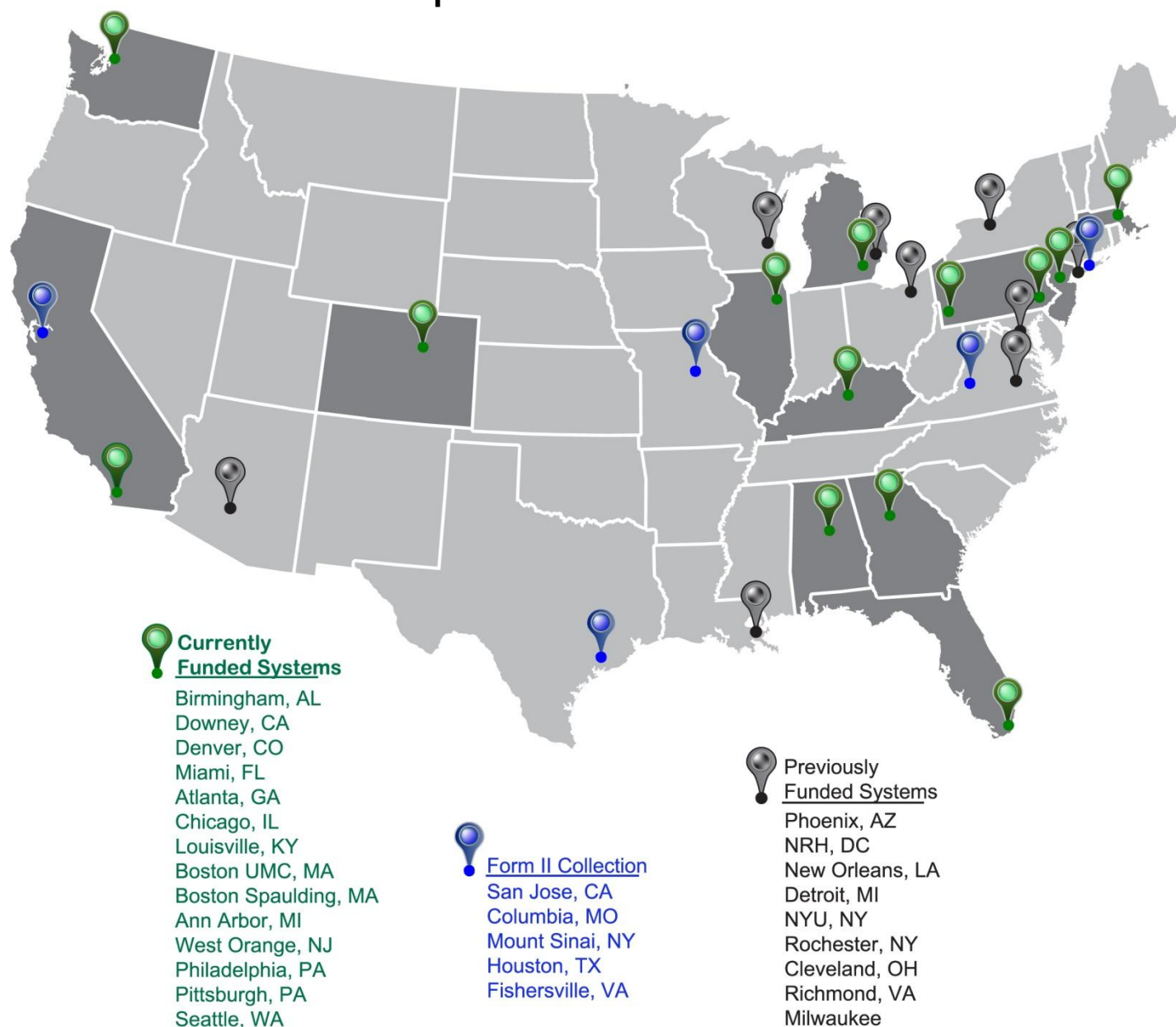


NSCISC National Spinal Cord Injury Statistical Center

Spinal Cord Injury Model Systems

2014 Annual Report Complete Public Version



**COMPLETE PUBLIC VERSION OF
THE 2014 ANNUAL STATISTICAL REPORT

for the

SPINAL CORD INJURY MODEL SYSTEMS**

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<p style="text-align: center;">Part I</p> <p style="text-align: center;">The National Spinal Cord Injury Statistical Center Activities</p> <p style="text-align: center;">October 2011 – November 2014</p>

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 will end 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 first three years of the current 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 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
- **Missouri**
Columbia, Missouri (collected by NSCISC (205) 934-3283)
- **Virginia**
Fishersville, Virginia (collected by NSCISC (205) 934-3283)
- **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

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 and Rehabilitation Research
www.ed.gov/about/offices/list/osers/nidrr

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, 2012 to October 31, 2013, the NSCISC website drew approximately 27,162 visits. Geographically, of these visits 83.7% were from the Americas, 6.7% were from Europe, 4.6% from Asia, and the rest were from other continents.

In November 2013, when using the Google web site to search for “spinal cord injury”, rankings on our UAB Spinal Cord Information Network web site appeared 9th in the list of top 20 web sites among approximately 9.6 million results found. When using the narrower search for “national spinal cord injury statistics”, the NSCISC web site is number one and now also has related pages in the second and third results out of 8.9 million results listed by Google. Other internet search engines such as Lycos, Yahoo, Excite, and Alta Vista, list these UAB web sites in the top 10-12 results when searching for keywords similar to “spinal cord injury statistics”. 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 November 2013, there were roughly 1,054 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

In collaboration with the MSKTC, the SCI Facts and Figures at a Glance was recently updated and redesigned in August 2014. This document 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: [Facts and Figures at a Glance](#).

Public versions of the NSCISC Annual Reports

The 2004 - 2014 Annual Statistical Reports are available to the public by request and is 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.

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 posted for the public at https://www.nscisc.uab.edu/fact_sheets.aspx.

NSCISC Data Collection Information

The NSCISC objectives, history, data collection forms and Data Dictionary may be found and downloaded from the NSCISC website. Previous versions of the data collection forms and Data Dictionary are also available by contacting NSCISC at nscisc@uab.edu.

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, 7 peer-reviewed journal articles and 2 book chapters based on the SCIMS database have been published. Citations for the first 6 of these articles and both book chapters appeared in previous reports. The latest citation is as follows:

1. Pretz CR, Kozlowski AJ, Charlifue S, Chen Y, Heinemann AW. Using Rasch motor FIM individual growth curves to inform clinical decisions for persons with paraplegia. **Spinal Cord** 2014;52:671-676.

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 10 published peer-reviewed journal articles using the NSCISC database with non-NSCISC authors.

Citations for the first 8 of these appeared in previous reports. The citations for the latest 2 of these are as follows:

1. Rodakowski J, Skidmore ER, Anderson SJ, Begley A, Jensen MP, Buhule OD, Boninger ML. Additive effect of age on disability for individuals with spinal cord injuries. **Arch Phys Med Rehabil** 2014;95:1076-1082.
2. Botticello AL, Rohrbach T, Cobbolt N. Disability and the built environment: an investigation of community and neighborhood land uses and participation for physically impaired adults. **Ann Epidemiol** 2014;24:545-550.

<p style="text-align: center;">Part II</p> <p style="text-align: center;">Status of the National SCI Database</p>

All data submitted to the NSCISC by September 12, 2014 are included in this report. As of September 12, 2014, the National SCI Database contained information on 30,532 Form I participants and 111,530 Form II records successfully collected by phone, in-person, chart review or surveyed by mail from 27,764 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 154,832 records. (**Table 1**)

Table 2 presents the total number of follow-up records in the database for each post-injury year, by system. 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 in September 20, 2013. The number of Registry participants have increased by 314, Form I increased by 774, and Form II numbers increased by 2,367 (excluding Lost to Follow-up).

Since the beginning of the 2011-2016 funding cycle, the number of Registry records has increased by 838 cases, the number Form I records has increased by 2,084, and a total of 6,566 Form IIs (excluding Lost to Follow-up) were added to the database (**Table 4**).

Table 5 presents the total number of Form I participants who were admitted to the 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-1s). This information is provided since the reporting procedures implemented in November 1995 resulted in a substantial number of additional variables to be collected on participants who enter the system the day of or the day following the injury.

Nationally, 35.5% of participants admitted since October 2011 are day-1 admissions. System percentages range from 83.0% to 2.2%.

Participants by Year of Injury and data collection: Tables 6 – 9

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

Since 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 NIDRR than in previous years.

Table 6 represents the number of Registry participants enrolled by System by year of injury. The data reflects historical changes in the Model Systems program. In 1987, criteria for enrollment in the National 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.

Variations in Form I participant enrollment is primarily due to three factors: number of funded centers, change in eligibility criteria, and size of funded systems (**Table 7**). The number of funded centers changed in 1985, 1990, 2000, and 2006 (see chart) due to NIDRR's competitive selection of centers. Eligibility criteria 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 Centers	13	13	18	16	14	14

Date of Injury and Date of Admit to System 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, 10 and every 5 years thereafter except for a sample of 125 patients from each SCIMS who continued to have a reduced set of Form II data 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 sampling process of 125 patients per SCIMS 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. Since October 1986, the date on which a record is first entered into the database

has been documented. 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 and much longer follow-up on individual patients through use of the Social Security Administration, Equifax, and the National Death Index (NDI). It includes Form I and Registry patients as well as other patients treated at Model Systems who are not in the National SCI Database. This 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*. Therefore, these data represent an update of the 1992 estimates provided in that book chapter as well as an update of the 2013 Annual Report.

Primary cause of death for the 12,707 deceased patients in the Collaborative SCI Survival Study appears in **Table 10**. Only persons injured since 1973 and treated at a Model System within 1 year of injury were included in this analysis. The number of deaths with unknown causes is high because NDI searches for causes of death have only been conducted through 2011. As a result, there are still 1,868 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.

Diseases of the respiratory system were the leading cause of death (67.4% of these were cases of pneumonia). The second leading cause of death was infective and parasitic diseases. These were usually cases of septicemia (89.2%) and were usually associated with decubitus ulcers, urinary tract or respiratory infections. Also included in this category were 75 cases of AIDS (5.8%). Cancer ranked third, followed by hypertensive and ischemic heart disease. Specific locations of cancer included lung (285 cases, 26.4%); followed by colon/rectum (94 cases, 8.7%); bladder (91 cases, 8.4%); prostate (62 cases, 5.7%); and breast (47 cases, 4.4%). Other heart disease ranked fifth; however, these were often unexplained heart attacks (39.7%, ICD9CM code 427.5), that usually do not represent a true underlying cause of death. Rather, they 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 and diseases of pulmonary circulation (92.3% of which were cases of pulmonary emboli). Pulmonary emboli usually occurred prior to first definitive discharge. Suicide was the tenth leading cause of death, followed by diseases of the genitourinary system and symptoms and ill-defined conditions.

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, they do include persons involved in fatal events following discharge. If the 111 cases

of subsequent trauma of uncertain nature were divided proportionately between unintentional injuries, suicides, and homicides, then an additional 68 unintentional injuries, 33 suicides, and 10 homicides took place, which would still make unintentional injuries the sixth leading cause of death but make suicide the ninth leading cause of death.

Long Term Survival: Tables 11 – 12

Table 11 presents cumulative survival for the Collaborative SCI Survival Study database. Only persons injured since 1973 and treated at a Model System within 1 year of injury were included in this analysis. Data from currently non-participating systems are included in the national table. Individual tables for each of the currently funded and sub-contract funded systems are located in **Table 12**.

Patients were considered Withdrawn Alive: 1) if a follow-up form (Form II) for 2013 or later was submitted indicating the patient was known to be alive, 2) if the patient's follow-up was discontinued due to neurologic recovery or transfer to another SCI Care System, or 3) if Social Security Death Index searches performed in 2014 did not indicate a reported death. The proportion of patients dying in each post-injury year ranged from 7.95 percent in year 41 to 1.49 percent in year 10. Annual death rates for those who survived the first post-injury year average 2.51 percent and increase over time as the population ages.

