 (32.3)	540 (35.1)	244 (42.1)	22 (28.6)	5,970 (36.2)
Unknown	1 (0.3)	6 (0.9)	17 (1.6)	42 (0.9)	56 (1.2)	29 (0.9)	24 (1.6)	6 (1.0)	20 (26.0)	201 (1.2)
Total	327	639	1,034	4,569	4,614	3,097	1,538	580	77	16,475

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 75. ASIA Impairment Scale by Neurologic Level at Discharge - Thoracic.

	Neurologic Level at Discharge													
ASIA Impairment Scale n(%)	**T01**	**T02**	**T03**	**T04**	**T05**	**T06**	**T07**	**T08**	**T09**	**T10**	**T11**	**T12**	**Unkn Thorc**	**Total**
Complete (A)	240 (52.6)	272 (71.2)	472 (77.8)	893 (74.8)	639 (79.1)	639 (74.0)	436 (71.4)	608 (73.8)	464 (77.2)	934 (72.4)	730 (67.4)	799 (42.6)	15 (46.9)	7,141 (67.2)
Sensory Only (B)	60 (13.2)	36 (9.4)	49 (8.1)	102 (8.5)	56 (6.9)	80 (9.3)	53 (8.7)	61 (7.4)	30 (5.0)	59 (4.6)	93 (8.6)	198 (10.6)	2 (6.3)	879 (8.3)
Non-functional Motor (C)	45 (9.9)	25 (6.5)	39 (6.4)	80 (6.7)	44 (5.4)	52 (6.0)	38 (6.2)	57 (6.9)	41 (6.8)	125 (9.7)	119 (11.0)	337 (18.0)	2 (6.3)	1,004 (9.4)
Functional Motor (D)	109 (23.9)	48 (12.6)	44 (7.2)	113 (9.5)	66 (8.2)	89 (10.3)	81 (13.3)	94 (11.4)	63 (10.5)	164 (12.7)	134 (12.4)	525 (28.0)	4 (12.5)	1,534 (14.4)
Unknown	2 (0.4)	1 (0.3)	3 (0.5)	6 (0.5)	3 (0.4)	4 (0.5)	3 (0.5)	4 (0.5)	3 (0.5)	8 (0.6)	7 (0.6)	16 (0.9)	9 (28.1)	69 (0.6)
Total	456	382	607	1,194	808)	864	611	824	601	1,290	1,083	1,875	32	10,627

Table 76. ASIA Impairment Scale by Neurologic Level at Discharge - Lumbar.

	Neurologic Level at Discharge						
ASIA Impairment Scale n(%)	**L01**	**L02**	**L03**	**L04**	**L05**	**Unkn Lumbar**	**Total**
Complete (A)	361 (24.4)	93 (11.8)	82 (15.4)	14 (5.6)	10 (9.1)	1 (11.1)	561 (17.7)
Sensory Only (B)	162 (11.0)	91 (11.5)	56 (10.5)	18 (7.2)	9 (8.2)	0 (0.0)	336 (10.6)
Non-functional Motor (C)	369 (25.0)	145 (18.3)	122 (22.9)	28 (11.2)	9 (8.2)	0 (0.0)	673 (21.2)
Functional Motor (D)	568 (38.4)	450 (56.9)	260 (48.8)	184 (73.9)	82 (74.5)	5 (55.6)	1,549 (48.9)
Unknown	18 (1.2)	12 (1.5)	13 (2.4)	5 (2.0)	0 (0.0)	3 (33.3)	51 (1.6)
Total	1,478	791	533	249	110	9	3,170

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 77. ASIA Impairment Scale at One Year Post-Injury

	ASIA Impairment Scale						
n(%)	Complete (A)	Sensory Incomplete (B)	Non-functional Motor Incompl (C)	Functional Motor Incompl (D)	Recovered (E)	Unknown	Total
Total	8,128 (33.6)	1,785 (7.4)	1,806 (7.5)	5,386 (22.3)	283 (1.2)	6,772 (28.0)	24,160

Table 78. ASIA Motor Index Score Total (Mean) at Acute Admit, Rehab Admit and System Discharge (Day 1s Only)

Mean (n)	ASIA Motor Score Totals		
	Acute Admit	Rehab Admit	System Discharge
Total	44.0 (5,933)	47.9 (6,510)	55.6 (6,.687)

Footnote1: Form I Day-1s entered to the database since October 1, 1993.
Footnote 2: Motor Index Scores range from 0 to 100.

Table 79. ASIA Motor Index Score Total at Year One

	ASIA Motor Score Total Year One				
	Mean	Standard Deviation	N	Minimum	Maximum
Total	56.7	27.9	6,223	0	100

Footnote 1: Form IIs entered to the database since October 1, 1993.
Footnote 2: Motor Index Scores range from 0 to 100.

Table 80. FIM Motor Total (Mean) at Rehab Admit and Discharge.

	FIM Motor Total	
Mean (n)	**Rehab Admit**	**Rehab Discharge**
Total	25.3 (18,385)	54.5 (18,148)

Footnote 1: Form Is entered to the database since October 1, 1988.
Footnote 2: FIM Motor Score Total ranges from 13 to 91.

Table 81. FIM Motor Total (Mean) at Rehab Admit and Discharge by Neurologic Category

	FIM Motor Total	
Neurologic Category at Discharge Mean (n)	**Rehab Admit**	**Rehab Discharge**
Tetraplegia, complete	15.0 (3,003)	28.6 (2,966)
Tetraplegia, incomplete	20.7 (6,213)	49.8 (6,146)
Tetraplegia, minimal deficit	35.7 (340)	77.5 (345)
Paraplegia, complete	30.1 (4,334)	64.7 (4,274)
Paraplegia, incomplete	34.0 (3,432)	69.2 (3,408)
Paraplegia, minimal deficit	41.2 (255)	78.2 (255)
Normal, minimal deficit	45.5 (68)	75.9 (69)
Unknown	24.6 (740)	49.6 (685)
Total	25.3 (18,385)	54.5 (18,148)

Footnote1: Form Is entered to the database since October 1, 1988.
Footnote2: FIM Motor Score Total ranges from 13 to 91.

Table 82. FIM Motor Score (Mean) by Neurologic Category by Post-Injury Year

	Post Injury Year mean (n)								
Neurologic Category	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Tetraplegia, complete	32.9 (1,554)	37.1 (1,152)	37.9 (937)	36.1 (855)	35.6 (774)	36.8 (609)	36.9 (468)	39.4 (254)	38.3 (74)
Tetraplegia, incomplete	79.6 (1,913)	81.0 (1,097)	80.9 (754)	82.0 (615)	81.1 (571)	80.7 (458)	80.9 (347)	80.0 (205)	78.7 (43)
Tetraplegia, minimal deficit	84.1 (27)	88.3 (19)	87.3 (3)	86.0 (2)	0.0 (0)	79.0 (1)	81.0 (1)	0.0 (0)	0.0 (0)
Paraplegia, complete	71.5 (2,346)	73.9 (1,718)	74.7 (1,393)	74.9 (1,226)	75.7 (1,094)	74.9 (846)	74.0 (619)	73.4 (320)	71.7 (69)
Paraplegia, incomplete	79.7 (1,793)	81.2 (1,018)	81.2 (690)	82.1 (586)	81.3 (541)	80.6 (431)	81.0 (312)	80.1 (165)	76.0 (23)
Paraplegia, minimal deficit	84.0 (25)	88.2 (18)	87.3 (3)	86.0 (2)	0.0 (0)	79.0 (1)	81.0 (1)	0.0 (0)	0.0 (0)
Normal, minimal deficit	87.3 (7)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
Unknown	64.2 (437)	67.0 (198)	64.1 (102)	64.6 (49)	65.5 (16)	69.9 (9)	76.0 (5)	57.0 (2)	0.0 (0)
Total	64.2 (9,937)	65.2 (6,218)	64.9 (4,486)	63.7 (3,736)	63.2 (3,343)	63.2 (2,649)	62.3 (2,053)	62.9 (1,070)	60.2 (241)

Footnote 1: Form IIs entered to the database since February 1, 1996.
Footnote 2: FIM Motor Score Total ranges from 13 to 91.

Table 83. Respirator Use (Para) at Rehab Admit and System Discharge

	Respirator Use at Rehab Admit				Respirator Use at System Discharge			
n (%)	**No**	**Yes**	**Unkn**	**Total**	**No**	**Yes**	**Unkn**	**Total**
Total	12,290 (88.5)	789 (5.7)	814 (5.9)	13,893	14,022 (99.2)	66 (0.5)	44 (0.3)	14,132

Footnote 1: To determine paraplegia level, Neuro Category at Discharge was used.
Footnote 2: paraplegia group includes complete, incomplete and minimal deficit categories.
Footnote 3: All three codes (plus the conversion code) for 'mechanical vent use' were included in the 'Yes' column.

Table 84. Respirator Use (Tetra) at Rehab Admit and System Discharge

	Respirator Use at Rehab Admit				Respirator Use at System Discharge			
n (%)	**No**	**Yes**	**Unkn**	**Total**	**No**	**Yes**	**Unkn**	**Total**
Total	12,009 (73.7)	3,329 (20.4)	949 (5.8)	16,287	15,727 (93.4)	978 (5.8)	126 (0.7)	16,831

Footnote 1: To determine tetraplegia level, Neuro Category at Discharge was used.
Footnote 2: Tetraplegia group includes complete, incomplete and minimal deficit categories.
Footnote 3: All three codes (plus the conversion code) for 'mechanical vent use' were included in the 'Yes' column.

Table 85. Respirator Use (Paraplegia & Tetraplegia) at One Year Post-Injury

	Respirator Use - Tetraplegia				Respirator Use – Paraplegia			
n (%)	**No**	**Yes**	**Unkn**	**Total**	**No**	**Yes**	**Unkn**	**Total**
Total	8,568 (93.9)	319 (3.5)	233 (2.6)	9,120	8,250 (97.3)	19 (0.2)	209 (2.5)	8,478

Footnote 1: Paraplegia & Tetraplegia groups include complete, incomplete and minimal deficit categories.
Footnote 2: All three codes (plus the conversion code) for 'mechanical vent use' were included in the 'Yes' column.