The cumulative 10, 20, 30, and 40-year survival rates for patients with spinal cord injury were 81.71, 68.05, 52.99, and 37.44 percent, respectively. Median (50%) survival for the total sample is estimated to occur at 31.94 years (± 0.28 years) after injury. However, because of the high proportion of losses to follow-up, as well as the known underreporting of spinal cord injury 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 for the Collaborative SCI Survival Study database by neurologic level of injury and AIS grade appear in **Table 13A**. All persons injured since 1973 and admitted within 1 year of injury who survived at least 24 hours after injury were included in this analysis. Comparable figures for persons who survive the first post-injury year appear in **Table 13B**. For each neurologic category, the observed number of deaths was compared to an expected number of deaths based on observed length of follow-up and 1999 age-sex-race-specific mortality rates for the general U.S. population using methods outlined in detail by Smart and Sanders¹. The year 1999 was chosen because it was the mid-year of follow-up for the SCI population. All follow-up data through 2014 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 of both 24-hour and 1-year survivors. Among 1-year survivors, those who are ventilator-dependent have 17.46 times greater mortality than persons of the same age, sex, race, and length of follow-up who do not

have a spinal cord injury, while the comparable figure for persons who have an AIS D injury regardless of injury level is only a 66% increase in mortality.

Life Expectancy: Tables 14A – 14B

Life expectancies for SCI patients who survive 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 figures for persons who survive 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 United States general population life table for the year 2009. This method (the use of a constant SMR with advancing age) typically results in a slight overestimation of life expectancy at younger ages and a slight underestimation of life expectancy at older ages.

Life expectancies 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 1970's, annual mortality rates after the first post-injury year have not changed since the early 1980's. Therefore, although general population life expectancy is increasing, life expectancy for persons with spinal cord injury who have survived the first year after injury has remained relatively constant, and the gap in life expectancy between spinal cord injury and the general population of comparable age, sex, and race, is increasing.

Figures in these tables should be considered as rough estimates of life expectancy of individual persons because the neurologic categories are rather broad. At 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), ASIA impairment scale, length of survival that has already occurred post-injury, and to a lesser extent, etiology of injury, gender, race 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 present³. Methods for estimating life expectancy that are used by the NSCISC are detailed in two articles by Strauss et al. and DeVivo^{3,4}.

Form II Follow-up Status: Tables 15-19

Table 15 describes the type of medical care being provided to the patient by the System. Out of 171,513 records, 38.5 percent of participants came into the System for an appointment during the follow-up window (18 months). Variations in 'system appointments' between systems is distinct, ranging from 22.1 percent to 75.0 percent. 'Future Follow-up Not Required' is for those patients who achieve Minimal Deficit. Minimal Deficit is 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 presents the Category of Follow-up Care for each post-injury year. Including those 'Lost' due to breaks in funding, the Lost to Follow-up rate, ranges from 17.8% at Year 1 and 68.0% at Year 20 among eligible participants. Prior to coding Form II 'Lost', these minimal tracking activities are required: 1) Check SSDI, Genealogy or other death search site for record of death; 2) Search System records for recent activity and updated contact information; 3) Conduct at least 2 free internet searches and a fee-based search if available; 4) Call viable phone

numbers at least 6 times at different times of the day and week; and 5) Mail Form II Survey to a viable address.

Table 17 documents the reasons why follow-up data are not obtainable for those patients whose Category of Follow-up Care is ‘Lost’. This Reason for Lost variable was added to the database in January 1998 with 4 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 next cycle) or to withdraw from the study and not be contacted again unless re-consented. Identity Unknown code was included in 2009 to be used by Centers to identify participants whose identity is no longer available due to the break in funding. To help specify the reason for ‘Unable to Contact,’ the following 5 codes were added to the database in October 2011: 1) Contact made but does not complete survey, 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 valid contact information. ‘Identity unknown to NSCISC’ code was also added in October 2011 for participants enrolled by de-funded Centers whose identity may still be known at the enrolling SCIMS but is not available to the NSCISC for data collection.

Before October 2011, once a Form II is submitted as ‘Lost’, future follow-up is still pursued but no additional Form II coded ‘Lost’ is required at next follow-up if that patient is 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 ...) unless participants were deceased, reached neurologic recovery, withdrew consent, or lost identity. To fill gaps in the existing database, approximately 33,846 records were inserted to reflect the Form II ‘Lost’ status at the beginning of the 2011-2016 cycle, and the reason for lost was either coded as ‘SCIMS lost funding’ for unfunded centers or ‘unknown’ for funded centers. This explains why a large percentage of unknown was reported.

Table 18 describes the current follow-up status of Form I participants by System. The Status is in a hierarchical order. For example, Deceased supersedes all other codes. Of 30,532 Form I participants reported to the database since 1973, 28.0% were deceased, 7.4% reached neurologic recovery, 2.3% withdrew consent, 4.0% whose identity was lost, and 58.3% are still eligible for Form II follow-up.

Table 19 presents a system analysis of how interviews were conducted; this variable has been collected since 1996. Analysis was done on required follow-up years only (1, 5, 10, etc.). Nationally, 9.1 percent of all interviews are conducted in person and system percentages ranged from 1.1 percent to 63.1 percent. Of the 33,215 records, 70.8 percent were done by phone with system percentages ranging from 2.4 percent to 92.5 percent. Self-Administered (mailed) interviews were done 8.1 percent of the time with system percentages ranging from 0% at to 58.5 percent. Nationally, 8.4 percent of all interviews used a combination of the methods (i.e., in-person, by phone and/or by mail) with system percentages ranging from 0.0 percent at to 39.7 percent. The interview method was unknown for 0.9 percent for all records.

<p style="text-align: center;">Part III</p> <p style="text-align: center;">Descriptive Analysis of the National SCI Database</p>
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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, each system has been provided with tables reflecting its own patient population. The Form II variables, however, are primarily analyzed by anniversary year of follow-up and presented in a national aggregate format. The narrative for each table is restricted to analysis of national aggregate data and intersystem variability within the database.

Since 1995 revised Form II reporting procedures require submission of Form IIs for all patients only in post-injury years 1, 2, 5, 10, and every 5 years thereafter. Beginning in October 2000, Form II data collection was no longer required at year 2 with one exception. That is, if a patient 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 and 40.

Lost and Unknown Categories

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

Data classified as unknown represent those patients who are being followed but for whom that specific information is unavailable. Therefore, a high proportion of unknowns 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 patients in post-injury year 30 are not the same as those in the first post-injury year, 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 patient values cluster around the mean). If data are normally distributed, 95 percent 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**. Four patients were less than one year old while one was 98 years old. The most common age of injury was 19 years. Nearly a quarter of all injuries occurred between the ages of 17 and 22 years (24.3%), and nearly half of all injuries occurred between the ages of 16 and 30 (48.9%), while 10.7 percent of all injuries occurred at age 60 or older. Some descriptive statistics for the age at injury distribution are shown in **Table 21**. Mean age for all patients was 34.7 years (S.D. = 16.8). The mean age for all patients in the database ranged from a low of 30.1 to a high of 48.9.

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 1973-1979 to 42.2 years in 2010-2014. This trend reflects in large part a similar trend in the average age of the United States population. However, underlying changes in age-specific spinal cord injury incidence rates, changing locations of model systems, and changing referral patterns to model systems may also be contributing to the trend toward older age at injury for persons in the database.

Sex: Table 23

The number of spinal cord injury patients by gender is shown in **Table 23**. Overall, 80.7 percent of all reported spinal cord injuries occurred among males.

There was very little variability among systems with regard to the composition of the patient populations by gender. Among systems, the proportion of male patients ranged from a low of 75.4 percent to a high of 87.1 percent.

Race: Tables 24 – 28

The number of spinal cord injury patients by system and race is shown in **Table 24**. There was substantial variability among systems: the proportion of white patients ranges from 27.2 percent to 90.6 percent, while the proportion of African Americans ranged from 4.1 to 38.2 percent. The highest proportion of Native American Indians descent was 2.7 percent and the highest proportion of patients of Asian descent was 6.1 percent. High percentages of unknowns (5.5%) in the Race variable are due to a database conversion process that occurred in 1995. When 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 the race variable, the “No” code was

inserted in this variable and their original race code was retained. This data conversion process resulted in high percentages of records coded “unknown” in this race variable.

It should not be inferred from these data that the incidence of spinal cord injury was higher among whites than non-whites. On the contrary, most patients were white because whites comprise by far the largest segment of the United States population. In fact, other studies have demonstrated conclusively that the spinal cord injury incidence rate was highest among non-whites⁵.

Overall, 9.3 percent of respondents endorse Hispanic Origin (**Table 25**). By system, it ranges from 0.1 percent to 49.8 percent out of a total of 30,532 records.

Table 26 depicts Hispanic Origin by Race, 2.6 percent reported as Hispanic Caucasians, and 0.3 percent reported as Hispanic African Americans out of a total of 30,532 records.

Looking at trends over years in racial groups (**Table 27**), there is an increase in African American (range from 14.2% in 1973-1979 to 22.8% in 2010-2014). Also, there is a slight increase in Asian/Pacific Islander (from 0.9% in 1973-1979 to 1.8% in 2010-2014) while Caucasian percentages decreased from 76.8 percent in the 1970s to 69.9 percent in 2010-2014.

Trends in Hispanic Origin by year of injury (**Table 28**) show a 6.9 percent increase in Hispanic participation (5.9% in 1973-1979 to 12.8% in 1990-1994). The most current time frame (2010-2014) shows a decrease in Hispanic Origin (10.0%) since the 1990s.

This trend is due in small part to trends in the United States general population. Periodic changes in the identities of participating Model Systems, changes in eligibility criteria for inclusion into the National SCI Database, and changes in referral patterns to Model Systems are also partly responsible for this racial trend. However, the 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 spinal cord injury were the same: auto accidents, falls, and gunshot wounds.

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

Significant gender differences are evident in five etiologies: auto accidents (29.3% for males, 48.3% for females); motorcycle accidents (6.9% males, 2.5% females); diving accidents (7.0% males, 2.1% females); hit by falling objects (3.3% males, 0.6% females) and medical/surgical complications (2.2% male, 5.1% females).

It should be noted that the 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.

Tables 30 – 34 group etiology categories.

‘Vehicular’ accidents include auto accidents in jeeps, trucks, dune buggies, and buses; Motorcycle accidents in 2-wheeled, motorized vehicles including mopeds and motorized dirt bikes; Boats; Fixed-wing aircraft; Rotating wing aircraft; Snowmobiles; Bicycles (includes tricycles and unicycles); All-terrain vehicles (ATV) and all-terrain cycles (ATC) – includes both 3-wheeled and 4-wheeled vehicles; Other vehicular, unclassified: tractors, bulldozers, go-carts, steamrollers, trains, road graders, forklifts.

‘Violence’ includes: Gunshot wounds; All other penetrating wounds (stabbing, impalement); Person-to-person contact: being hit with a blunt object, falls as a result of being pushed (as an act of violence); Explosions: 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: pole vault, high jump, etc.; Field sports: field hockey, lacrosse, soccer, and rugby; Hang gliding; Air sports: parachuting, para-sailing; Winter sports: sled, snow tube, toboggan, ice hockey, snow-boarding; Skateboarding; Unclassified: auto racing, glider kite, slide, swimming, bungee jumping, scuba diving, roller-blading, jet-skiing, cheerleading, etc.

‘Other’ encompasses all other and unclassified injuries including unforeseen medical events.

Grouped etiology by system appears in **Table 30**. Overall, Vehicular Accidents ranked first in the National SCI Database (42.4%) and first in all systems except two systems where Falls ranked first, and one system where Violence ranked first.

Falls ranked second nationally (21.8%) and second for all systems except 5 system; in two system, Vehicular Accidents ranked second (29.1% and 32.0%, respectively) most frequent etiology. Violence ranked third nationally (17.4%) and second in two systems.

Grouped etiology by age at injury is depicted in **Table 31**. Vehicular Accidents were the leading cause of spinal cord injury up to 45 years of age. After age 60, Falls were the leading cause of SCI. Sports and Violence declined proportionately while Falls increased with advancing age.

Table 32 depicts grouped etiology by sex. Vehicular Accidents, Violence and Sports differ across sex. Females are more likely to be injured by a vehicular accident (52.8% females, 39.9% males), but violence and sports are more likely the cause of male injuries (18.7% and 11.4% for males, 11.8% and 5.6% for females).

Table 33 depicts grouped etiology by race. Vehicular accidents were the leading cause of injuries across races except for African Americans, where violence was the leading cause. Falls are stable across races.

Table 34 shows grouped etiology by Hispanic origin. Vehicular accidents and Violence share the most common cause of injuries for those with Hispanic origin (35.2 and 32.7% respectively) compared to those with non-Hispanic origin who were injured by vehicular accidents (43.3%) versus violence (15.7%).

Vehicular Accidents ranked as the leading cause of SCI through all time periods (**Table 35**). Falls ranked second through all time periods except from 1990 to 1994 when Violence ranked second. There was a steady increase in the percentage of SCI due to Violence from 13.3 percent prior to 1980 to 28.9 percent from 1990 to 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 percent to 36.3 percent. There has been a significant decline in SCI due to violence and an increase in injuries due to vehicular accidents and falls since 1994. These trends may be due in part to changing locations of model systems, changing referral patterns to model 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 10,032 available records, 9.4 percent had a work related spinal cord injury. Center percentages working at time of injury range from 4.0 to 13.1.

Marital Status: Tables 37 - 39

Marital status at injury by system is depicted in **Table 37**. 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 over half the participants in the database were single (never married, 51.2%). Substantial intersystem variability was noted, from 38.1 percent to 63.5 percent, while the percentage of divorced patients ranged from 4.4 percent to 16.2 percent.

Table 38 shows a steady increase in Married (from 31.6% in year 1 to 43.1% in year 35) and Divorced (from 11.1% in year 1 to 24.5% in year 30) categories across years. ‘Single, never married’ ranges from 49.7% in year 1 to 14.3% in year 40.

Change in Marital Status reflects all changes since the last Form II (or since Form I if no Form II Marital Status) with a known Marital Status (**Table 39**). 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 is relatively stable over time. ‘No Change’ was reported in the first year for 92.2 of participants and 75.0% for year 40.

Level of Education: Tables 40 - 41

The highest level of formal education completed at time of injury by system appears in **Table 40**. Over half (60.9% excluding ‘Other’) of the participants were at least high school graduates at 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 (8.7%) 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 more.

The proportion of patients with an eighth grade education or less ranged from 1.6 percent to 21.7 percent. Overall, 6.2 percent 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 by post-injury year is shown to increase over time. The percentage completing at least a High School education increases from 67.7% at year 1 to 90.4% at year 35.

Occupational Status & Job Census Code: Tables 42 - 45

Occupational Status tables review the primary occupational, educational or training status of the patient 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 by system is shown in **Table 42**. Nationally, 57.3 percent of patients were reportedly working at the time of injury. Among systems, this was the most common occupational status reported ranging from 65.7 percent to 45.2 percent.

The national rankings for the other most commonly reported occupational status categories ranked in order as follows: Unemployed (15.8%), Student (15.1%), and Retired (6.9%).

Table 43 shows a slow increase in working respondents over the years (from 11.9% in year 1 to 33.5% in years 35). Other categories with an increase are Retired and Other, whereas Unemployed decreases over the years (from 54.8% in year 1 to 32.8% in year 35).

Job Census Code **Tables 44 and 45** reflect data entered into the database since January 1, 2001. At injury, respondents reported ‘not working’ 40.3 percent. The second most reported category was ‘precision, production, craft and repair’ at 11.2 percent. There was very little variability across systems. Table 45 shows ‘executive’ and ‘professional’ categories increased over years (from 3.1% and 4.0% at year 1 to 10.4% and 15.0% at year 35, respectively).

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

Veteran status analysis was run on 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** analysis includes records entered since January 1, 2001, when the variable was added. Most Form I participants are not a veteran (90.0%).

Table 47 identifies the participant's use of Veteran Administration health care services since last follow-up. VA Services are analyzed if entered into the database since October 31, 2000. A small percentage of participants also use VA services for health care, ranging from 3.7% at Year 1 to 5.2% at Year 35.

Primary Payer: Tables 48 - 49

Table 48 documents the participant's 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. It does not include income maintenance. 'Primary' is defined as who pays first. Private Insurance ranked first during the period of initial hospitalization, providing support for about half of the participants (49.6%). Medicaid provided support for more than one-fourth of the participants during this same period (27.7%).

Primary payers at post-injury year appear in **Table 49**. Private Insurance ranked first during the first and fifth post-injury years. The proportion receiving Medicare benefits increased substantially, from 6.6% in year 1 to 49.9% by year 35. The proportion receiving Medicaid support decreased steadily through all years' post-injury.

A high number of missing data for Tables 48 and 49 is due to the historical changes in data collection. Sponsors of care data were collected from 1973 to September 2006, up to 5 entries of sponsors. Beginning in 1987, coding position #1 was designated for the primary payer. For records that had more than one entry at that time, all codes were moved down one position, and the unknown code was inserted in coding position #1. This variable was added back to the database during the 2011-2016 cycle, and data (primary payer only) are required for all patients with *System Admission* dates on or after October 1, 2011.

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 are included. The proportion of participants with family income less than \$25,000 was above 40% through all

years post-injury except the year 30 (38.5%), year 35 (32.7%) and year 40 (38.5%). Family income of \$75,000 or more was reported by approximately 15% of participants during the first 15 years post-injury and up to almost 25% by year 35.

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. The CHART economic self-sufficiency subscale was discontinued after September 2006. Family income variable, however, was added back to the database in October 2011. To a large extent, these historical changes explain the high number of missing data in this variable.

Injuries & Spinal Surgery: Table 51 - 53

Table 51, Vertebral Injury by System, documents spinal fractures and/or dislocations in addition to the spinal cord injury. 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, 78.5% of participants have at least one vertebral injury. Percentages of vertebral injuries range from 64.8% to 91.6%.

Associated injuries are summarized in **Table 52**. This variable documents at least one of the following conditions: Moderate to severe traumatic brain injury (GCS 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 finding from exploratory surgeries, and injuries that pre-date the spinal cord injury. Associated injuries occurred in 39.2 percent of cases, ranging from 22.8 percent to 67.0 percent.

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 spinal cord injury: laminectomy, neural canal restoration, open reduction, spinal fusion, or internal fixation of the spine. On average, 77.9 percent of participants undergo spinal surgery. Spinal surgery ranges from 57.8 percent to 89.3 percent.

Place of Residence: Tables 54 – 58

Table 54 summarizes place of residence at 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. 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 centers.

Place of residence at discharge by system is shown in **Table 55**. Most patients (87.3%) were discharged to a private residence. The proportion of patients discharged to a private residence ranged from 74.6 percent to 100 percent.

Table 56 shows place of residence across years. By far, private residence is most common, ranging from 91.3% in year 1 to 97.4% in year 35. Nursing home residences decrease from 3.9 percent in year 1 to 1.4 percent in year 35.

Residence in catchment area at time of discharge (**Table 57**) has been collected since October 2006. This variable documents if the patient was discharged to a residence inside the model system's catchment area. The catchment area is defined by each system and typically consists of surrounding counties, statewide, or surrounding states. Most participants are discharged to residences inside the catchment areas (96.6%) with very little variation between centers.

Data collection of 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 is a trend for migration out of the catchment area as post-injury years increase, from 3.8% living outside the catchment area at post-injury year 1 to 34.7% in post-injury year 35.

Days Hospitalized: Tables 59 - 63

Table 59 depicts median days from injury to system admission by system and year of injury. Median days from injury to system admission were at the peak of 20 days in 1973-1979 and lowest of 1-2 days in 1985-1999. A change in eligibility criteria implemented in January 1987 has resulted in a decrease in median days from injury to system admit. 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 one year of admit). For the recent years 2010-2014, one system has the largest median duration from injury to system admit (18.0 days) and 6 systems have a median of 1 day from injury to system admit.

Database revisions in November 1995 resulted in the separation of the single length of stay variable into acute and rehab lengths of stay. Length of stay data in records present at that time 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 1s), therefore, the resulting statistics reflect lengths of stay for patients treated entirely within the respective SCI Care Systems.

Table 60 reflects median days spent in acute care for each System by year of injury. Median acute care length of stay has declined from 24 days in 1973-1979 to 11 days in 2010-2014. Median rehabilitation length of stay has also declined over the last 40 years from 98 days in 1973-1979 to 36 days in 2010-2014 (**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. Patients with complete tetraplegia injuries typically have the longest acute stays (25 days for all years), while patients with minimal deficits have the shortest stays. The decrease in median acute length of stay over the 40 years is noted across various of level and completeness of injury. Minimal deficit categories (Paraplegia, Minimal Deficit and Tetraplegia, Minimal Deficit) were added in October 1987 to better describe patients with neurologically normal or minimal deficit.

Table 63 depicts median days hospitalized in the rehab unit were greatest for patients with complete tetraplegia (97 days for all years), ranging from 142 days in 1973-1979 to 54 days in 2010-2014. For those with incomplete paraplegia, the rehabilitation length of stay ranges from 68 days in 1973-1979 to 29 days in 2010-2014.

Neurological Level at Discharge: Tables 64 - 67

These 4 tables separate the level of injury at discharge by cervical, thoracic, lumbar and sacral levels of injury. To determine a single neurologic level of injury, the most rostral (highest) sensory & motor level, left and right at discharge was used. Percentages on all four tables are calculated on total of all levels (cervical, thoracic, lumbar and sacral = 28,907 records).

Overall, 53.9 percent of patients had cervical lesions at discharge, 35.2 percent had thoracic lesions, and 10.5 percent had lumbar lesions and 0.4 percent had sacral lesions. Close to half (45.6%) of the patients in the database were discharged with cervical lesions at C4 (14.8%), C5 (15.3%), C6 (10.4%) or C7 (5.1%). The next most common levels of lesion at discharge was T12 (6.3%) and L01 (4.9%).

Neurological Categories: Tables 68 - 71

Neurologic Category at discharge is separated into paraplegia complete and incomplete and minimal deficit, tetraplegia complete and incomplete and minimal deficit. Both minimal deficit groups were added in 1987 and retrospective updates were allowed but not required.

Table 68 shows neurologically incomplete tetraplegia ranked first for neurological category at time of discharge (31.6%), followed by neurologically complete paraplegia (24.6%), neurologically complete tetraplegia (19.3%), and neurologically incomplete paraplegia (18.6%).

Neurologic categories at discharge by grouped etiology are depicted in **Table 69**. Neurologically incomplete tetraplegia ranked first for etiologies of vehicular accidents, sports and falls. Neurologically complete paraplegia ranked first (42.4%) for spinal cord injuries resulting from Violence. Neurologically incomplete paraplegia ranked first in Other (which includes medical complications). Interestingly, 85.4 percent of all Sports injuries resulted in tetraplegia, while 68.2 percent of all Violence resulted in paraplegia.

The neurological category at discharge grouped by year of injury is depicted in **Table 70**. Both tetraplegia complete and paraplegia complete injuries have declined since the 1970's (25.3% and 27.7% respectively) to current levels in 2010-2014 (12.4% and 18.5%, respectively).

Table 71 neurologic data was collected from only those participants who completed a clinical System neurologic exam. This exam can be collected from 6 months prior to the one year anniversary to six months after the anniversary. Neurologically incomplete tetraplegia ranked first at first year exam (22.5%), followed by neurologically complete paraplegia (20.1%), neurologically complete tetraplegia (14.7%), and neurologically incomplete paraplegia (14.6%).

ASIA Impairment Scale: Tables 72 – 77

The ASIA Impairment Scale, formerly known as the Frankel Grade, attempts to quantify the degree of residual neurologic function. These six tables separate ASIA Impairment Scale by system, by admit to rehab and discharge, cervical level, thoracic level, lumbar level, and sacral levels.

Table 72 depicts ASIA Impairment Scale at discharge by systems. Complete (A) injuries at discharge are the largest category (43.9%) and the second largest category is Functional Motor Incomplete (D) (28.8%). Two systems have the highest rates of Complete (A) injuries (57.5% and 50.1%, respectively), whereas, three systems have the highest rates of Functional Motor Incomplete (D) (48.7% and 42.4%, respectively).