Table 86. Method of Bladder Management at Discharge– Male

Continued on next page

	Bladder Management at Discharge							
n (%)	**None (diapers, etc.)**	**Indwelling Cath**	**Indwelling Cath, stoma***	**Catheter free with ext collector, no sphincterotomy***	**Catheter free with ext collector and sphincterotomy***	**Catheter free with ext collector, sphincterotomy unk**	**reflex stim, crede, external pressure**	**ICP only***
Total	546 (2.1)	3,696 (14.3)	10 (0.0)	280 (1.1)	10 (0.0)	2,803 (10.8)	567 (2.2)	5,721 (22.1)

*Footnote: * Codes were added November 1995.*

Table 86. Method of Bladder Management at Discharge– Male.

	Bladder Management at Discharge								
n (%)	**ICP with external collector***	**ICP after augmentation or continent diversion***	**ICP-external collector, augmentation or continent diversion unknown**	**Conduit**	**Suprapubic Cystostomy**	**Normal Micturition**	**Other**	**Unknown**	**Total**
Total	286 (1.1)	6 (0.0)	5,489 (21.2)	17 (0.1)	1,639 (6.3)	4,427 (17.1)	86 (0.3)	352 (1.4)	25,935

*Footnote: *Codes were added November 1995.*

Table 87. Method of Bladder Management at Discharge- Female

Continued

		Bladder Management at Discharge						
n (%)	**None (diapers, etc.)**	**Indwelling Cath**	**Indwelling Cath, stoma***	**Catheter free with ext collector, no sphincterotomy***	**Catheter Free with external collector, with sphincterotomy**	**reflex stim, crede, external pressure**	**ICP only***	**ICP-external collector, augmentation or continent diversion unknown**
Total	211 (3.4)	1,740 (28.0)	4 (0.1)	1 (0.0)	1 (0.0)	159 (2.6)	1,254 (20.2)	1,228 (19.8)

*Footnote 2: *Codes were added November 1995.*

Table 87. Method of Bladder Management at Discharge– Female.

	Bladder Management at Discharge					
n (%)	**Conduit**	**Suprapubic Cystostomy**	**Normal Micturition**	**Other**	**Unknown**	**Total**
Total	4 (0.1)	219 (3.5)	1,305 (21.0)	7 (0.1)	86 (1.4)	6,220

*Footnote : *Codes were added November 1995.*

Table 88. Method of Bladder Management by Year Post-Injury – Male

Bladder Management	Post Injury Year n(%)								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
None	484 (2.5)	246 (2.3)	121 (2.0)	71 (1.8)	41 (1.3)	20 (0.8)	13 (0.7)	14 (1.5)	2 (1.0)
Indwelling Catheter	1,838 (9.4)	879 (8.3)	584 (9.6)	371 (9.2)	267 (8.6)	193 (8.2)	186 (10.1)	108 (11.6)	22 (10.9)
*Indwelling Catheter after augmentation	31 (0.2)	46 (0.4)	46 (0.8)	58 (1.4)	42 (1.3)	36 (1.5)	32 (1.7)	14 (1.5)	5 (2.5)
*Catheter Free with external collector, no sphincterotomy	376 (1.9)	322 (3.0)	326 (5.3)	321 (8.0)	319 (10.3)	274 (11.6)	150 (8.1)	62 (6.6)	14 (7.0)
*Catheter Free with external collector, with sphincterotomy	24 (0.1)	64 (0.6)	82 (1.3)	101 (2.5)	114 (3.7)	123 (5.2)	94 (5.1)	54 (5.8)	17 (8.5)
Catheter Free with external collector, sphincterotomy unknown	2,989 (15.3)	1,906 (17.9)	785 (12.8)	240 (6.0)	67 (2.2)	43 (1.8)	31 (1.7)	25 (2.7)	10 (5.0)
Crede, reflex stimulation, external pressure	462 (2.4)	219 (2.1)	91 (1.5)	55 (1.4)	43 (1.4)	45 (1.9)	28 (1.5)	17 (1.8)	3 (1.5)
*ICP only	3,365 (17.2)	1,956 (18.4)	1,313 (21.5)	954 (23.7)	697 (22.4)	458 (19.4)	349 (18.9)	169 (18.1)	40 (19.9)
*ICP with external collector	410 (2.1)	218 (2.1)	152 (2.5)	133 (3.3)	108 (3.5)	90 (3.8)	87 (4.7)	30 (3.2)	8 (4.0)
*ICP after augmentation or continent diversion	20 (0.1)	24 (0.2)	37 (0.6)	41 (1.0)	29 (0.9)	27 (1.1)	24 (1.3)	4 (0.4)	2 (1.0)
ICP unknown	2,864 (14.7)	874 (8.2)	314 (5.1)	101 (2.5)	35 (1.1)	14 (0.6)	14 (0.8)	6 (0.6)	0 (0.0)
Conduit	14 (0.1)	44 (0.4)	43 (0.7)	30 (0.7)	35 (1.1)	38 (1.6)	23 (1.2)	19 (2.0)	4 (2.0)
Suprapubic Cystotomy	1,665 (8.5)	1,512 (14.2)	1,025 (16.8)	829 (20.6)	761 (24.5)	591 (25.0)	469 (25.4)	239 (25.6)	46 (22.9)
Normal Micturition	4,372 (22.4)	2,013 (18.9)	1,042 (17.1)	629 (15.6)	493 (15.8)	361 (15.3)	306 (16.6)	158 (16.9)	26 (12.9)
Other	73 (0.4)	52 (0.5)	35 (0.6)	25 (0.6)	23 (0.7)	22 (0.9)	23 (1.2)	9 (1.0)	2 (1.0)
Unknown	530 (2.7)	258 (2.4)	113 (1.8)	72 (1.8)	38 (1.2)	29 (1.2)	17 (0.9)	5 (0.5)	0 (0.0)
Total	19,517	10,633	6,109	4,031	3,112	2,364	1,846	933	201

*Footnote: * Codes were added November 1995.*

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 89. Method of Bladder Management by Year Post-Injury – Female

Bladder Management	Post Injury Year n(%)								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
None	200 (4.3)	122 (4.6)	48 (3.1)	35 (3.5)	17 (2.3)	16 (2.7)	14 (3.1)	11 (4.2)	1 (1.6)
Indwelling Catheter	1,066 (23.0)	610 (22.9)	331 (21.4)	219 (21.8)	164 (22.2)	135 (22.8)	107 (23.6)	59 (22.6)	16 (26.2)
*Indwelling Catheter after augmentation	16 (0.3)	26 (1.0)	22 (1.4)	20 (2.0)	15 (2.0)	9 (1.5)	9 (2.0)	5 (1.9)	4 (6.6)
Crede, reflex stimulation, external pressure	128 (2.8)	80 (3.0)	33 (2.1)	21 (2.1)	20 (2.7)	14 (2.4)	13 (2.9)	13 (5.0)	3 (4.9)
*ICP only	749 (16.1)	472 (17.7)	370 (23.9)	284 (28.2)	252 (34.1)	196 (33.1)	140 (30.9)	73 (28.0)	17 (27.9)
*ICP after augmentation or continent diversion	9 (0.2)	25 (0.9)	27 (1.7)	28 (2.8)	15 (2.0)	13 (2.2)	11 (2.4)	7 (2.7)	1 (1.6)
ICP unknown	771 (16.6)	301 (11.3)	126 (8.1)	45 (4.5)	9 (1.2)	6 (1.0)	5 (1.1)	1 (0.4)	1 (1.6)
Conduit	11 (0.2)	27 (1.0)	23 (1.5)	18 (1.8)	16 (2.2)	12 (2.0)	8 (1.8)	8 (3.1)	3 (4.9)
Suprapubic Cystotomy	267 (5.8)	268 (10.1)	166 (10.7)	113 (11.2)	87 (11.8)	72 (12.2)	50 (11.0)	30 (11.5)	5 (8.2)
Normal Micturition	1,296 (27.9)	659 (24.7)	360 (23.2)	199 (19.8)	130 (17.6)	110 (18.6)	83 (18.3)	51 (19.5)	9 (14.8)
Other	14 (0.3)	20 (0.8)	14 (0.9)	16 (1.6)	7 (0.9)	4 (0.7)	10 (2.2)	1 (0.4)	0 (0.0)
Unknown	114 (2.5)	54 (2.0)	29 (1.9)	8 (0.8)	7 (0.9)	5 (0.8)	3 (0.7)	2 (0.8)	1 (1.6)
Total	4,641	2,664	1,549	1,006	739	592	453	261	61

*Footnote: *Codes were added November 1995.*

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 90. Use of Halo Device at Rehab Discharge

	Halo Device at Discharge			
n (%)	**No**	**Yes**	**Unkn**	**Total**
Total	7,140 (97.7)	77 (1.1)	90 (1.2)	7,307

Footnote: Data required for all Admissions to System since October 1, 2006.

Table 91. Use of Thoracolumbosacral Orthosis at Rehab Discharge

	TLSO Device at Discharge			
n (%)	**No**	**Yes**	**Unkn**	**Total**
Total	6,471 (88.6)	727 (9.9)	109 (1.5)	7,307

Footnote: Data required for all Admission to System since October 1, 2006.

Table 92. Body Mass Index (mean) during Rehab Admission

	BMI (kg/m^2)				
	Mean	**Standard Deviation**	**N**	**Minimum**	**Maximum**
Total	26.5	6.4	7,116	10.72	94.31

Footnote: Data required for all Admissions to System since October 1, 2006.

Table 93. Body Mass Index (mean) by Post-Injury Year

	Post-Injury Year mean (n)								
mean (n)	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Total	26.0 (2,489)	26.9 (809)	26.5 (483)	26.4 (375)	26.0 (314)	26.0 (270)	25.7 (179)	25.5(103)	27.1 (19)

Footnote: Form II entered to the data base since January, 2007.