ASIA Impairment Scale at admit to acute, admit to rehab and discharge from the system appears in **Table 73** (for day-1s only). Admit to rehab neuro data collection began October 31, 2000, accordingly, admit to rehab column is from a smaller 'known value' sample. There was a decline from acute admit to system discharge in three out of the four categories (Complete (A), Sensory Complete (B), and Non-functional Motor Incomplete (C)). There was an increase in Functional Motor Incomplete (D), from 18.5% at acute admit to 31.3% at system discharge.

ASIA Impairment Scale by neurologic level of lesion at discharge appears in **Tables 74-77**. Among persons with cervical and thoracic lesions, neurologically complete (A) lesions ranked first. Lumbar lesions were more likely to be functional motor incomplete (D).

Table 77 depicts ASIA Impairment Scale for each system at the first anniversary from the injury. This data requires a System exam and can be collected from 6 months prior to the one year anniversary to six months after the anniversary. Of the Year 1 follow-up completed, 34.8 percent are neurologically Complete (A) and 22.6 percent are Functional Motor Incomplete (D).

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 was added in 1986 and data collection at admit to rehab was added in 1993. The analyses for Table 78 and 79 use data entered since October 1993.

Mean ASIA Motor Index Scores (Day 1s only) at acute admit, admit to rehab and first definitive system discharge by system appear in **Table 78**. The mean score increased from 43.4 at system admission to 47.4 at rehab admission and to 55.1 at discharge. A similar trend was observed at all systems.

This data requires a System exam and can be collected from 6 months prior to the one year anniversary to six months after the anniversary. **Table 79** shows the mean ASIA Motor Index Scores (56.0) at one year post-injury.

Functional Independence Measure Scores: Tables 80 - 82

Functional status of patients at system discharge and gain in function from rehabilitation admit to system discharge are important measures of the quality of care provided by Model Systems. The instrument chosen by the Model Systems 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 six years old.

Table 80 shows mean FIM Total Motor Scores increases from rehabilitation admission to discharge (25.5 and 54.8, respectively). There is very little variability between systems in Rehab 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 have the lowest FIM score, 15.0 at Rehab admission and to 28.6 at Discharge.

Mean FIM Total Motor Score by system and year post-injury is depicted in **Table 82**. There is little variability in FIM scores across all years after year one, regardless of neurologic category. The FIM Motor score is highest for the incomplete paraplegic and minimal deficit groups and lowest for the complete tetraplegic 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 rehab admit 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; 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 patients with paraplegia level lesions admitted to the System rehab, 5.9 percent required respirator assistance. Most of persons with paraplegia were discharged with no respirator use (only 0.5% required respirator use at discharge). Table 84 shows 20.7 percent of the persons with tetraplegia required the use of a mechanical respirator at the time of admission to rehab whereas only 5.9 percent were discharged requiring a respirator. Intersystem variability in the proportion of persons with tetraplegia who required the use of a respirator at system rehab admit was substantial, ranging from 1.4 percent in Pittsburgh to 35.2 percent in Michigan. The proportion of those with tetraplegia who were discharged respirator dependent also varied considerably, ranging from 0.0 percent to 17.6 percent. This variability may be partly attributed to whether centers provide services for patients requiring mechanical ventilation.

Table 85 shows the proportion of patients who required the use of a mechanical respirator at one year post-injury. Only 3.5 percent of tetraplegia group required respirator use and 0.2 percent of the paraplegia group still required the respirator.

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- ICP only; 8- ICP with external collector and 9-ICP after augmentation or continent diversion). Therefore, the minimal usage in those categories is not surprising and as a result, the tables must be interpreted cautiously.

Tables 86 and 87 show Method of Bladder Management by system at system discharge separated by gender. The most common discharge categories for men were ICP (with or without an external collector) (44.0%), followed by normal micturition (16.9%), indwelling catheter (14.2%) and condom catheter drainage (12.4%). Most females were discharged with ICP (40.1%) as well, followed by indwelling catheterization (28.4%) and normal micturition (20.7%). There is intersystem variation in bladder management. For example, suprapubic cystostomy is used more often in one system than the other systems, regardless of gender.

Tables 88 and 89 show Bladder Management by year post-injury separated by gender. Because of increasingly short rehabilitation lengths of stay, many males have not yet completed the intermittent catheterization program and graduated to the use of condom catheter drainage before discharge. This trend is reflected by the decline in ICP at Year 1 and Year 5 (33.7% and 28.4%, respectively) with concomitant increase in condom usage (18.2% and 22.8%, respectively), as compared with method of bladder management at discharge. The gradual decrease in normal micturition over time for both males and females may be the results from aging or individuals being increasingly less likely to return for follow-up. The high percentages of individuals with suprapubic cystostomies after year 20 is the result of the presence of a high proportion of records from the one system in which this is a very common method of management.

Stabilizing Devices: Table 90-91

Halo devices and thoracolumbosacral orthoses are documented at rehab discharge and have been collected since October 2006.

The use of a halo device is coded ‘yes’ when a patient requires spinal column stabilization using a halo at the time of discharge from the inpatient System rehab. All other neck orthoses are excluded. **Table 90** shows that overall 1.0 percent of participants were discharged from rehab with a halo device and there is very little variation among centers.

The use of thoracolumbosacral orthoses (TLSO) documents whether a patient was fitted for a TLSO brace at the time of inpatient System rehab 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 overall TLSOs were fitted for 8.7 percent of participants. Use of TLSO’s ranged from 3.0 percent to 25.0 percent.

Body Mass Index: Table 92-93

Height and weight have been collected since October 2006. Both measurements are taken at admit and discharge to rehab 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). The mean BMI during system, preferably near rehab admission is 26.4 (**Table 92**), ranging from 24.9 to 28.0. **Table 93** shows mean BMI for each post-injury year, ranging from 25.8 at Year 1 to 27.1 at Year 5. There is little variability in mean BMI across all years and across all Systems.

Re-hospitalizations: Tables 94 - 96

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

Tables 94 and 95 show the total number of rehospitalizations and mean total days by system and post-injury year. By far, the majority of patients reported no rehospitalization across all years. Percentages range from 63.5 percent in year 1 to 73.7 percent in year 25. Among those rehospitalized, mean length of stay ranges from 24.2 days during year 1 to 17.3 days during year 35.

Diseases of the genitourinary system were the leading cause of re-hospitalization during most post-injury years, ranging from 45.5% during year 1 to 32.9% for year 35. Disease of the skin was the second most common cause of rehospitalization, ranging from 18.6% during year 1 to 36.7 for year 20. Other common causes of re-hospitalization include respiratory, digestive,

circulatory and musculoskeletal diseases (**Table 96**). 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 patient may endorse up to eight 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 Short Form Health Survey (SF-36). If the interview is done at year 1, then the time frame is ‘since rehab discharge’ instead of ‘Compared to a year ago’. This variable was added in May 1998. These questions are not collected from patients less than 18 years old.

Table 97 depicts patient’s perception of their current health by post-injury year. At the year 1 interview, participants are asked to rate their health ‘since rehab discharge’. At year 1, most patients endorsed ‘Good’ (31.5%) versus the fewest patients endorsed ‘Poor’ (5.5%). ‘Excellent’ and ‘Very good’ endorsements increase slightly as the years post-injury increase (from 10.2% in year 1 to 11.2% in year 35; and 20.7% in year 1 to 26.0% in year 35, respectively).

Most patients’ perception of the improvement of their health is seen as ‘much better’ or ‘somewhat better’ at year one (32.7% and 22.4%, respectively). At year 5 and after, there is a increase in reporting a ‘Somewhat worse’ health, from 7.5% in year 1 to 22.2% in year 35 (**Table 98**).

Satisfaction with Life: Table 99

This table reflects the mean Total Score which measures the concept of life satisfaction based on the patient'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. 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 and participants whose age was 18 or older, were used in this analysis. Overall, mean life satisfaction total score ranged from 18.7 at year 1 to 23.5 at year 35.

CHART: Tables 100 - 103

The Craig Handicap Assessment and Reporting Technique (CHART) is a widely used questionnaire useful in measuring societal participation for persons with disabilities. The CHART was added to the national database in November 1995. It is administered at follow-up to individuals whose current age is 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 of the CHART that is included in the database was changed to the short form of the CHART that consists of only 20 questions and includes a sixth subscale (cognitive independence). The CHART data collected from 1996 through 2000 were converted to the short form of the CHART 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 increases over time from 70.6 in year 1 to 87.7 in year 35. However, there is considerable intersystem variability in physical independence scores. For example, in year 1, mean physical independence scores range from 52.6 in to 85.2.

Table 101 depicts the mean CHART mobility subscales score by year post-injury for each model system. The mean mobility score shows little variability across years after year 1, ranging from 73.2 in year 1, 77.1 in year 5, to 79.4 in year 20.

Table 102 depicts the mean CHART occupation subscale score by year post-injury for each model system. The mean occupation score increases over time from 48.8 in the first post-injury year to 63.2 in post-injury year 35. However, there is considerable intersystem variability in occupation scores. For example, in the first post-injury year, mean occupation scores range from 34.4 to 62.5. Although the occupation subscale includes other activities besides competitive employment, the trend over time in this subscale score is consistent with many previous studies of return to work after spinal cord injury 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 for each model system. There is very little changes across years in social integration scores ranging from the lowest of 86.2 (year 5) to the highest of 87.5 (year 20 & 25).

Patient Health Questionnaire: Tables 104 - 105

The PHQ consists of 9 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 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 years, ranging from the lowest of 47.4% in year 1 to the highest of 60.8% in year

20. The percentages of “More than half the days” and “Nearly every day” were fairly consistent over the years, ranging from the highest of 16.9% in year 1 to the lowest of 13.3% in year 20.

Table 105 depicts the frequency and percentage of persons who were bothered by feeling down, depressed, or hopeless over the last 2 weeks. The “Not at all” response increases over time, while the “Nearly every day” decreases slightly over time.

Pain: Tables 106 - 107

The severity of pain score is measured on a 0 to 10 scale and asks the participant to rate the past 4 weeks’ usual level of pain. Data is required after March 1, 2001. **Table 106** depicts mean pain severity score. ‘Usual Pain’ did not vary over time, staying between 4.2 and 4.5 across years. There was also not much intersystem variability in the reporting of pain severity scores.

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 NSCISC 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. Pain Interference was reported as ‘Not at all’ for 18.6% at year 1 to a high of 31.2% at year 25, then decreases at year 30 and 35 (29.1 and 28.9, respectively). Slightly over 15 percent of persons reported Quite a bit to Extremely of interference with work/routine 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 of 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 5,779 participants who were interviewed at year 1, 36.2% reported that they can walk for 150 feet at home, 31.5% can walk for one street block outside the home, and 31.4% can walk up one flight of stairs. The observations of gradual decrease in ambulation ability over post-injury years may be the result of aging or because as ambulation improves, return to systems for follow-up decreases.

Table 111 reflects the types of mobility aids most often used by patients by years 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). Overall, about one third of persons who reported ambulation did not use any mobility aid. Straight cane was the most commonly used aid across most of the post-injury years. A small percent of patients 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 over 40 hours per week by year post-injury. There is a trend for use of wheelchairs to increase over the years, from 58.1 percent in year 1 to 78.9 percent in year 35. The increase may be the result of aging or because as ambulation improves, return to systems for follow-up decreases. **Table 113** identifies the most common type of wheelchair is ‘manual’ in all years, but power chairs increase over the years from 21.9 percent in year 1 to 32.0 percent in year 35.

Technology Use: Tables 114 – 118

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

Table 114 reflects computer use by patients by post-injury year. Overall, computer use increases from 64.7% in year 1 to 77.8% in year 35. Slightly above 40% of respondents use a computer only at home with little variability across all years.

Table 115 reflects internet or email usage by patients by post-injury year. This includes the use of electronic devices that access the internet or email in addition to computer. Daily internet or email access increases across years from 47.3 percent in year 1 to 65.9 percent in year 35.

Table 116 shows ownership of a modified vehicle. Across all years, almost half report owning a modified vehicle. There is a trend for that percentage to increase across years, from 25.3 percent in year 1 to 68.7 percent in year 35. The most common type of modified vehicle owned by participants or their families is a van, followed by car.

Table 117 shows approximately 15.0% of respondents own a modified vehicle but does not drive. The majority of the respondents transfer into their vehicle to drive, rather than driving from their wheelchairs.

Table 118 reflects cell phone usage by post-injury year. Cell phone usage across years shows little variation, from 74.0 percent in year 1 to 80.5 percent in year 35.

Source of health & Disability Information: Table 119

Table 119 documents the medium the patient 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. Codes “Conversation with family or friends” and “Conversation with health professionals” were added in October 2011. The majority of respondents used Television, Internet, or both for health and disability information. Newspaper and other print materials were used by about one quarter

of respondents. Percentages may total more than 100 because each patient may endorse up to five sources.

Table 1. Total forms entered into the National SCI Database as of September 12, 2014

Form II excludes Lost to Follow-up

	Registry	Form I	Form II	Total
Total	12,770	30,532	111,530	154,832

Footnote: Form II includes 27,764 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
Total	22,790	12,960	9,532	8,122	12,411	5,895	5,042	4,160	3,443	6,992	2,118	1,565	1,121	885

	Post-Injury Year																		
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	35	40	Total
Total	4,512	488	344	258	191	3,388	50	24	15	19	2,597	7	5	7	9	1,818	734	28	111,530

Table 3. Number of new records entered into the National SCI Database since the last Annual Report in September 2013.

Form II excludes Lost to Follow-up

	Registry	Form I	Form II	Total
Total	314	774	2,367	3,455

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	838	2,084	6,566	9,488

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	2,084	740	35.5

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
Total	73	488	437	478	521	508	553	564	560	617	568	581	608	570	444

	Year of Injury														
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Total	506	477	358	373	453	404	386	370	392	418	380	291	293	99	12,770

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
Total	3	220	401	579	684	822	848	1,005	1,130	818	749	1,155	1,098	976	930

(continued)

	Year of Injury														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total	662	628	645	597	705	650	654	689	638	735	754	729	767	674	716

(continued)

	Year of Injury													
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Total	723	694	636	658	686	779	787	697	703	676	756	757	319	30,532

Footnote 1: 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
Total	1	72	103	178	196	238	229	293	359	262	221	463	434	330	429

(continued)

	(continued)														
	Year of Injury														
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
Total	378	348	359	382	412	388	394	376	351	409	400	406	397	323	

(continued)

	Year of Injury														
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
Total	356	350	290	267	282	290	277	290	249	269	286	250	266	123	12,976

Footnote 1: 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)*

Post-injury year	Calendar Year of Data Collection														
	1975- 1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
1	7,514	981	694	451	427	590	521	582	529	485	506	571	590	548	454
2	5,999	808	723	444	381	457	333	555	440	390	407	466	467	468	389
3	4,670	681	624	540	391	399	275	396	445	361	245	199	87	114	48
4	3,635	597	496	445	421	435	263	368	306	350	254	211	197	64	60
5	2,921	408	430	361	328	472	255	328	300	242	335	389	348	280	296
6	2,277	384	254	323	280	381	295	305	295	217	114	220	230	162	119
7	1,713	405	248	206	258	354	257	345	260	204	107	112	213	174	142
8	1,268	305	280	220	141	280	221	289	301	211	92	89	100	174	160
9	935	239	208	228	167	181	210	222	269	234	89	104	82	98	139
10	634	211	147	186	174	202	146	226	216	234	259	231	212	192	181
11	364	176	139	152	121	186	135	140	194	179	21	57	88	82	57
12	148	146	110	132	107	132	129	141	118	160	12	11	62	71	57
13	35	81	100	105	92	107	93	134	124	99	9	5	12	42	59
14	0	35	59	96	71	100	70	115	128	112	7	17	13	10	35
15	0	0	29	57	80	98	112	83	103	140	180	224	263	252	234
16	0	0	0	24	38	83	53	75	69	91	18	6	10	4	2
17	0	0	0	0	14	32	67	57	72	59	13	5	10	0	1
18	0	0	0	0	0	11	25	70	49	64	7	7	12	0	1
19	0	0	0	0	0	0	4	26	63	47	2	20	11	8	5
20	0	0	0	0	0	0	0	7	20	75	111	167	170	178	160
21	0	0	0	0	0	0	0	0	3	20	4	3	8	2	1
22	0	0	0	0	0	0	0	0	0	2	2	4	5	2	2
23	0	0	0	0	0	0	0	0	0	0	0	3	5	0	0
24	0	0	0	0	0	0	0	0	0	0	0	2	2	2	4
25	0	0	0	0	0	0	0	0	0	0	0	0	6	55	105
26	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
28	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
30	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
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	32,113	5,457	4,541	3,970	3,491	4,500	3,464	4,464	4,304	3,976	2,794	3,123	3,203	2,982	2,711

*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.*

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

Post-injury year	Calendar Year of Data Collection														
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Total
1	476	435	491	592	472	457	515	617	539	666	540	382	650	515	22,790
2	45	18	30	31	15	10	9	18	13	20	12	8	4	0	12,960
3	26	1	3	8	1	1	2	6	2	2	1	1	2	1	9,532
4	5	2	2	0	1	0	2	5	1	0	1	0	1	0	8,122
5	305	272	243	272	300	339	423	383	323	338	330	367	460	363	12,411
6	14	2	1	2	1	1	0	7	2	3	1	1	2	2	5,895
7	32	1	0	1	1	1	1	3	2	0	0	1	0	1	5,042
8	22	4	0	2	0	0	0	1	0	0	0	0	0	0	4,160
9	20	8	8	0	0	0	0	1	0	0	1	0	0	0	3,443
10	239	214	169	188	196	190	295	311	250	269	241	318	410	251	6,992
11	13	2	4	1	1	0	1	1	1	2	1	0	0	0	2,118
12	7	2	8	3	1	1	0	4	3	0	0	0	0	0	1,565
13	9	3	8	0	0	0	0	3	1	0	0	0	0	0	1,121
14	9	2	4	1	0	0	0	1	0	0	0	0	0	0	885
15	237	140	117	142	158	178	239	221	187	202	175	238	253	170	4,512
16	0	0	2	3	0	0	0	9	1	0	0	0	0	0	488
17	4	0	0	6	0	0	0	3	0	0	0	0	1	0	344
18	2	0	1	8	0	0	0	1	0	0	0	0	0	0	258
19	1	0	1	2	0	0	0	1	0	0	0	0	0	0	191
20	203	182	163	223	202	214	173	130	112	155	140	222	201	180	3,388
21	0	0	0	3	1	4	0	0	1	0	0	0	0	0	50
22	0	1	0	1	2	0	0	1	2	0	0	0	0	0	24
23	0	0	2	2	0	0	0	1	0	0	1	0	0	1	15
24	0	0	0	9	0	0	0	0	0	0	0	0	0	0	19
25	155	131	143	178	196	166	219	209	178	217	168	205	157	109	2,597
26	0	0	0	3	1	0	2	0	0	0	0	1	0	0	7
27	0	0	0	5	0	0	0	0	0	0	0	0	0	0	5
28	0	0	0	5	2	0	0	0	0	0	0	0	0	0	7
29	0	0	0	8	1	0	0	0	0	0	0	0	0	0	9
30	0	0	5	53	105	112	205	177	179	214	178	213	190	187	1,818
35	0	0	0	0	0	0	0	6	53	100	105	183	185	102	734
40	0	0	0	0	0	0	0	0	0	0	0	1	9	18	28
Total	1,824	1,420	1,405	1,752	1,657	1,674	2,086	2,120	1,850	2,188	1,895	2,141	2,525	1,900	111,530

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.

Table 10. Primary Cause of Death.

ICD9CM Codes	Primary Cause of Death	n	%
460-519	Diseases of the respiratory system	2,337	21.6
000-139	Infective and parasitic diseases	1,293	11.9
400-414	Neoplasms	1,080	10.0
140-239	Hypertensive and ischemic heart disease	1,078	9.9
420-429	Other heart disease	933	8.6
E800-E949	Unintentional injuries	736	6.8
520-579	Diseases of the digestive system	523	4.8
430-438	Cerebrovascular disease	402	3.7
415-417	Disease of pulmonary circulation	362	3.3
E950-E959	Suicides	361	3.3
580-629	Diseases of the genitourinary system	332	3.1
780-799	Symptoms and ill-defined conditions	308	2.8
240-279	Endocrine, nutritional, metabolic and immunity disorders	275	2.5
320-389	Diseases of the nervous system and sense organs	208	1.9
440-448	Diseases of the arteries, arterioles, and capillaries	131	1.2
E980-E989	Subsequent trauma of uncertain nature (unintentional/suicide/homicide)	111	1.0
E960-E969	Homicides	107	1.0
710-739	Diseases of the musculoskeletal system and connective tissue	97	0.9
290-319	Mental disorders	95	0.9
280-289	Diseases of blood and blood-forming organs	33	0.3
451-459	Diseases of veins, lymphatics, and other diseases of the circulatory system	23	0.2
740-759	Congenital anomalies	12	0.1
E970-E979	Legal intervention	2	<0.1
Residual	All others	0	0.0
	Total known causes of death	10,839	
	Total unknown causes of death	1,868	
	Total deaths	12,707	

Table 11. Cumulative Survival – National

Years Post Injury	(1) Patients Entered	(2) Withdrawn Alive	(3) Lost	(4) Dead	(5) Effective Number Exposed	(6) Proportion Dead	(7) Proportion Surviving	(8) Cumulative Survival at End of Interval
0 - 1	46,998	1,631	6,337	1,909	43,014.0	0.0444	0.9556	0.9556
1 - 2	37,121	844	1,973	840	35,712.5	0.0235	0.9765	0.9331
2 - 3	33,464	194	586	565	33,074.0	0.0171	0.9829	0.9172
3 - 4	32,119	88	284	555	31,933.0	0.0174	0.9826	0.9013
4 - 5	31,192	102	498	490	30,892.0	0.0159	0.9841	0.8870
5 - 6	30,102	636	1,040	467	29,264.0	0.0160	0.9840	0.8728
6 - 7	27,959	340	494	468	27,542.0	0.0170	0.9830	0.8580
7 - 8	26,657	108	362	447	26,422.0	0.0169	0.9831	0.8435
8 - 9	25,740	211	241	424	25,514.0	0.0166	0.9834	0.8294
9 - 10	24,864	374	298	365	24,528.0	0.0149	0.9851	0.8171
10 - 11	23,827	569	802	422	23,141.5	0.0182	0.9818	0.8022
11 - 12	22,034	480	297	337	21,645.5	0.0156	0.9844	0.7897
12 - 13	20,920	232	145	354	20,731.5	0.0171	0.9829	0.7762
13 - 14	20,189	223	74	350	20,040.5	0.0175	0.9825	0.7627
14 - 15	19,542	462	140	368	19,241.0	0.0191	0.9809	0.7481
15 - 16	18,572	651	306	306	18,093.5	0.0169	0.9831	0.7354
16 - 17	17,309	713	88	322	16,908.5	0.0190	0.9810	0.7214
17 - 18	16,186	548	33	300	15,895.5	0.0189	0.9811	0.7078
18 - 19	15,305	576	32	293	15,001.0	0.0195	0.9805	0.6940
19 - 20	14,404	649	52	274	14,053.5	0.0195	0.9805	0.6805
20 - 21	13,429	700	137	264	13,010.5	0.0203	0.9797	0.6667
21 - 22	12,328	708	34	242	11,957.0	0.0202	0.9798	0.6532
22 - 23	11,344	572	29	273	11,043.5	0.0247	0.9753	0.6370
23 - 24	10,470	549	16	247	10,187.5	0.0242	0.9758	0.6216
24 - 25	9,658	527	41	208	9,374.0	0.0222	0.9778	0.6078
25 - 26	8,882	516	167	227	8,540.5	0.0266	0.9734	0.5916
26 - 27	7,972	571	76	192	7,648.5	0.0251	0.9749	0.5768
27 - 28	7,133	462	27	196	6,888.5	0.0285	0.9715	0.5604
28 - 29	6,448	460	17	173	6,209.5	0.0279	0.9721	0.5447
29 - 30	5,798	516	75	150	5,502.5	0.0273	0.9727	0.5299
30 - 31	5,057	562	204	140	4,674.0	0.0300	0.9700	0.5140
31 - 32	4,151	424	56	113	3,911.0	0.0289	0.9711	0.4992
32 - 33	3,558	378	15	85	3,361.5	0.0253	0.9747	0.4866
33 - 34	3,080	516	8	96	2,818.0	0.0341	0.9659	0.4700
34 - 35	2,460	415	31	86	2,237.0	0.0384	0.9616	0.4519
35 - 36	1,928	417	102	56	1,668.5	0.0336	0.9664	0.4367
36 - 37	1,353	386	12	48	1,154.0	0.0416	0.9584	0.4186
37 - 38	907	286	3	24	762.5	0.0315	0.9685	0.4054
38 - 39	594	228	0	11	480.0	0.0229	0.9771	0.3961
39 - 40	355	199	1	14	255.0	0.0549	0.9451	0.3744
40 - 41	141	131	0	6	75.5	0.0795	0.9205	0.3446
Total	46,998	19,154	15,133	12,707				

- (1) Number of individuals alive at start of interval.
- (2) Number of individuals alive at start of interval ineligible for further follow-up due to study termination.
- (3) Number of individuals lost to follow-up (survival status was unknown) during the interval.
- (4) Number of individuals dying during the interval.
- (5) Number of individuals exposed to risk of dying in interval [patients entered - 0.5 * (withdrawn alive + lost)].
- (6) Conditional probability of death during the interval (dead / effective number exposed).
- (7) Conditional probability of surviving the interval (1 - proportion dead).
- (8) Cumulative survival rate (previous cumulative survival * proportion surviving present interval).