Table 94. Patients Re-hospitalized by Post-Injury Year.

	Post Injury Year n(%)								
Total Number of Rehospitalizations	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
0	15,377 (63.6)	9,165 (68.9)	5,490 (71.7)	3,673 (72.9)	2,810 (73.0)	2,168 (73.3)	1,648 (71.7)	812 (68.0)	177 (67.6)
1	5,345 (22.1)	2,484 (18.7)	1,327 (17.3)	843 (16.7)	659 (17.1)	506 (17.1)	413 (18.0)	256 (21.4)	57 (21.8)
2	1,672 (6.9)	700 (5.3)	385 (5.0)	238 (4.7)	198 (5.1)	141 (4.8)	131 (5.7)	66 (5.5)	20 (7.6)
3	552 (2.3)	261 (2.0)	132 (1.7)	83 (1.6)	68 (1.8)	59 (2.0)	47 (2.0)	33 (2.8)	5 (1.9)
4	205 (0.8)	100 (0.8)	55 (0.7)	37 (0.7)	36 (0.9)	27 (0.9)	19 (0.8)	10 (0.8)	1 (0.4)
5	100 (0.4)	40 (0.3)	10 (0.1)	14 (0.3)	13 (0.3)	8 (0.3)	5 (0.2)	4 (0.3)	0 (0.0)
6	42 (0.2)	19 (0.1)	17 (0.2)	4 (0.1)	7 (0.2)	5 (0.2)	4 (0.2)	1 (0.1)	0 (0.0)
> 6	31 (0.1)	12 (0.1)	6 (0.1)	11 (0.2)	3 (0.1)	2 (0.1)	7 (0.3)	3 (0.3)	0 (0.0)
Unknown # of Rehospitalizations	65 (0.3)	44 (0.3)	26 (0.3)	15 (0.3)	7 (0.2)	3 (0.1)	1 (0.0)	0 (0.0)	0 (0.0)
Status Unknown	771 (3.2)	473 (3.6)	210 (2.7)	119 (2.4)	50 (1.3)	37 (1.3)	24 (1.0)	9 (0.8)	2 (0.8)
Total	24,160	13,298	7,658	5,037	3,851	2,956	2,299	1,194	262

Table 95. Total Days Re-hospitalized (Mean) by Post-Injury Year.

	Post Injury Year mean (n)								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Total	23.5 (7,474)	20.6 (3,396)	20.4 (1,819)	20.4 (1,153)	20.0 (931)	22.5 (714)	21.0 (607)	20.3 (365)	20.7 (83)

Footnote: Exclude those with unknown number of days rehospitalized or with no/unknown rehospitalizations.

Table 96. Cause of Rehospitalization by Post-Injury Year

Cause of Rehospitalization	Post Injury Year n(%)								
	1	5	10	15	20	25	30	35	40
Infectious and Parasitic Diseases	184 (6.7)	98 (6.2)	83 (7.3)	58 (7.1)	60 (7.7)	29 (4.1)	17 (2.8)	15 (4.1)	2 (2.4)
Cancer	20 (0.7)	19 (1.2)	13 (1.2)	16 (2.0)	8 (1.0)	14 (2.0)	8 (1.3)	6 (1.6)	0 (0.0)
Endocrine/Nutrition Diseases	28 (1.0)	28 (1.8)	10 (0.9)	4 (0.5)	5 (0.6)	12 (1.7)	14 (2.3)	7 (1.9)	1 (1.2)
Diseases of the Blood	78 (2.8)	39 (2.5)	30 (2.7)	12 (1.5)	14 (1.8)	13 (1.8)	19 (3.1)	7 (1.9)	3 (3.6)
Mental Disorders	67 (2.4)	40 (2.5)	22 (1.9)	11 (1.3)	7 (0.9)	17 (2.4)	4 (0.6)	8 (2.2)	0 (0.0)
Diseases of the Nervous System	98 (3.6)	47 (3.0)	28 (2.5)	7 (0.9)	25 (3.2)	9 (1.3)	16 (2.6)	6 (1.6)	0 (0.0)
Diseases of the Circulatory System	318 (11.6)	126 (8.0)	96 (8.5)	70 (8.5)	56 (7.2)	45 (6.4)	61 (9.9)	37 (10.1)	8 (9.6)
Diseases of the Respiratory System	390 (4.2)	167 (10.6)	134 (11.9)	65 (7.9)	84 (10.8)	(83 11.7)	80 (13.0)	47 (12.9)	14 (16.9)
Diseases of the Digestive System	226 (8.2)	201 (12.8)	133 (11.8)	79 (9.6)	99 (12.8)	(90 12.7)	72 (11.7)	40 (11.0)	12 (14.5)
Diseases of the Genitourinary System	1,273 (46.3)	651 (41.4)	431 (38.1)	371 (45.2)	290 (37.4)	305 (43.1)	246 (39.9)	130 (35.6)	24 (28.9)
Childbirth and/or Complications of Childbirth	24 (0.9)	35 (2.2)	35 (3.1)	25 (3.0)	13 (1.7)	4 (0.6)	2 (0.3)	1 (0.3)	0 (0.0)
Diseases of the Skin	513 (18.7)	356 (22.6)	302 (26.7)	246 (30.0)	271 (34.9)	229 (32.3)	198 (32.1)	111 (30.4)	24 (28.9)
Disease of the Musculoskeletal System	244 (8.9)	129 (8.2)	117 (10.4)	69 (8.4)	5 9 (7.6)	74 (10.5)	71 (11.5)	45 (12.3)	11 (13.3)
Congenital anomalies	2 (0.1)	0 (0.0)	1 (0.1)	0 (0.0)	1 (0.1)	4 (0.6)	0 (0.0)	0 (0.0)	0 (0.0)
Symptoms and Ill-defined conditions	113 (4.1)	54 (3.4)	28 (2.5)	25 (3.0)	18 (2.3)	18 (2.5)	18 (2.9)	14 (3.8)	0 (0.0)
Injuries and Poisonings	185 (6.7)	123 (7.8)	97 (8.6)	61 (7.4)	57 (7.3)	59 (8.3)	(66) 10.7	50 (13.7)	13 (15.7)
Inpatient Rehab Services	503 (18.3)	237 (15.1)	183 (16.2)	136 (16.6)	112 (14.4)	72 (10.2)	69 (11.2)	25 (6.8)	2 (2.4)
Other, Unclassified	220 (8.0)	61 (3.9)	19 (1.7)	15 (1.8)	15 (1.9)	17 (2.4)	22 (3.6)	20 (5.5)	2 (2.4)
Total Participants	2,747	1,572	1,130	820	776	708	617	365	83

Footnote 1: Percentage may total more than 100% because some participants had more than one rehospitalization.
Footnote 2: Form IIs entered into the database since March 1, 2001.
Footnote 3: Those with no/unknown rehospitalizations are excluded.

Table 97. Self-Perceived Health Status by Post-Injury Year

	Post Injury Year n(%)								
Self-Perceived Health	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Excellent	1,134 (10.0)	906 (12.5)	640 (12.1)	558 (12.9)	511 (13.6)	397 (13.4)	281 (12.2)	134 (11.2)	22 (8.4)
Very Good	2,430 (21.3)	1,711 (23.6)	1,322 (25.0)	1,115 (25.7)	996 (26.6)	837 (28.3)	633 (27.5)	299 (25.0)	77 (29.4)
Good	3,628 (31.9)	2,423 (33.4)	1,757 (33.3)	1,523 (35.1)	1,313 (35.0)	1,048 (35.5)	814 (35.4)	434 (36.3)	89 (34.0)
Fair	1,950 (17.1)	1,233 (17.0)	907 (17.2)	671 (15.5)	600 (16.0)	471 (15.9)	394 (17.1)	244 (20.4)	50 (19.1)
Poor	645 (5.7)	323 (4.5)	217 (4.1)	146 (3.4)	131 (3.5)	98 (3.3)	128 (5.6)	65 (5.4)	19 (7.3)
Don't Know	32 (0.3)	21 (0.3)	11 (0.2)	8 (0.2)	6 (0.2)	3 (0.1)	4 (0.2)	0 (0.0)	1 (0.4)
Refuses	103 (0.9)	52 (0.7)	41 (0.8)	55 (1.3)	22 (0.6)	19 (0.6)	3 (0.1)	2 (0.2)	0 (0.0)
Unknown/Not Done/Under 18	1,465 (12.9)	585 (8.1)	387 (7.3)	259 (6.0)	170 (4.5)	83 (2.8)	42 (1.8)	16 (1.3)	4 (1.5)
Total	11,387	7,254	5,282	4,335	3,749	2,956	2,299	1,194	262

Footnote: Form IIs entered into the database since January 1, 1996.

Table 98.'Compared to one year ago, how would you rate your Health?' by Post-Injury Year

	Post Injury Year n(%)								
Rate Health	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Much Better	3,403 (33.0)	749 (11.5)	384 (8.0)	348 (8.9)	307 (8.8)	268 (9.1)	238 (10.4)	123 (10.3)	28 (10.7)
Somewhat Better	2,347 (22.8)	1,156 (17.7)	655 (13.7)	445 (11.3)	416 (12.0)	353 (11.9)	289 (12.6)	138 (11.6)	42 (16.0)
About the Same	1,861 (18.1)	3,186 (48.8)	2,634 (55.0)	2,209 (56.2)	1,922 (55.4)	1,713 (57.9)	1,245 (54.2)	603 (50.5)	123 (46.9)
Somewhat Worse	781 (7.6)	647 (9.9)	602 (12.6)	488 (12.4)	489 (14.1)	441 (14.9)	401 (17.4)	259 (21.7)	54 (20.6)
Much Worse	434 (4.2)	153 (2.3)	106 (2.2)	90 (2.3)	98 (2.8)	70 (2.4)	81 (3.5)	48 (4.0)	11 (4.2)
Don't Know	17 (0.2)	12 (0.2)	7 (0.1)	8 (0.2)	6 (0.2)	3 (0.1)	1 (0.0)	2 (0.2)	0 (0.0)
Refuses	110 (1.1)	53 (0.8)	44 (0.9)	56 (1.4)	29 (0.8)	23 (0.8)	2 (0.1)	4 (0.3)	0 (0.0)
Unknown/Not Done/Under 18	1,357 (13.2)	574 (8.8)	360 (7.5)	287 (7.3)	204 (5.9)	85 (2.9)	42 (1.8)	17 (1.4)	4 (1.5)
Total	10,310	6,530	4,792	3,931	3,471	2,956	2,299	1,194	262

Footnote: Form IIs entered into the database since January 1

Table 99. Satisfaction With Life Scale - Total Score by Post-Injury Year

	Post Injury Year mean (n)								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Total	19.0 (9,563)	20.7 (6,438)	21.3 (4,761)	22.0 (3,933)	22.5 (3,473)	22.9 (2,826)	23.1 (2,226)	23.2 (1,154)	24.5 (257)

Footnote 1: Form IIs entered into the database since January 1, 1996.
Footnote 2: Total ranges from 5 to 35

Table 100. CHART Physical Independence Subscale Score by Post-Injury Year

	Post Injury Year mean (n)								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Total	71.3 (9,999)	76.7 (6,683)	78.6 (4,902)	81.0 (4,051)	83.3 (3,583)	83.4 (2,867)	84.1 (2,258)	87.3 (1,177)	88.7 (259)

Footnote 1: Form IIs entered into the database since January 1, 1996.
Footnote 2: Total ranges from 0 to 100.

Table 101. CHART Mobility Subscale Score by Post-Injury Year

	Post Injury Year mean (n)								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Total	73.5 (9,937)	77.1 (6,648)	78.2 (4,875)	79.0 (4,038)	78.8 (3,572)	78.9 (2,856)	76.3 (2,254)	76.3 (1,170)	74.9 (256)

Footnote 1: Form IIs entered into the database since January 1, 1996.
Footnote 2: Total ranges from 0 to 100.

Table 102. CHART Occupation Subscale Score by Post-Injury Year

	Post Injury Year mean (n)								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Total	49.2 (9,812)	58.4 (6,585)	60.1 (4,849)	62.7 (4,000)	64.3 (3,544)	66.2 (2,845)	63.6 (2,235)	61.2 (1,162)	58.1 (257)

Footnote 1: Form IIs entered into the database since January 1, 1996.
Footnote 2: Total ranges from 0 to 100.

Table 103. CHART Social Integration Subscale Score by Post-Injury Year

	Post Injury Year mean (n)								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Total	86.5 (9,746)	86.2 (6,525)	86.3 (4,839)	87.2 (3,995)	87.0 (3,533)	87.2 (2,828)	86.0 (2,226)	86.6 (1,163)	84.2 (257)

Footnote 1: Form IIs entered into the database since January 1, 1996.
Footnote 2: Total ranges from 0 to 100.

Table 104. PHQ1-Little Interest or Pleasure by Post-Injury Year.

	Post-Injury Year								
Little Interest or Pleasure	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Not at all	4,172 (47.9)	2,990 (53.3)	2,354 (56.0)	1,860 (58.5)	1,786 (60.3)	1,681 (60.3)	1,341 (58.3)	690 (57.8)	164 (62.6)
Several days	1,999 (22.9)	1,251 (22.3)	892 (21.2)	637 (20.0)	587 (19.8)	595 (21.3)	519 (22.6)	262 (21.9)	49 (18.7)
More than half the days	643 (7.4)	439 (7.8)	331 (7.9)	226 (7.1)	186 (6.3)	186 (6.7)	162 (7.0)	95 (8.0)	16 (6.1)
Nearly every day	870 (10.0)	504 (9.0)	341 (8.1)	236 (7.4)	230 (7.8)	210 (7.5)	206 (9.0)	106 (8.9)	27 (10.3)
Declined	35 (0.4)	29 (0.5)	21 (0.5)	12 (0.4)	13 (0.4)	8 (0.3)	10 (0.4)	15 (1.3)	2 (0.8)
Unknown/Interview not done/Under 18	998 (11.4)	394 (7.0)	268 (6.4)	211 (6.6)	161 (5.4)	110 (3.9)	61 (2.7)	26 (2.2)	4 (1.5)
Total	8,717	5,607	4,207	3,182	2,963	2,790	2,299	1,194	262

Footnote 1: Form IIs entered into the database since March 1, 2001.
Footnote 2: "Declined" was added in October 2011.

Table 105. PHQ2-Down, Depressed, or Hopeless by Post-Injury Year.

	Post-Injury Year								
Depressed	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Not at all	4,015 (46.1)	3,142 (56.0)	2,438 (58.0)	1,902 (59.8)	1,865 (63.0)	1,807 (64.8)	1,453 (63.2)	720 (60.3)	169 (64.5)
Several days	2,319 (26.6)	1,293 (23.1)	938 (22.3)	700 (22.0)	623 (21.0)	553 (19.8)	516 (22.4)	291 (24.4)	58 (22.1)
More than half the days	558 (6.4)	314 (5.6)	229 (5.4)	174 (5.5)	137 (4.6)	145 (5.2)	111 (4.8)	73 (6.1)	11 (4.2)
Nearly every day	797 (9.1)	440 (7.9)	328 (7.8)	185 (5.8)	167 (5.6)	174 (6.2)	152 (6.6)	71 (6.0)	18 (6.9)
Declined	35 (0.4)	27 (0.5)	13 (0.3)	12 (0.4)	9 (0.3)	6 (0.2)	11 (0.5)	12 (1.0)	2 (0.8)
Unknown/Interview not done/Under 18	993 (11.4)	391 (7.0)	261 (6.2)	209 (6.6)	162 (5.5)	105 (3.8)	56 (2.4)	27 (2.3)	4 (1.5)
Total	8,717	5,607	4,207	3,182	2,963	2,790	2,299	1,194	262

Footnote 1: Form IIs entered into the database since March 1, 2001.
Footnote 2: "Declined" was added in October 2011.

Table 106. Severity of Pain Score by Post-Injury Year

	Post Injury Year mean (n)								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Total	4.2 (7,887)	4.4 (5,257)	4.5 (3,967)	4.4 (2,997)	4.3 (2,810)	4.2 (2,690)	4.3 (2,254)	4.2 (1,171)	4.3 (258)

Footnote 1: Form IIs entered into the database since March 1, 2001.
Footnote 2: Total ranges from 0 to 10.

Table 107. Pain Interfering with Work by Post-Injury Year

	Post Injury Year n(%)								
Pain Interference	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Not at All	1,894 (18.4)	1,324 (20.3)	1,114 (23.2)	1,011 (25.7)	959 (27.6)	886 (30.0)	647 (28.1)	315 (26.4)	65 (24.8)
A little bit	2,183 (21.2)	1,438 (22.0)	1,002 (20.9)	809 (20.6)	712 (20.5)	561 (19.0)	442 (19.2)	266 (22.3)	58 (22.1)
Moderately	1,445 (14.0)	978 (15.0)	696 (14.5)	553 (14.1)	506 (14.6)	450 (15.2)	385 (16.7)	201 (16.8)	51 (19.5)
Quite a bit	1,301 (12.6)	819 (12.5)	604 (12.6)	475 (12.1)	382 (11.0)	343 (11.6)	301 (13.1)	162 (13.6)	35 (13.4)
Extremely	662 (6.4)	470 (7.2)	318 (6.6)	221 (5.6)	178 (5.1)	146 (4.9)	111 (4.8)	63 (5.3)	15 (5.7)
Don't Know	20 (0.2)	6 (0.1)	4 (0.1)	4 (0.1)	6 (0.2)	1 (0.0)	3 (0.1)	1 (0.1)	0 (0.0)
Refuses	92 (0.9)	44 (0.7)	42 (0.9)	53 (1.3)	26 (0.7)	19 (0.6)	5 (0.2)	3 (0.3)	0 (0.0)
N/A, No Pain	1,353 (13.1)	824 (12.6)	606 (12.6)	487 (12.4)	474 (13.7)	458 (15.5)	360 (15.7)	159 (13.3)	34 (13.0)
Unknown/Not Done/Under 18	1,360 (13.2)	627 (9.6)	406 (8.5)	318 (8.1)	228 (6.6)	92 (3.1)	45 (2.0)	24 (2.0)	4 (1.5)
Total	10,310	6,530	4,792	3,931	3,471	2,956	2,299	1,194	262

Footnote : Form IIs entered into the database since January 1, 1998.

Table 108. Ambulation Ability-Walk for 150 feet, by Post Injury Year

	Post Injury Year n(%)								
Walk 150 feet	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	3,979 (55.6)	2,837 (60.7)	2,369 (67.3)	1,892 (71.7)	1,763 (75.3)	1,834 (79.5)	1,846 (80.6)	964 (80.7)	216 (82.4)
Yes	2,681 (37.5)	1,626 (34.8)	1,031 (29.3)	620 (23.5)	475 (20.3)	408 (17.7)	404 (17.6)	223 (18.7)	45 (17.2)
Unknown/Not Done	492 (6.9)	209 (4.5)	120 (3.4)	126 (4.8)	102 (4.4)	66 (2.9)	39 (1.7)	7 (0.6)	1 (0.4)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004

Table 109. Ambulation Ability-Walk for 1 street block, by Post Injury Year

	Post Injury Year n(%)								
Walk 1 street block	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	4,324 (60.5)	3,045 (65.2)	2,519 (71.6)	1,973 (74.8)	1,822 (77.9)	1,875 (81.2)	1,893 (82.7)	993 (83.2)	225 (85.9)
Yes	2,331 (32.6)	1,416 (30.3)	881 (25.0)	535 (20.3)	416 (17.8)	366 (15.9)	357 (15.6)	193 (16.2)	36 (13.7)
Unknown/Not Done	497 (6.9)	211 (4.5)	120 (3.4)	130 (4.9)	102 (4.4)	67 (2.9)	39 (1.7)	8 (0.7)	1 (0.4)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004.