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

Neurologic Group	Actual Deaths	Expected Deaths	SMR	95% Confidence Limits
Vent Dependent	838	27.24	30.76	28.72 - 32.92
C1-4 AIS A,B,C	2,248	314.11	7.16	6.86 - 7.46
C5-8 AIS A,B,C	3,095	618.16	5.01	4.83 - 5.19
T1-S3 AIS A,B,C	3,457	1,058.45	3.27	3.16 - 3.38
All Level AIS D	2,347	1,372.19	1.71	1.64 - 1.78

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

Neurologic Group	Actual Deaths	Expected Deaths	SMR	95% Confidence Limits
Vent Dependent	336	19.24	17.46	15.65 - 19.43
C1-4 AIS A,B,C	1,826	282.91	6.45	6.16 - 6.76
C5-8 AIS A,B,C	2,748	583.52	4.71	4.53 - 4.89
T1-S3 AIS A,B,C	3,173	1,013.27	3.13	3.02 - 3.24
All Level AIS D	2,148	1,291.88	1.66	1.59 - 1.73

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

Age At Injury	Life Expectancy (Years)					
	No SCI	<u>Not Ventilator Dependent</u>			<u>Ventilator Dependent</u>	
		Motor Functional Any Level AIS-D	Paraplegia	Tetraplegia C5-C8 C1-C4		Any Level
10 years	69.1	62.3	54.4	49.1	44.7	26.9
15 years	64.1	57.4	49.6	44.3	39.9	22.4
20 years	59.3	52.6	45.0	39.9	35.6	19.2
25 years	54.6	48.0	40.6	35.7	31.7	16.7
30 years	49.8	43.4	36.2	31.5	27.7	14.1
35 years	45.1	38.8	31.8	27.4	23.8	11.3
40 years	40.4	34.2	27.6	23.3	19.9	8.7
45 years	35.8	29.8	23.5	19.5	16.3	6.4
50 years	31.3	25.6	19.7	16.0	13.2	4.5
55 years	27.1	21.7	16.2	12.9	10.4	3.2
60 years	23.0	18.0	13.0	10.1	8.0	2.1
65 years	19.1	14.5	10.1	7.6	5.9	1.2
70 years	15.5	11.3	7.5	5.5	4.1	0.6
75 years	12.1	8.4	5.3	3.7	2.6	<0.1
80 years	9.1	5.9	3.5	2.2	1.4	<0.1

(1) Values for persons with no SCI are from the 2009 U.S. Life Tables for the general population.

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

Current Age	Life Expectancy (Years)					
	No SCI	<u>Not Ventilator Dependent</u>			<u>Ventilator Dependent</u>	
		Motor Functional Any Level AIS-D	Paraplegia	Tetraplegia C5-C8 C1-C4		Any Level
10 years	69.1	62.7	55.0	49.9	46.0	33.6
15 years	64.1	57.7	50.1	45.1	41.2	29.0
20 years	59.3	53.0	45.5	40.6	36.9	25.3
25 years	54.6	48.4	41.1	36.4	32.9	22.1
30 years	49.8	43.7	36.7	32.2	28.8	18.9
35 years	45.1	39.1	32.3	28.0	24.8	15.6
40 years	40.4	34.6	28.0	23.9	20.9	12.4
45 years	35.8	30.1	23.9	20.0	17.2	9.6
50 years	31.3	25.9	20.1	16.5	14.0	7.3
55 years	27.1	22.0	16.6	13.4	11.1	5.4
60 years	23.0	18.2	13.3	10.5	8.6	3.9
65 years	19.1	14.7	10.4	8.0	6.3	2.6
70 years	15.5	11.5	7.8	5.8	4.5	1.5
75 years	12.1	8.6	5.5	3.9	2.9	0.7
80 years	9.1	6.1	3.6	2.4	1.7	0.1

(1) Values for persons with no SCI are from the 2009 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	66,114 (38.5)	43,131 (25.1)	59,983 (35.0)	1,917 (1.1)	368 (0.2)	171,513

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	Total
System Appt	16,923 (61.1)	6,314 (29.0)	3,031 (17.5)	1,628 (11.9)	940 (8.9)	596 (7.6)	297 (6.4)	106 (6.6)	5 (6.0)	29,840
Interview Only	4,791 (17.3)	5,848 (26.9)	3,872 (22.3)	2,843 (20.7)	2,427 (23.0)	1,977 (25.3)	1,501 (32.4)	615 (38.0)	23 (27.4)	23,897
Future Follow-up Not Required	980 (3.5)	205 (0.9)	77 (0.4)	33 (0.2)	17 (0.2)	21 (0.3)	17 (0.4)	11 (0.7)	0 (0.0)	1,361
Lost	4,922 (17.8)	9,350 (43.0)	10,373 (59.7)	9,201 (67.1)	7,183 (68.0)	5,232 (66.8)	2,820 (60.8)	883 (54.6)	56 (66.7)	50,020
Unknown	96 (0.3)	44 (0.2)	12 (0.1)	8 (0.1)	4 (0.0)	3 (0.0)	3 (0.1)	2 (0.1)	0 (0.0)	172
Total	27,712	21,761	17,365	13,713	10,571	7,829	4,638	1,617	84	105,290

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

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

Reason for Lost	Reasons for Lost by Post-Injury Year									
	1	5	10	15	20	25	30	35	40	Total
Patient refused/withdrew consent	101 (3.4)	96 (1.2)	63 (0.6)	52 (0.6)	56 (0.8)	39 (0.7)	7 (0.2)	0 (0.0)	0 (0.0)	414
Patient incarcerated and not available	41 (1.4)	43 (0.5)	32 (0.3)	32 (0.4)	15 (0.2)	8 (0.2)	10 (0.4)	5 (0.6)	0 (0.0)	186
Unable to contact	864 (29.1)	1,141 (14.1)	1,019 (10.3)	688 (7.6)	639 (8.9)	598 (11.4)	325 (11.5)	56 (6.3)	0 (0.0)	5,330
Patient refused interview	46 (1.6)	46 (0.6)	61 (0.6)	51 (0.6)	36 (0.5)	74 (1.4)	44 (1.6)	25 (2.8)	0 (0.0)	383
Patient withdrew consent	119 (4.0)	107 (1.3)	111 (1.1)	96 (1.1)	70 (1.0)	110 (2.1)	100 (3.5)	31 (3.5)	2 (3.6)	746
ID Unknown Due to break in Funding	2 (0.1)	19 (0.2)	15 (0.2)	8 (0.1)	126 (1.8)	347 (6.6)	675 (23.9)	210 (23.8)	19 (33.9)	1,421
*Contact made but survey not completed	21 (0.7)	34 (0.4)	31 (0.3)	39 (0.4)	35 (0.5)	33 (0.6)	32 (1.1)	32 (3.6)	1 (1.8)	258
*Attempted contact but language barrier prevented collection	0 (0.0)	1 (0.0)	1 (0.0)	2 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4
*Attempted contact but moved out of country	1 (0.0)	6 (0.1)	7 (0.1)	6 (0.1)	2 (0.0)	0 (0.0)	2 (0.1)	4 (0.5)	0 (0.0)	28
*No contact, apparently valid contact information	41 (1.4)	85 (1.0)	90 (0.9)	91 (1.0)	83 (1.2)	76 (1.5)	75 (2.7)	52 (5.9)	1 (1.8)	594
*No contact, no valid contact information	40 (1.3)	94 (1.2)	138 (1.4)	167 (1.8)	186 (2.6)	150 (2.9)	136 (4.8)	92 (10.4)	7 (12.5)	1,010
Identity unknown to NSCISC	0 (0.0)	18 (0.2)	29 (0.3)	0 (0.0)	0 (0.0)	82 (1.6)	9 (0.3)	0 (0.0)	0 (0.0)	138
Break in funding	284 (9.6)	2,119 (26.1)	2,865 (29.1)	3,116 (34.4)	2,523 (35.3)	1,944 (37.2)	762 (27.0)	233 (26.4)	25 (44.6)	13,871
Other	121 (4.1)	113 (1.4)	94 (1.0)	91 (1.0)	119 (1.7)	58 (1.1)	44 (1.6)	20 (2.3)	1 (1.8)	661
Unknown	1,286 (43.3)	4,186 (51.6)	5,298 (53.8)	4,609 (50.9)	3,255 (45.6)	1,713 (32.7)	599 (21.2)	123 (13.9)	0 (0.0)	21,069
Total	2,967	8,108	9,854	9,048	7,145	5,232	2,820	883	56	46,113

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 Centers to identify Records with no personal identifiers due to the 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	8,561 (28.0)	2,252 (7.4)	715 (2.3)	1,227 (4.0)	11,346 (37.2)	6,431 (21.1)	30,532

Footnote 1: 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	3,012 (9.1)	23,517 (70.8)	2,694 (8.1)	2,782 (8.4)	895 (2.7)	315 (0.9)	33,215

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	Freq- uency	Percent	Cumulative Percent	Age	Freq- uency	Percent	Cumulative Percent	Age	Freq- uency	Percent	Cumulative Percent
<1	4	0.01	0.01	33	505	1.65	57.87	66	187	0.61	94.05
1	13	0.04	0.06	34	465	1.52	59.39	67	179	0.59	94.64
2	10	0.03	0.09	35	511	1.67	61.07	68	159	0.52	95.16
3	20	0.07	0.15	36	499	1.63	62.70	69	136	0.45	95.60
4	21	0.07	0.22	37	458	1.50	64.20	70	118	0.39	95.99
5	17	0.06	0.28	38	489	1.60	65.80	71	129	0.42	96.41
6	20	0.07	0.34	39	426	1.40	67.20	72	99	0.32	96.74
7	15	0.05	0.39	40	413	1.35	68.55	73	112	0.37	97.10
8	18	0.06	0.45	41	435	1.42	69.98	74	97	0.32	97.42
9	20	0.07	0.52	42	401	1.31	71.29	75	107	0.35	97.77
10	33	0.11	0.63	43	389	1.27	72.56	76	83	0.27	98.04
11	15	0.05	0.67	44	390	1.28	73.84	77	100	0.33	98.37
12	37	0.12	0.80	45	386	1.26	75.11	78	67	0.22	98.59
13	104	0.34	1.14	46	339	1.11	76.22	79	73	0.24	98.83
14	206	0.67	1.81	47	366	1.20	77.42	80	59	0.19	99.02
15	402	1.32	3.13	48	360	1.18	78.59	81	45	0.15	99.17
16	782	2.56	5.69	49	355	1.16	79.76	82	43	0.14	99.31
17	1111	3.64	9.33	50	343	1.12	80.88	83	44	0.14	99.46
18	1359	4.45	13.78	51	294	0.96	81.84	84	31	0.10	99.56
19	1369	4.48	18.26	52	302	0.99	82.83	85	31	0.10	99.66
20	1233	4.04	22.30	53	312	1.02	83.86	86	26	0.09	99.74
21	1215	3.98	26.28	54	295	0.97	84.82	87	19	0.06	99.81
22	1135	3.72	30.00	55	287	0.94	85.76	88	19	0.06	99.87
23	1036	3.39	33.39	56	303	0.99	86.75	89	13	0.04	99.91
24	989	3.24	36.63	57	278	0.91	87.66	90	9	0.03	99.94
25	922	3.02	39.65	58	254	0.83	88.50	91	6	0.02	99.96
26	830	2.72	42.37	59	239	0.78	89.28	92	4	0.01	99.97
27	790	2.59	44.96	60	266	0.87	90.15	93	1	<0.01	99.98
28	743	2.43	47.39	61	242	0.79	90.94	94	2	0.01	99.98
29	746	2.44	49.84	62	219	0.72	91.66	95	3	0.01	99.99
30	662	2.17	52.00	63	184	0.60	92.26	97	1	<0.01	100.00
31	645	2.11	54.12	64	194	0.64	92.90	98	1	<0.01	100.00
32	641	2.10	56.22	65	165	0.54	93.44				

Footnote: 2 records with unknown age are not included in this table.