Table 110. Ambulation Ability-Walk up 1 flight of stairs, by Post Injury Year

	Post Injury Year n(%)								
Walk 1 flight	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	4,363 (61.0)	3,015 (64.5)	2,452 (69.7)	1,933 (73.3)	1,795 (76.7)	1,854 (80.3)	1,868 (81.6)	991 (83.0)	224 (85.5)
Yes	2,294 (32.1)	1,448 (31.0)	949 (27.0)	573 (21.7)	441 (18.8)	388 (16.8)	381 (16.6)	195 (16.3)	37 (14.1)
Unknown/Not Done	495 (6.9)	209 (4.5)	119 (3.4)	132 (5.0)	104 (4.4)	66 (2.9)	40 (1.7)	8 (0.7)	1 (0.4)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004.

Table 111. Type of Mobility Aid, by Post-Injury Year

	Post Injury Year n(%)								
Type of Mobility Aid	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
None	1,202 (16.8)	709 (15.2)	481 (13.7)	260 (9.9)	164 (7.0)	152 (6.6)	149 (6.5)	64 (5.4)	7 (2.7)
Straight Cane	679 (9.5)	433 (9.3)	329 (9.3)	191 (7.2)	173 (7.4)	147 (6.4)	147 (6.4)	90 (7.5)	22 (8.4)
Quad Cane	133 (1.9)	71 (1.5)	30 (0.9)	23 (0.9)	16 (0.7)	13 (0.6)	10 (0.4)	7 (0.6)	0 (0.0)
Walker	831 (11.6)	427 (9.1)	239 (6.8)	113 (4.3)	78 (3.3)	56 (2.4)	68 (3.0)	48 (4.0)	11 (4.2)
Crutches	239 (3.3)	166 (3.6)	116 (3.3)	88 (3.3)	86 (3.7)	77 (3.3)	92 (4.0)	52 (4.4)	10 (3.8)
Ankle-Foot Orthotic	243 (3.4)	147 (3.1)	125 (3.6)	103 (3.9)	76 (3.2)	58 (2.5)	75 (3.3)	43 (3.6)	12 (4.6)
Knee-Ankle-Foot Orthotic	199 (2.8)	111 (2.4)	76 (2.2)	50 (1.9)	45 (1.9)	43 (1.9)	32 (1.4)	19 (1.6)	8 (3.1)
Other	102 (1.4)	69 (1.5)	50 (1.4)	38 (1.4)	24 (1.0)	20 (0.9)	16 (0.7)	16 (1.3)	4 (1.5)
N/A, Patient Not Ambulatory	3,762 (52.6)	2,695 (57.7)	2,220 (63.1)	1,808 (68.5)	1,712 (73.2)	1,783 (77.3)	1,792 (78.3)	939 (78.6)	211 (80.5)
Unknown/Not Done	495 (6.9)	210 (4.5)	116 (3.3)	126 (4.8)	101 (4.3)	68 (2.9)	42 (1.8)	7 (0.6)	1 (0.4)
Total Participants	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote 1: Percentages may total more than 100% because some participants used more than one mobility aid.
Footnote 2: Form IIs entered into the database since May 1, 2004.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

Table 112. Wheelchair or Scooter Use, by Post Injury Year

	Post Injury Year n(%)								
Wheelchair or scooter Use	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	2,439 (34.1)	1,481 (31.7)	962 (27.3)	611 (23.2)	465 (19.9)	413 (17.9)	421 (18.4)	256 (21.4)	57 (21.8)
Yes	4,218 (59.0)	2,996 (64.1)	2,440 (69.3)	1,903 (72.1)	1,773 (75.8)	1,830 (79.3)	1,831 (80.0)	931 (78.0)	204 (77.9)
Unknown/Not Done	495 (6.9)	195 (4.2)	118 (3.4)	124 (4.7)	102 (4.4)	65 (2.8)	37 (1.6)	7 (0.6)	1 (0.4)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004.

Table 113. Type of Wheelchair or Scooter Used Most Often, by Post Injury Year

	Post Injury Year n(%)								
Type Wheelchair used Most	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Manual Wheelchair	2,514 (35.2)	1,653 (35.4)	1,385 (39.3)	1,159 (43.9)	1,077 (46.0)	1,124 (48.7)	1,064 (46.5)	538 (45.1)	95 (36.3)
Power Wheelchair	1,580 (22.1)	1,241 (26.6)	978 (27.8)	706 (26.8)	657 (28.1)	664 (28.8)	711 (31.1)	367 (30.7)	100 (38.2)
Power-Assist Wheelchair	84 (1.2)	69 (1.5)	37 (1.1)	26 (1.0)	19 (0.8)	23 (1.0)	33 (1.4)	17 (1.4)	9 (3.4)
Scooter	15 (0.2)	19 (0.4)	26 (0.7)	10 (0.4)	16 (0.7)	16 (0.7)	20 (0.9)	7 (0.6)	0 (0.0)
Other	5 (0.1)	3 (0.1)	3 (0.1)	1 (0.0)	1 (0.0)	0 (0.0)	1 (0.0)	1 (0.1)	0 (0.0)
Non-user	2,439 (34.1)	1,481 (31.7)	962 (27.3)	611 (23.2)	465 (19.9)	413 (17.9)	421 (18.4)	256 (21.4)	57 (21.8)
Unknown/Not Done	515 (7.2)	206 (4.4)	129 (3.7)	125 (4.7)	105 (4.5)	68 (2.9)	39 (1.7)	8 (0.7)	1 (0.4)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004.

Table 114. Computer Use, by Post Injury Year

	Post Injury Year n(%)								
Computer Use	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	1,718 (24.0)	973 (20.8)	722 (20.5)	497 (18.8)	472 (20.2)	472 (20.5)	461 (20.1)	246 (20.6)	43 (16.4)
Home Only	2,608 (36.5)	1,756 (37.6)	1,368 (38.9)	989 (37.5)	848 (36.2)	896 (38.8)	910 (39.8)	441 (36.9)	70 (26.7)
Outside Home Only	208 (2.9)	148 (3.2)	111 (3.2)	90 (3.4)	86 (3.7)	69 (3.0)	65 (2.8)	38 (3.2)	4 (1.5)
Both	2,033 (28.4)	1,581 (33.8)	1,183 (33.6)	927 (35.1)	837 (35.8)	797 (34.5)	814 (35.6)	462 (38.7)	143 (54.6)
Unknown/Not Done	585 (8.2)	214 (4.6)	136 (3.9)	135 (5.1)	97 (4.1)	74 (3.2)	39 (1.7)	7 (0.6)	2 (0.8)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004.

Table 115. Internet or Email Usage, by Post Injury Year

	Post Injury Year n(%)								
Internet/Email Use	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Owns Computer Only	157 (2.2)	116 (2.5)	77 (2.2)	57 (2.2)	69 (2.9)	69 (3.0)	53 (2.3)	14 (1.2)	4 (1.5)
Daily	3,628 (50.7)	2,678 (57.3)	2,032 (57.7)	1,569 (59.5)	1,392 (59.5)	1,391 (60.3)	1,455 (63.6)	787 (65.9)	191 (72.9)
Weekly	767 (10.7)	508 (10.9)	406 (11.5)	256 (9.7)	218 (9.3)	217 (9.4)	194 (8.5)	101 (8.5)	17 (6.5)
Monthly	287 (4.0)	187 (4.0)	138 (3.9)	103 (3.9)	82 (3.5)	77 (3.3)	83 (3.6)	38 (3.2)	5 (1.9)
N/A, Doesn't own Computer	1,715 (24.0)	964 (20.6)	729 (20.7)	517 (19.6)	479 (20.5)	478 (20.7)	463 (20.2)	247 (20.7)	43 (16.4)
Unknown/Not Done	598 (8.4)	219 (4.7)	138 (3.9)	136 (5.2)	100 (4.3)	76 (3.3)	41 (1.8)	7 (0.6)	2 (0.8)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004.

Table 116. Type of Modified Vehicle, by Post Injury Year

	Post Injury Year n(%)								
Type Modified Vehicle	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Does Not Own	4,719 (66.0)	2,420 (51.8)	1,640 (46.6)	1,105(41.9)	867 (37.1)	750 (32.5)	732 (32.0)	372 (31.2)	68 (26.0)
Car	523 (7.3)	566 (12.1)	497 (14.1)	409 (15.5)	409 (17.5)	435 (18.8)	392 (17.1)	197 (16.5)	36 (13.7)
Van	1,137 (15.9)	1,172 (25.1)	1,013 (28.8)	777 (29.5)	758 (32.4)	855 (37.0)	911 (39.8)	491 (41.1)	128 (48.9)
Other	194 (2.7)	243 (5.2)	165 (4.7)	160 (6.1)	150 (6.4)	150 (6.5)	134 (5.9)	72 (6.0)	18 (6.9)
Combination	19 (0.3)	39 (0.8)	62 (1.8)	50 (1.9)	51 (2.2)	46 (2.0)	83 (3.6)	52 (4.4)	11 (4.2)
Unkn/Not Done	560 (7.8)	232 (5.0)	143 (4.1)	137 (5.2)	105 (4.5)	72 (3.1)	37 (1.6)	10 (0.8)	1 (0.4)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004.

Table 117. Driving Modified Vehicle, by Post Injury Year

	Post Injury Year n(%)								
Drive Modified Vehicle	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	1,079 (15.1)	809 (17.3)	584 (16.6)	366 (13.9)	334 (14.3)	364 (15.8)	372 (16.3)	189 (15.8)	51 (19.5)
Yes, From Wheelchair	105 (1.5)	207 (4.4)	240 (6.8)	187 (7.1)	214 (9.1)	268 (11.6)	306 (13.4)	161 (13.5)	55 (21.0)
Yes, Not from wheelchair	683 (9.5)	1,001 (21.4)	913 (25.9)	839 (31.8)	818 (35.0)	853 (37.0)	841 (36.7)	461 (38.6)	87 (33.2)
N/A, Doesn't Own	4,719 (66.0)	2,420 (51.8)	1,640 (46.6)	1,105(41.9)	867 (37.1)	750 (32.5)	732 (32.0)	372 (31.2)	68 (26.0)
Unkn/Not Done	566 (7.9)	235 (5.0)	143 (4.1)	141 (5.3)	107 (4.6)	73 (3.2)	38 (1.7)	11 (0.9)	1 (0.4)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004.