Table 21. Age at Injury: Descriptive Statistics

	Age at Injury				
	N	Mean	Standard Deviation	Minimum	Maximum
Total	30,530	34.7	16.8	0	98

Footnote: Excludes 2 records reporting unknown age.

Table 22. Trend in Age by Year of Injury

Year of Injury	N	Mean	Standard Deviation	Minimum	Maximum
1973-1979	4,561	28.7	14.1	1	88
1980-1984	4,950	30.5	14.6	1	90
1985-1989	3,841	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
2010-2014	3,210	42.2	18.4	0	95
Total	30,530	34.7	16.8	0	98

Footnote: Excludes 2 records reporting unknown age.

Table 23. Sex of Spinal Cord Injury Patients

n (%)	Sex		
	Male	Female	Total
Total	24,642 (80.7)	5,887 (19.3)	30,529

Footnote: Excludes 1 records reporting unknown sex and 2 records reporting sex as 'transgender'.

Table 24. Racial Group of Spinal Cord Injury Patients

	Racial Group							
n (%)	Caucasian	African American	Native American	Asian	Other	Declined	Unkn	Total
Total	20,625 (67.6)	6,927 (22.7)	284 (0.9)	506 (1.7)	508 (1.7)	5 (0.0)	1,677 (5.5)	30,532

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	Unk	Total
Total	27,393 (89.7)	2,866 (9.4)	4 (0.0)	269 (0.9)	30,532

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

Table 26. Hispanic Origin by Race.

	Racial Group							
Hispanic Origin n (%)	Caucasian	African American	Native American	Asian	Other	Declined	Unknown	Total
Not of Hispanic Origin	19,739 (64.7)	6,765 (22.2)	255 (0.8)	488 (1.6)	141 (0.5)	0 (0.0)	5 (0.0)	27,393
Hispanic Origin	783 (2.6)	81 (0.3)	28 (0.1)	17 (0.1)	363 (1.2)	3 (0.0)	1,591 (5.2)	2,866
Declined	0 (0.0)	2 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.0)	0 (0.0)	4
Unknown	103 (0.3)	79 (0.3)	1 (0.0)	1 (0.0)	4 (0.0)	0 (0.0)	81 (0.3)	269
Total	20,625	6,927	284	506	508	5	1,677	30,532

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.

Racial Group n (%)	Year of Injury								Total
	1973-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	
Caucasian	3,505(76.8)	3,525(71.2)	2,487(64.7)	1,804(54.7)	2,251(62.1)	2,416(70.2)	2,392(66.3)	2,245(69.9)	20,625
African American	648 (14.2)	873 (17.6)	957 (24.9)	958 (29.1)	982 (27.1)	814 (23.6)	962 (26.7)	733 (22.8)	6,927
Native American	88 (1.9)	65 (1.3)	29 (0.8)	15 (0.5)	17 (0.5)	11 (0.3)	31 (0.9)	28 (0.9)	284
Asian/Pacific Islander	42 (0.9)	61 (1.2)	55 (1.4)	62 (1.9)	83 (2.3)	71 (2.1)	74 (2.1)	58 (1.8)	506
Other, Unclassified	16 (0.4)	17 (0.3)	10 (0.3)	47 (1.4)	110 (3.0)	98 (2.8)	114 (3.2)	96 (3.0)	508
Declined	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (0.2)	5
Unknown	263 (5.8)	409 (8.3)	303 (7.9)	409 (12.4)	180 (5.0)	33 (1.0)	34 (0.9)	46 (1.4)	1,677
Total	4,562	4,950	3,841	3,295	3,623	3,443	3,607	3,211	30,532

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.

Hispanic Origin n (%)	Year of Injury								Total
	1973-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	
Not of Hispanic Origin	4,289(94.0)	4,540(91.7)	3,533(92.0)	2,856(86.7)	3,120(86.1)	2,992(86.9)	3,252(90.2)	2,811(87.5)	27,393
Hispanic Origin	271 (5.9)	408 (8.2)	307 (8.0)	421 (12.8)	398 (11.0)	429 (12.5)	310 (8.6)	322 (10.0)	2,866
Declined	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.0)	3 (0.1)	4
Unknown	2 (0.0)	2 (0.0)	1 (0.0)	18 (0.5)	105 (2.9)	22 (0.6)	44 (1.2)	75 (2.3)	269
Total	4,562	4,950	3,841	3,295	3,623	3,443	3,607	3,211	30,532

Footnote 1: 'Declined' code was added in October 2011.

Table 29. Etiology of Spinal Cord Injury by Sex.

Rank	Etiology	Males n (%)	Females n (%)	Total n (%)
1	Auto accident	7,205 (29.3)	2,842 (48.3)	10,047 (32.9)
2	Fall	5,406 (22.0)	1,262 (21.5)	6,668 (21.9)
3	Gunshot wound	4,163 (16.9)	572 (9.7)	4,735 (15.5)
4	Diving	1,718 (7.0)	122 (2.1)	1,840 (6.0)
5	Motorcycle accident	1,695 (6.9)	145 (2.5)	1,840 (6.0)
6	Hit by falling/flying object	822 (3.3)	37 (0.6)	859 (2.8)
7	Medical/surgical complication	537 (2.2)	298 (5.1)	835 (2.7)
8	Pedestrian	357 (1.5)	131 (2.2)	488 (1.6)
9	Bicycle	409 (1.7)	49 (0.8)	458 (1.5)
10	Person-to-person contact	234 (1.0)	66 (1.1)	300 (1.0)
11	Other unclassified	249 (1.0)	25 (0.4)	274 (0.9)
12	All other penetrating wounds	196 (0.8)	54 (0.9)	250 (0.8)
13	All-terrain vehicle (ATV) and all-terrain cycle (ATC)	174 (0.7)	31 (0.5)	205 (0.7)
14	Other vehicular	169 (0.7)	18 (0.3)	187 (0.6)
15	Snow skiing	146 (0.6)	16 (0.3)	162 (0.5)
16	Football	127 (0.5)	26 (0.4)	153 (0.5)
17	Winter sports	146 (0.6)	0 (0.0)	146 (0.5)
18	Horseback riding	70 (0.3)	74 (1.3)	144 (0.5)
19	Surfing: includes body surfing	103 (0.4)	25 (0.4)	128 (0.4)
20	Other sport	121 (0.5)	5 (0.1)	126 (0.4)
21	Fixed-wing aircraft	68 (0.3)	28 (0.5)	96 (0.3)
22	Wrestling	90 (0.4)	2 (0.0)	92 (0.3)
23	Trampoline	61 (0.2)	8 (0.1)	69 (0.2)
24	Gymnastics	34 (0.1)	19 (0.3)	53 (0.2)
25	Snowmobile	43 (0.2)	6 (0.1)	49 (0.2)
26	Field sports	41 (0.2)	2 (0.0)	43 (0.1)
27	Hang gliding	35 (0.1)	2 (0.0)	37 (0.1)
28	Rotating wing aircraft	30 (0.1)	2 (0.0)	32 (0.1)
29	Water skiing	31 (0.1)	1 (0.0)	32 (0.1)
30	Boat	31 (0.1)	1 (0.0)	32 (0.1)
31	Air sports	20 (0.1)	11 (0.2)	31 (0.1)
32	Baseball/softball	23 (0.1)	1 (0.0)	24 (0.1)
33	Rodeo	23 (0.1)	1 (0.0)	24 (0.1)
34	Explosion	14 (0.1)	1 (0.0)	15 (0.0)
35	Basketball/volleyball	13 (0.1)	0 (0.0)	13 (0.0)
36	Track and field	7 (0.0)	0 (0.0)	7 (0.0)
37	Skateboard	6 (0.0)	0 (0.0)	6 (0.0)
	Total	24,617 (80.7)	5,883 (19.3)	30,500 (100)

Footnote: Excludes 32 records reporting unknown etiology and/or unknown /other sex.

Table 30. Grouped Etiology

	Etiology						
n (%)	Vehicular	Violence	Sports & Recreation	Falls	Other	Unkn	Total
Total	12,947 (42.4)	5,301 (17.4)	3,131 (10.3)	6,668 (21.8)	2,456 (8.0)	29 (0.1)	30,532

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	356 (37.3)	6,894 (46.2)	3,139 (44.5)	1,733 (37.7)	670 (28.8)	153 (22.5)	12,945
Violence	216 (22.6)	3,550 (23.8)	1,164 (16.5)	307 (6.7)	57 (2.4)	7 (1.0)	5,301
Sports	231 (24.2)	2,135 (14.3)	503 (7.1)	200 (4.4)	57 (2.4)	5 (0.7)	3,131
Falls	77 (8.1)	1,592 (10.7)	1,614 (22.9)	1,761 (38.3)	1,186 (51.0)	438 (64.4)	6,668
Other	75 (7.9)	741 (5.0)	626 (8.9)	586 (12.8)	354 (15.2)	74 (10.9)	2,456
Unknown	0 (0.0)	10 (0.1)	7 (0.1)	6 (0.1)	3 (0.1)	3 (0.4)	29
Total	955	14,922	7,053	4,593	2,327	680	30,530

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

Footnote 2: Excludes 2 records reporting unknown age.

Table 32. Grouped Etiology by Sex

Etiology n (%)	Sex		
	Male	Female	Total
Vehicular Accidents	9,836 (39.9)	3,109 (52.8)	12,945
Violence	4,607 (18.7)	693 (11.8)	5,300
Sports	2,803 (11.4)	328 (5.6)	3,131
Falls	5,406 (21.9)	1,262 (21.4)	6,668
Other	1,965 (8.0)	491 (8.3)	2,456
Unknown	25 (0.1)	4 (0.1)	29
Total	24,642	5,887	30,529

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

Footnote 2: Excludes 3 records reporting unknown/other sex.

Table 33. Grouped Etiology by Racial Group.

Etiology n (%)	Racial Group							
	Caucasian	African American	Native Ameri- can	Asian	Other	Declined	Unkn	Total
Vehicular Accidents	9,925 (48.1)	1,918 (27.7)	168 (59.2)	225 (44.5)	200 (39.4)	0 (0.0)	511 (30.5)	12,947
Violence	1,357 (6.6)	3,023 (43.6)	34 (12.0)	84 (16.6)	108 (21.3)	2 (40.0)	693 (41.3)	5,301
Sports	2,757 (13.4)	204 (2.9)	13 (4.6)	31 (6.1)	25 (4.9)	0 (0.0)	101 (6.0)	3,131
Falls	4,778 (23.2)	1,329 (19.2)	50 (17.6)	119 (23.5)	133 (26.2)	3 (60.0)	256 (15.3)	6,668
Other	1,792 (8.7)	447 (6.5)	19 (6.7)	45 (8.9)	42 (8.3)	0 (0.0)	111 (6.6)	2,456
Unknown	16 (0.1)	6 (0.1)	0 (0.0)	2 (0.4)	0 (0.0)	0 (0.0)	5 (0.3)	29
Total	20,625	6,927	284	506	508	5	1,677	30,532

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

Table 34. Grouped Etiology by Hispanic Origin.