Table 118. Cell Phone Usage, by Post Injury Year

	Post Injury Year n(%)								
Cell Phone	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	1,073 (15.0)	776 (16.6)	641 (18.2)	467 (17.7)	438 (18.7)	470 (20.4)	462 (20.2)	213 (17.8)	43 (16.4)
Yes	5,522 (77.2)	3,679 (78.7)	2,739 (77.8)	2,038 (77.3)	1,801 (77.0)	1,765 (76.5)	1,788 (78.1)	974 (81.6)	217 (82.8)
Unknown/Not Done	557 (7.8)	217 (4.6)	140 (4.0)	133 (5.0)	101 (4.3)	73 (3.2)	39 (1.7)	7 (0.6)	2 (0.8)
Total	7,152	4,672	3,520	2,638	2,340	2,308	2,289	1,194	262

Footnote: Form IIs entered into the database since May 1, 2004.

Table 119. Source for Health and Disability Information by Post-Injury Year

	Post Injury Year n(%)								
Primary Source n(%)	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Newspaper	892 (15.4)	657 (16.9)	546 (18.1)	390 (17.7)	342 (19.3)	408 (22.4)	447 (22.1)	266 (22.3)	42 (16.0)
TV	2,060 (35.5)	1,664 (42.9)	1,399 (46.4)	994 (45.0)	783 (44.1)	925 (50.8)	1,044 (51.6)	568 (47.6)	102 (38.9)
Radio	421 (7.3)	345 (8.9)	346 (11.5)	254 (11.5)	202 (11.4)	235 (12.9)	280 (13.8)	151 (12.6)	21 (8.0)
Internet	2,656 (45.8)	2,034 (52.5)	1,556 (51.6)	1,142 (51.7)	944 (53.2)	936 (51.4)	1,090 (53.9)	687 (57.5)	174 (66.4)
Other print	1,092 (18.8)	877 (22.6)	667 (22.1)	497 (22.5)	386 (21.7)	394 (21.6)	438 (21.6)	316 (26.5)	71 (27.1)
Educational video, DVD/CDs	195 (3.4)	110 (2.8)	91 (3.0)	63 (2.9)	45 (2.5)	48 (2.6)	44 (2.2)	37 (3.1)	11 (4.2)
Others	1,521 (26.2)	902 (23.3)	619 (20.5)	449 (20.3)	323 (18.2)	311 (17.1)	342 (16.9)	111 (9.3)	6 (2.3)
*Conversations with family or friends	1,086 (18.7)	719 (18.5)	499 (16.6)	363 (16.4)	327 (18.4)	265 (14.5)	345 (17.0)	368 (30.8)	90 (34.4)
*Conversations with health professionals	1,897 (32.7)	1,125 (29.0)	804 (26.7)	617 (27.9)	513 (28.9)	445 (24.4)	552 (27.3)	494 (41.4)	161 (61.5)
No Access	198 (3.4)	140 (3.6)	128 (4.2)	95 (4.3)	86 (4.8)	59 (3.2)	80 (4.0)	50 (4.2)	7 (2.7)
Unknown	341 (5.9)	154 (4.0)	100 (3.3)	86 (3.9)	46 (2.6)	40 (2.2)	28 (1.4)	10 (0.8)	3 (1.1)
Total Participants	5,797	3,877	3,013	2,209	1,775	1,822	2,024	1,194	262

Footnote 1: Percentages may total more than 100% because some participants used more than one sources.
Footnote 2: Form IIs entered into the database since January 1, 2007.
*Footnote 3: *Codes were added in October, 2011.*

Table 120. Ability to Speak and Understand English at Time of Injury.

	English Understanding							
n (%)	**Very Well**	**Well**	**Not well**	**Not at all**	**Speaks English, unknown ability**	**Declined**	**Unkn**	**Total**
Total	3,355 (29.4)	225 (2.0)	48 (0.4)	233 (2.0)	7,470 (65.5)	1 (0.0)	81 (0.7)	11,413

Footnote 1: Data was required for all Admissions to System since October 1, 2000.
Footnote 2: High percentage of "speaks English, unknown ability" is mainly due to a database conversion process in 2011.

Table 121. Family Household Income Level at Time of Injury.

	Family Household Income Level							
n (%)	**<$25,000**	**$25,000-$49,999**	**$50,000-$74,999**	**$75,000 or more**	**Participant doesn't know**	**Declined**	**Unkn**	**Total**
Total	878 (24.1)	756 (20.8)	508 (14.0)	721 (19.8)	338 (9.3)	292 (8.0)	148 (4.1)	3,641

Footnote: Data was required for all Admissions to System since October 1, 2011.

Table 122. Alcohol Use Prior to Injury – How Often Having a Drink.

	How Often Having a Drink							
n (%)	**None**	**Once a month or less**	**2 to 4 times a month**	**2 to 3 times a week**	**4 or more times a week**	**Declined**	**Unkn /Under 18**	**Total**
Total	935 (25.7)	661 (18.2)	808 (22.2)	597 (16.4)	475 (13.0)	41 (1.1)	124 (3.4)	3,641

Footnote: Data was required for all Admissions to System since October 1, 2011.

Table 123. Alcohol Use by Post-Injury Year – How Often Having a Drink.

	Post-Injury Year								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
None	1,315 (45.0)	819 (39.4)	685 (41.6)	461 (38.9)	432 (40.6)	339 (40.8)	439 (41.0)	349 (37.5)	89 (34.0)
Once a month or less	593 (20.3)	502 (24.1)	403 (24.5)	301 (25.4)	276 (25.9)	179 (21.5)	242 (22.6)	212 (22.8)	69 (26.3)
2 to 4 times a month	426 (14.6)	368 (17.7)	261 (15.8)	191 (16.1)	183 (17.2)	140 (16.8)	167 (15.6)	147 (15.8)	43 (16.4)
2 to 3 times a week	269 (9.2)	197 (9.5)	154 (9.3)	103 (8.7)	84 (7.9)	80 (9.6)	111 (10.4)	126 (13.5)	28 (10.7)
4 or more times a week	152 (5.2)	118 (5.7)	96 (5.8)	87 (7.3)	69 (6.5)	72 (8.7)	98 (9.2)	87 (9.4)	29 (11.1)
Declined	26 (0.9)	20 (1.0)	8 (0.5)	6 (0.5)	7 (0.7)	1 (0.1)	4 (0.4)	2 (0.2)	0 (0.0)
Unkn/Under 18	140 (4.8)	57 (2.7)	41 (2.5)	36 (3.0)	14 (1.3)	20 (2.4)	10 (0.9)	7 (0.8)	4 (1.5)
Total	2,921	2,081	1,648	1,185	1,065	831	1,071	930	262

Footnote: Form IIs entered into the database since January 1, 2012.

Table 124. Alcohol Use Prior to Injury – How Many Drinks on a Typical Day.

	How Many Drinks on a Typical Day								
n (%)	**None**	**1 or 2**	**3 or 4**	**5 or 6**	**7 or 9**	**10 or more**	**Declined**	**Unkn /Under 18**	**Total**
Total	1,054 (28.9)	1,318 (36.2)	660 (18.1)	279 (7.7)	76 (2.1)	65 (1.8)	61 (1.7)	128 (3.5)	3,641

Footnote: Data was required for all Admissions to System since October 1, 2011.

Table 125. Alcohol Use by Post-Injury Year – How Many Drinks on a Typical Day.

	Post-Injury Year								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
None	1,349 (46.2)	854 (41.0)	705 (42.8)	481 (40.6)	446 (41.8)	348 (41.9)	457 (42.7)	360 (38.7)	94 (35.9)
1 or 2	996 (34.1)	757 (36.4)	622 (37.7)	440 (37.1)	393 (36.9)	307 (36.9)	424 (39.6)	423 (45.5)	140 (53.4)
3 or 4	310 (10.6)	268 (12.9)	194 (11.8)	140 (11.8)	126 (11.8)	101 (12.2)	133 (12.4)	90 (9.7)	22 (8.4)
5 or 6	63 (2.2)	75 (3.6)	60 (3.6)	61 (5.1)	56 (5.3)	44 (5.3)	28 (2.6)	32 (3.4)	2 (0.8)
7 to 9	23 (0.8)	28 (1.3)	9 (0.5)	11 (0.9)	11 (1.0)	7 (0.8)	9 (0.8)	7 (0.8)	0 (0.0)
10 or more	8 (0.3)	18 (0.9)	5 (0.3)	11 (0.9)	11 (1.0)	2 (0.2)	6 (0.6)	8 (0.9)	0 (0.0)
Declined	30 (1.0)	23 (1.1)	11 (0.7)	5 (0.4)	9 (0.8)	3 (0.4)	4 (0.4)	3 (0.3)	0 (0.0)
Unkn/Under 18	141 (4.8)	58 (2.8)	42 (2.5)	36 (3.0)	14 (1.3)	19 (2.3)	10 (0.9)	7 (0.8)	4 (1.5)
Total	2,920	2,081	1,648	1,185	1,066	831	1,071	930	262

Footnote 1: Form IIs entered into the database since January 1, 2012.
Footnote 2: 1 record with missing/unknown data was excluded.

Table 126. Alcohol Use Prior to Injury – How Often Having 6 or More Drinks on One Occasion.

	How Often Having 6 or More Drinks on One Occasion							
n (%)	**None**	**Less than Monthly**	**Monthly**	**Weekly**	**Daily or almost daily**	**Declined**	**Unkn /Under 18**	**Total**
Total	2,113 (58.0)	653 (17.9)	341 (9.4)	249 (6.8)	81 (2.2)	68 (1.9)	136 (3.7)	3,641

Footnote: Data was required for all Admissions to System since October 1, 2011.

Table 127. Alcohol Use by Post-Injury Year – How Often Having 6 or More Drinks on One Occasion.

	Post-Injury Year								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
None	2,388 (81.8)	1,629 (78.3)	1,311 (79.6)	938 (79.2)	853 (80.0)	674 (81.1)	899 (83.9)	798 (85.8)	236 (90.1)
Less than Monthly	231 (7.9)	246 (11.8)	185 (11.2)	119 (10.0)	112 (10.5)	71 (8.5)	95 (8.9)	71 (7.6)	15 (5.7)
Monthly	90 (3.1)	73 (3.5)	60 (3.6)	49 (4.1)	42 (3.9)	29 (3.5)	29 (2.7)	27 (2.9)	4 (1.5)
Weekly	31 (1.1)	39 (1.9)	29 (1.8)	28 (2.4)	28 (2.6)	30 (3.6)	24 (2.2)	22 (2.4)	2 (0.8)
Daily or almost daily	12 (0.4)	14 (0.7)	10 (0.6)	8 (0.7)	9 (0.8)	4 (0.5)	9 (0.8)	2 (0.2)	1 (0.4)
Declined	28 (1.0)	22 (1.1)	11 (0.7)	6 (0.5)	8 (0.8)	3 (0.4)	5 (0.5)	3 (0.3)	0 (0.0)
Unkn/Under 18	141 (4.8)	58 (2.8)	42 (2.5)	37 (3.1)	14 (1.3)	20 (2.4)	10 (0.9)	7 (0.8)	4 (1.5)
Total	2,921	2,081	1,648	1,185	1,066	831	1,071	930	262

Footnote 1: Form IIs entered into the database since January 1, 2012.
Footnote 2: 1 record with missing/unknown data was excluded.

Table 128. Cigarette Smoking by Post-Injury Year – How Often.

	Post-Injury Year								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
Not At All	2,319(79.4)	1,526(73.5)	1,238 (75.1)	901 (76.2)	823 (77.2)	640 (77.0)	890 (83.1)	780 (83.9)	230 (87.8)
Some Days	177 (6.1)	139 (6.7)	115 (7.0)	71 (6.0)	72 (6.8)	52 (6.3)	40 (3.7)	43 (4.6)	8 (3.1)
Everyday	361 (12.4)	358 (17.2)	265 (16.1)	183 (15.5)	158 (14.8)	128 (15.4)	128 (12.0)	101 (10.9)	23 (8.8)
Declined	11 (0.4)	10 (0.5)	5 (0.3)	4 (0.3)	2 (0.2)	0 (0.0)	1 (0.1)	1 (0.1)	0 (0.0)
Unkn/Under 16	53 (1.8)	44 (2.1)	25 (1.5)	23 (1.9)	11 (1.0)	11 (1.3)	12 (1.1)	5 (0.5)	1 (0.4)
Total	2,921	2,077	1,648	1,182	1,066	831	1,071	930	262

Footnote 1: Form IIs entered into the database since January 1, 2012.
Footnote 2: 4 record with missing/unknown data was excluded.

Table 129. Sensory Score for Light Touch Total (Mean) at Rehab Admit and System Discharge

Mean (n)	Sensory Score for Light Touch Total	
	Rehab Admit	System Discharge
Total	66.1 (3,249)	71.2 (3,162)

Footnote 1: Data was required for all Admissions to System since October 1, 2011.
Footnote 2: Sensor Score ranges from 0 to 112.

Table 130. Sensory Score for Pin Prick Total (Mean) at Rehab Admit and System Discharge

Mean (n)	Sensory Score for Light Touch Total	
	Rehab Admit	System Discharge
Total	58.1 (3,265)	63.1 (3,174)

Footnote 1: Data was required for all Admissions to System since October 1, 2011.
Footnote 2: Sensor Score ranges from 0 to 112.

Table 131. Sensory Score for Light Touch Total at Year One

	Sensory Score for Light Touch Total				
	Mean	Standard Deviation	N	Minimum	Maximum
Total	67.1	34.2	1,247	0	112

Footnote 1: Form IIs entered into the database since January 1, 2012.
Footnote 2: Sensor Score ranges from 0 to 112.

Table 132. Sensory Score for Pin Prick Total at Year One

	Sensory Score for Pin Prick Total				
	Mean	Standard Deviation	N	Minimum	Maximum
Total	63.7	32.6	1,190	0	112

Footnote 1: Form IIs entered into the database since January 1, 2012.
Footnote 2: Sensor Score ranges from 0 to 112.

Table 133. Reason for Change in Bladder Management by Post-Injury Year.

	Post-Injury Year								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No change	2,000 (68.5)	1,611 (77.4)	1,371 (83.3)	994 (84.0)	878 (82.4)	680 (81.9)	848 (79.2)	738 (79.4)	205 (78.2)
Regained bladder control	482 (16.5)	174 (8.4)	90 (5.5)	52 (4.4)	47 (4.4)	33 (4.0)	23 (2.1)	19 (2.0)	4 (1.5)
Completed ICP training	40 (1.4)	8 (0.4)	2 (0.1)	4 (0.3)	0 (0.0)	4 (0.5)	3 (0.3)	7 (0.8)	1 (0.4)
Medical complication/condition	78 (2.7)	106 (5.1)	60 (3.6)	52 (4.4)	53 (5.0)	43 (5.2)	74 (6.9)	74 (8.0)	27 (10.3)
Physician/nurse recommendation	120 (4.1)	36 (1.7)	27 (1.6)	20 (1.7)	16 (1.5)	18 (2.2)	28 (2.6)	12 (1.3)	5 (1.9)
Old method no longer effective	38 (1.3)	31 (1.5)	14 (0.9)	12 (1.0)	17 (1.6)	15 (1.8)	33 (3.1)	30 (3.2)	9 (3.4)
Accommodate work	2 (0.1)	0 (0.0)	1 (0.1)	2 (0.2)	1 (0.1)	1 (0.1)	0 (0.0)	1 (0.1)	0 (0.0)
Accommodate lifestyle	33 (1.1)	28 (1.3)	12 (0.7)	10 (0.8)	16 (1.5)	11 (1.3)	15 (1.4)	10 (1.1)	3 (1.1)
Personal choice	68 (2.3)	37 (1.8)	28 (1.7)	7 (0.6)	16 (1.5)	10 (1.2)	21 (2.0)	18 (1.9)	3 (1.1)
Other	16 (0.5)	13 (0.6)	11 (0.7)	8 (0.7)	5 (0.5)	5 (0.6)	9 (0.8)	3 (0.3)	3 (1.1)
Participant doesn't know	12 (0.4)	10 (0.5)	6 (0.4)	7 (0.6)	4 (0.4)	1 (0.1)	5 (0.5)	7 (0.8)	1 (0.4)
Unkn	30 (1.0)	27 (1.3)	24 (1.5)	15 (1.3)	12 (1.1)	9 (1.1)	12 (1.1)	10 (1.1)	1 (0.4)
Total	2,919	2,081	1,646	1,183	1,065	830	1,071	929	262

Footnote: Form IIs entered into the database since January 1, 2012.

Table 134. Presence and Severity of Traumatic Brain Injury Symptoms at Time of Injury.

	TBI Presence Severity							
n (%)	Improbable TBI	Possible TBI	Mild TBI	Moderate TBI	Severe TBI	Declined	Unkn	Total
Total	1,667 (45.8)	318 (8.7)	776 (21.3)	424 (11.6)	148 (4.1)	205 (5.6)	103 (2.8)	3,641

Footnote 1: Data was required for all Admissions to System since October 1, 2011.
Footnote 2: Improbable TBI=No LOC, not dazed or no memory gap; Possible TBI=Dazed or having a memory gap; Mild TBI=LOC not exceeding 30 minutes; Moderate TBI=TBI LOC between 31 mins and 24hrs; Sever TBI=LOC exceeds 24 hours.

Table 135. Depression Diagnosis Prior to Injury.

	Depression Diagnosis				
n (%)	No	Yes	Declined	Unkn	Total
Total	3,081 (84.6)	513 (14.1)	11 (0.3)	36 (1.0)	3,641

Footnote: Data was required for all Admissions to System since October 1, 2011.

Table 136. Depression Diagnosis by Post-Injury Year.

	Post-Injury Year								
	1	5	10	15	20	25	30	35	40
No	2,239 (76.7)	1,657 (79.7)	1,358 (82.5)	999 (84.3)	935 (87.8)	732 (88.1)	926 (86.5)	816 (87.7)	234 (89.3)
Yes	592 (20.3)	351 (16.9)	241 (14.6)	144 (12.2)	110 (10.3)	83 (10.0)	129 (12.0)	104 (11.2)	26 (9.9)
Declined/Participant doesn't know	35 (1.2)	26 (1.3)	16 (1.0)	10 (0.8)	8 (0.8)	1 (0.1)	5 (0.5)	4 (0.4)	0 (0.0)
Unkn	55 (1.9)	46 (2.2)	32 (1.9)	32 (2.7)	12 (1.1)	15 (1.8)	11 (1.0)	6 (0.6)	2 (0.8)
Total	2,921	2,080	1,647	1,185	1,065	831	1,071	930	262

Footnote: Form IIs entered into the database since January 1, 2012.

Table 137. Anxiety Diagnosis Prior to Injury.

	Anxiety Diagnosis							
n (%)	No	Post-traumatic stress disorder	Panic disorder	Generalized anxiety disorder	Multiple diagnoses, first diagnosis unk	Declined	Unkn	Total
Total	3,226 (88.6)	99 (2.7)	26 (0.7)	233 (6.4)	15 (0.4)	8 (0.2)	34 (0.9)	3,641

Footnote 1: Data was required for all Admissions to System since October 1, 2011.
Footnote 2: If more than 1 diagnosis, the first disorder was coded.

Table 138. Anxiety Diagnosis by Post-Injury Year.

	Post-Injury Year								
	1	5	10	15	20	25	30	35	40
No	2,392 (81.9)	1,786 (85.8)	1,436 (87.1)	1,033 (87.2)	951 (89.2)	738 (88.8)	960 (89.6)	857 (92.2)	245 (93.5)
Post-traumatic stress disorder	183 (6.3)	62 (3.0)	42 (2.5)	31 (2.6)	22 (2.1)	14 (1.7)	18 (1.7)	13 (1.4)	5 (1.9)
Panic disorder	19 (0.7)	18 (0.9)	13 (0.8)	8 (0.7)	7 (0.7)	6 (0.7)	16 (1.5)	5 (0.5)	2 (0.8)
Generalized anxiety disorder	167 (5.7)	113 (5.4)	80 (4.9)	53 (4.5)	50 (4.7)	45 (5.4)	50 (4.7)	34 (3.7)	7 (2.7)
Multiple diagnoses, first diagnosis unk	52 (1.8)	29 (1.4)	27 (1.6)	16 (1.4)	12 (1.1)	7 (0.8)	11 (1.0)	9 (1.0)	1 (0.4)
Declined	41 (1.4)	23 (1.1)	16 (1.0)	13 (1.1)	10 (0.9)	4 (0.5)	5 (0.5)	6 (0.6)	0 (0.0)
Unkn	67 (2.3)	50 (2.4)	34 (2.1)	31 (2.6)	14 (1.3)	17 (2.0)	11 (1.0)	6 (0.6)	2 (0.8)
Total	2,921	2,081	1,648	1,185	1,066	831	1,071	930	262

Footnote 1: Form IIs entered into the database since January 1, 2012.
Footnote 2: If more than 1 diagnosis, the first disorder was coded.

Table 139. Diabetes Diagnosis Prior to Injury.

	Diabetes Diagnosis							
n (%)	No	Controlled by medication	Controlled by diet and or exercise only	Yes, but no control	Yes, but unkn control	Declined	Unkn	Total
Total	3,225 (88.6)	313 (8.6)	41 (1.1)	18 (0.5)	4 (0.1)	5 (0.1)	35 (1.0)	3,641

Footnote: Data was required for all Admissions to System since October 1, 2011.

Table 140. Diabetes Diagnosis by Post-Injury Year.

	Post-Injury Year								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	2,544 (87.1)	1,789 (86.0)	1,428 (86.7)	1,027 (86.7)	918 (86.1)	702 (84.5)	896 (83.7)	813 (87.4)	218 (83.2)
Controlled by medication	247 (8.5)	192 (9.2)	145 (8.8)	97 (8.2)	106 (9.9)	86 (10.3)	129 (12.0)	83 (8.9)	37 (14.1)
Controlled by diet and/or exercise only	46 (1.6)	30 (1.4)	32 (1.9)	25 (2.1)	24 (2.3)	22 (2.6)	20 (1.9)	24 (2.6)	5 (1.9)
Yes, but no control	15 (0.5)	12 (0.6)	10 (0.6)	6 (0.5)	3 (0.3)	6 (0.7)	13 (1.2)	3 (0.3)	0 (0.0)
Yes, but unkn control	3 (0.1)	3 (0.1)	2 (0.1)	1 (0.1)	1 (0.1)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)
Declined	12 (0.4)	14 (0.7)	3 (0.2)	3 (0.3)	3 (0.3)	1 (0.1)	2 (0.2)	2 (0.2)	0 (0.0)
Unkn	54 (1.8)	41 (2.0)	28 (1.7)	26 (2.2)	11 (1.0)	13 (1.6)	11 (1.0)	5 (0.5)	2 (0.8)
Total	2,921	2,081	1,648	1,185	1,066	831	1,071	930	262

Footnote 1: Form IIs entered into the database since January 1, 2012.

Table 141. Urinary Tract Infection Requiring Antibiotics Treatment in Past 12 Months by Post-Injury Year.

	Post-Injury Year								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	1,270 (43.5)	1,072 (51.5)	830 (50.4)	571 (48.2)	507 (47.6)	399 (48.0)	502 (46.9)	422 (45.4)	120 (45.8)
No chills or fever	675 (23.1)	408 (19.6)	335 (20.3)	239 (20.2)	244 (22.9)	183 (22.0)	231 (21.6)	231 (24.8)	63 (24.0)
With chills or fever	838 (28.7)	512 (24.6)	422 (25.6)	318 (26.8)	285 (26.7)	224 (27.0)	311 (29.0)	255 (27.4)	72 (27.5)
Unkn chills or fever	75 (2.6)	32 (1.5)	32 (1.9)	28 (2.4)	11 (1.0)	11 (1.3)	12 (1.1)	13 (1.4)	5 (1.9)
Declined	15 (0.5)	17 (0.8)	6 (0.4)	6 (0.5)	6 (0.6)	1 (0.1)	4 (0.4)	2 (0.2)	0 (0.0)
Unkn	48 (1.6)	39 (1.9)	23 (1.4)	23 (1.9)	13 (1.2)	13 (1.6)	11 (1.0)	7 (0.8)	2 (0.8)
Total	2,921	2,080	1,648	1,185	1,066	831	1,071	930	262

Footnote: Form IIs entered into the database since January 1, 2012.

Table 142. Pressure Ulcer Occurrence in Past 12 Months by Post-Injury Year.

	Post-Injury Year								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	2,147 (73.5)	1,463 (70.3)	1,139 (69.1)	834 (70.4)	722 (67.7)	548 (65.9)	717 (66.9)	616 (66.2)	165 (63.0)
Yes	718 (24.6)	567 (27.2)	474 (28.8)	323 (27.3)	330 (31.0)	270 (32.5)	341 (31.8)	308 (33.1)	95 (36.3)
Declined	16 (0.5)	15 (0.7)	10 (0.6)	5 (0.4)	3 (0.3)	0 (0.0)	2 (0.2)	1 (0.1)	0 (0.0)
Unkn	40 (1.4)	36 (1.7)	25 (1.5)	23 (1.9)	11 (1.0)	13 (1.6)	11 (1.0)	5 (0.5)	2 (0.8)
Total	2,921	2,081	1,648	1,185	1,066	831	1,071	930	262

Footnote 1: Form IIs entered into the database since January 1, 2012.

Table 143. Computer Use with Assistance from Another Person by Post-Injury Year.

	Post-Injury Year								
	1	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No	1,997 (68.4)	1,481 (71.2)	1,218 (73.9)	884 (74.6)	785 (73.6)	621 (74.7)	792 (73.9)	687 (73.9)	203 (77.5)
Yes	294 (10.1)	197 (9.5)	133 (8.1)	79 (6.7)	79 (7.4)	51 (6.1)	72 (6.7)	53 (5.7)	16 (6.1)
N/A	541 (18.5)	368 (17.7)	266 (16.1)	193 (16.3)	192 (18.0)	144 (17.3)	196 (18.3)	184 (19.8)	41 (15.6)
Unkn	89 (3.0)	35 (1.7)	31 (1.9)	29 (2.4)	10 (0.9)	15 (1.8)	11 (1.0)	6 (0.6)	2 (0.8)
Total	2,921	2,081	1,648	1,185	1,066	831	1,071	930	262

Footnote: Form IIs entered into the database since January 1, 2012.

Table 144. Utilization of Assistive Devices for Computer Use by Post-Injury Year

	Post Injury Year n (%)								
Type of Assistive Device	**1**	**5**	**10**	**15**	**20**	**25**	**30**	**35**	**40**
No assistive device(s)	1,865 (63.8)	1,392 (66.9)	1,105 (67.1)	792 (66.9)	706 (66.2)	554 (66.7)	673 (62.9)	589 (63.3)	172 (65.6)
Brace or Splint	137 (4.7)	71 (3.4)	75 (4.6)	50 (4.2)	46 (4.3)	44 (5.3)	51 (4.8)	57 (6.1)	12 (4.6)
Modified or onscreen keyboard	41 (1.4)	27 (1.3)	28 (1.7)	16 (1.4)	16 (1.5)	11 (1.3)	14 (1.3)	13 (1.4)	4 (1.5)
Adapted Mouse	72 (2.5)	51 (2.5)	36 (2.2)	29 (2.4)	22 (2.1)	18 (2.2)	26 (2.4)	15 (1.6)	4 (1.5)
Trackball	41 (1.4)	37 (1.8)	52 (3.2)	32 (2.7)	35 (3.3)	33 (4.0)	53 (5.0)	46 (4.9)	12 (4.6)
Bluetooth Joystick	24 (0.8)	16 (0.8)	8 (0.5)	10 (0.8)	2 (0.2)	2 (0.2)	2 (0.2)	1 (0.1)	0 (0.0)
Speech recognition	186 (6.4)	127 (6.1)	104 (6.3)	64 (5.4)	41 (3.8)	30 (3.6)	69 (6.4)	37 (4.0)	20 (7.6)
Head pointing infrared device/tech	116 (0.7)	12 (0.6)	16 (1.0)	9 (0.8)	10 (0.9)	7 (0.8)	5 (0.5)	3 (0.3)	1 (0.4)
Other	552 (4.0)	68 (3.3)	62 (3.8)	39 (3.3)	46 (4.3)	38 (4.6)	82 (7.7)	51 (5.5)	17 (6.5)
N/A, does not use computer	89 (18.9)	371 (17.8)	275 (16.7)	197 (16.6)	198 (18.6)	145 (17.4)	195 (18.2)	186 (20.0)	44 (16.8)
Unknown/ Not done	3,143 (3.0)	38 (1.8)	30 (1.8)	29 (2.4)	10 (0.9)	15 (1.8)	11 (1.0)	7 (0.8)	2 (0.8)
Total Participants	2,921	2,081	1,648	1,184	1,066	831	1,070	930	262

Footnote 1: Form IIs entered into the database since January 1, 2012.
Footnote 2: Percentage may total more than 100% because some participants used more than one assistive device.

Source: National Spinal Cord Injury Statistical Center, University of Alabama at Birmingham, 2016 Annual Statistical Report – Complete Public Version

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Spinal Cord Injury Model Systems

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