Etiology n (%)	Hispanic Origin				
	No	Yes	Dec	Unkn	Total
Vehicular	11,850 (43.3)	1,010(35.2)	1 (25.0)	86 (32.0)	12,947
Violence	4,303 (15.7)	937 (32.7)	0 (0.0)	61 (22.7)	5,301
Sports	2,937 (10.7)	178 (6.2)	0 (0.0)	16 (5.9)	3,131
Falls	6,054 (22.1)	529 (18.5)	3 (75.0)	82 (30.5)	6,668
Other	2,226 (8.1)	209 (7.3)	0 (0.0)	21 (7.8)	2,456
Unknown	23 (0.1)	3 (0.1)	0 (0.0)	3 (1.1)	29
Total	27,393	2,866	4	269	30,532

Footnote 1: 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.

Etiology n (%)	Year of Injury								Total
	1973- 1979	1980- 1984	1985- 1989	1990- 1994	1995- 1999	2000- 2004	2005- 2009	2010- 2014	
Vehicular Accidents	2,141 (46.9)	2,237 (45.2)	1,619 (42.2)	1,197 (36.3)	1,449 (40.0)	1,634 (47.5)	1,458 (40.4)	1,212 (37.7)	12,947
Violence	605 (13.3)	792 (16.0)	723 (18.8)	952 (28.9)	764 (21.1)	478 (13.9)	543 (15.1)	444 (13.8)	5,301
Sports	655 (14.4)	705 (14.2)	390 (10.2)	249 (7.6)	254 (7.0)	302 (8.8)	288 (8.0)	288 (9.0)	3,131
Falls	752 (16.5)	836 (16.9)	796 (20.7)	659 (20.0)	846 (23.4)	792 (23.0)	1,003 (27.8)	984 (30.6)	6,668
Other	406 (8.9)	377 (7.6)	311 (8.1)	235 (7.1)	305 (8.4)	232 (6.7)	311 (8.6)	279 (8.7)	2,456
Unknown	3 (0.1)	3 (0.1)	2 (0.1)	3 (0.1)	5 (0.1)	5 (0.1)	4 (0.1)	4 (0.1)	29
Total	4,562 (14.9)	4,950 (16.2)	3,841 (12.6)	3,295 (10.8)	3,623 (11.9)	3,443 (11.3)	3,607 (11.8)	3,211 (10.5)	30,532

Footnote 1: 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	8,971 (89.4)	944 (9.4)	117 (1.2)	10,032

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	Widow ed	Living with signifi- cant other	Other	Unkn	Total
Total	15,638 (51.2)	9,915 (32.5)	2,871 (9.4)	1,043 (3.4)	779 (2.6)	36 (0.1)	51 (0.2)	199 (0.7)	30,532

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

Table 38. Marital Status by Post-Injury Year.

Marital Status n (%)	Post-Injury Year									
	1	5	10	15	20	25	30	35	40	Total
Single	11,321 (49.7)	5,671 (45.7)	2,867 (41.0)	1,711 (37.9)	1,180 (34.8)	844 (32.5)	529 (29.1)	195 (26.6)	4 (14.3)	24,322
Married	7,206 (31.6)	3,949 (31.8)	2,318 (33.2)	1,513 (33.5)	1,209 (35.7)	946 (36.4)	712 (39.2)	316 (43.1)	12 (42.9)	18,181
Divorced	2,521 (11.1)	1,932 (15.6)	1,321 (18.9)	985 (21.8)	799 (23.6)	626 (24.1)	446 (24.5)	161 (21.9)	5 (17.9)	8,796
Separated	797 (3.5)	354 (2.9)	185 (2.6)	115 (2.5)	75 (2.2)	53 (2.0)	35 (1.9)	12 (1.6)	1 (3.6)	1,627
Widowed	532 (2.3)	282 (2.3)	175 (2.5)	105 (2.3)	84 (2.5)	92 (3.5)	66 (3.6)	26 (3.5)	4 (14.3)	1,366
Living with significant other	48 (0.2)	37 (0.3)	28 (0.4)	22 (0.5)	11 (0.3)	14 (0.5)	18 (1.0)	19 (2.6)	2 (7.1)	199
Other, unclassified	22 (0.1)	15 (0.1)	5 (0.1)	4 (0.1)	1 (0.0)	2 (0.1)	1 (0.1)	0 (0.0)	0 (0.0)	50
Unknown	343 (1.5)	171 (1.4)	93 (1.3)	57 (1.3)	29 (0.9)	20 (0.8)	11 (0.6)	5 (0.7)	0 (0.0)	729
Total	22,790	12,411	6,992	4,512	3,388	2,597	1,818	734	28	55,270

Footnote 1: 'Living with significant other' was added in October 2011.

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

Change in Marital Status n (%)	Post-Injury Year									
	1	5	10	15	20	25	30	35	40	Total
No Change	6,774 (92.2)	4,031 (85.4)	2,977 (84.1)	2,239 (84.3)	2,110 (84.4)	2,010 (82.7)	1,508 (82.9)	609 (83.0)	21 (75.0)	22,279
Divorce	169 (2.3)	272 (5.8)	171 (4.8)	130 (4.9)	124 (5.0)	106 (4.4)	76 (4.2)	28 (3.8)	1 (3.6)	1,077
Marriage	136 (1.9)	212 (4.5)	210 (5.9)	147 (5.5)	152 (6.1)	161 (6.6)	105 (5.8)	41 (5.6)	2 (7.1)	1,166
Widowed	28 (0.4)	32 (0.7)	33 (0.9)	15 (0.6)	14 (0.6)	35 (1.4)	22 (1.2)	12 (1.6)	3 (10.7)	194
Divorce + Marriage	18 (0.2)	39 (0.8)	38 (1.1)	45 (1.7)	46 (1.8)	65 (2.7)	53 (2.9)	16 (2.2)	0 (0.0)	320
Widowed + Marriage	0 (0.0)	5 (0.1)	4 (0.1)	5 (0.2)	4 (0.2)	7 (0.3)	9 (0.5)	3 (0.4)	0 (0.0)	37
Divorce, Marriage + Widowed	3 (0.0)	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.1)	4 (0.2)	1 (0.1)	0 (0.0)	11
Significant Other or Partner	39 (0.5)	37 (0.8)	32 (0.9)	27 (1.0)	12 (0.5)	11 (0.5)	19 (1.0)	17 (2.3)	1 (3.6)	195
Other	42 (0.6)	30 (0.6)	26 (0.7)	8 (0.3)	9 (0.4)	9 (0.4)	9 (0.5)	1 (0.1)	0 (0.0)	134
Unknown	138 (1.9)	59 (1.3)	50 (1.4)	41 (1.5)	29 (1.2)	25 (1.0)	13 (0.7)	6 (0.8)	0 (0.0)	361
Total	7,347	4,718	3,541	2,657	2,500	2,431	1,818	734	28	25,774

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 (%)	8 th Grade or Less	9 th -11 th Grade	High School or GED	Assoc	Bachs	Mas- ters	Doc- torate	Other	Unkn	Total
Total	2,653 (8.7)	7,120 (23.3)	14,756 (48.3)	835 (2.7)	2,166 (7.1)	563 (1.8)	316 (1.0)	242 (0.8)	1,881 (6.2)	30,532

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	1,667 (7.3)	701 (5.6)	339 (4.8)	152 (3.4)	87 (2.6)	58 (2.2)	52 (2.9)	21 (2.9)	1 (3.6)	3,078
9th through 11th Grade	4,898 (21.5)	1,766 (14.2)	871 (12.5)	470 (10.4)	309 (9.1)	180 (6.9)	103 (5.7)	38 (5.2)	2 (7.1)	8,637
High School/GED	12,018 (52.7)	7,037 (56.7)	3,510 (50.2)	2,246 (49.8)	1,555 (45.9)	1,180 (45.4)	801 (44.1)	292 (39.8)	9 (32.1)	28,648
Associate Degree	791 (3.5)	657 (5.3)	553 (7.9)	398 (8.8)	349 (10.3)	256 (9.9)	188 (10.3)	80 (10.9)	4 (14.3)	3,276
Bachelors Degree	1,863 (8.2)	1,384 (11.2)	1,074 (15.4)	756 (16.8)	661 (19.5)	560 (21.6)	412 (22.7)	179 (24.4)	9 (32.1)	6,898
Masters Degree	511 (2.2)	337 (2.7)	302 (4.3)	259 (5.7)	227 (6.7)	227 (8.7)	170 (9.4)	85 (11.6)	1 (3.6)	2,119
Doctorate Degree	255 (1.1)	153 (1.2)	120 (1.7)	92 (2.0)	93 (2.7)	84 (3.2)	66 (3.6)	27 (3.7)	1 (3.6)	891
Other, Unclassified	223 (1.0)	158 (1.3)	114 (1.6)	73 (1.6)	69 (2.0)	29 (1.1)	14 (0.8)	6 (0.8)	0 (0.0)	686
Unknown	564 (2.5)	218 (1.8)	109 (1.6)	66 (1.5)	38 (1.1)	23 (0.9)	12 (0.7)	6 (0.8)	1 (3.6)	1,037
Total	22,790	12,411	6,992	4,512	3,388	2,597	1,818	734	28	55,270

Table 42. Occupational Status at Time of Injury.

	Occupational Status at Injury									
n (%)	Work	Home-maker	OJT	Work-shop	Retired	Student	Unemploy-ed	Other	Unkn	Total
Total	17,496 (57.3)	577 (1.9)	84 (0.3)	19 (0.1)	2,117 (6.9)	4,604 (15.1)	4,823 (15.8)	422 (1.4)	390 (1.3)	30,532

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	2,713 (11.9)	2,534 (20.4)	1,913 (27.4)	1,398 (31.0)	1,152 (34.0)	913 (35.2)	592 (32.6)	246 (33.5)	5 (17.9)	11,466
Homemaker	388 (1.7)	248 (2.0)	169 (2.4)	92 (2.0)	60 (1.8)	45 (1.7)	46 (2.5)	15 (2.0)	4 (14.3)	1,067
On-the-Job Training	32 (0.1)	18 (0.1)	7 (0.1)	2 (0.0)	6 (0.2)	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	66
Sheltered Workshop	13 (0.1)	4 (0.0)	7 (0.1)	2 (0.0)	1 (0.0)	2 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	29
Retired	1,490 (6.5)	916 (7.4)	563 (8.1)	361 (8.0)	270 (8.0)	273 (10.5)	300 (16.5)	165 (22.5)	8 (28.6)	4,346
Student	3,563 (15.6)	1,949 (15.7)	494 (7.1)	166 (3.7)	91 (2.7)	35 (1.3)	13 (0.7)	7 (1.0)	0 (0.0)	6,318
Unemployed	12,497 (54.8)	5,832 (47.0)	3,283 (47.0)	2,096 (46.5)	1,517 (44.8)	1,058 (40.7)	630 (34.7)	241 (32.8)	10 (35.7)	27,164
Other, Unclassified	1,489 (6.5)	649 (5.2)	420 (6.0)	314 (7.0)	250 (7.4)	245 (9.4)	219 (12.0)	57 (7.8)	0 (0.0)	3,643
Unknown	605 (2.7)	261 (2.1)	136 (1.9)	81 (1.8)	41 (1.2)	25 (1.0)	18 (1.0)	3 (0.4)	1 (3.6)	1,171
Total	22,790	12,411	6,992	4,512	3,388	2,597	1,818	734	28	55,270

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

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	555 (5.5)	826 (8.2)	291 (2.9)	354 (3.5)	312 (3.1)	23 (0.2)	144 (1.4)	593 (5.9)	206 (2.1)

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	1,121 (11.2)	265 (2.6)	381 (3.8)	549 (5.5)	24 (0.2)	4,043 (40.3)	345 (3.4)	10,032

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

Table 45. Job Census Code by Post-Injury Year

Job Census Code	Post-Injury Year									Total
	1	5	10	15	20	25	30	35	40	
Executive, Administrative, and managerial	228 (3.1)	194 (4.1)	183 (5.2)	161 (6.1)	198 (7.9)	185 (7.6)	148 (8.1)	76 (10.4)	1 (3.6)	1,374
Professional specialty	294 (4.0)	255 (5.4)	283 (8.0)	266 (10.0)	297 (11.9)	324 (13.3)	234 (12.9)	110 (15.0)	1 (3.6)	2,064
Technicians and related support	60 (0.8)	64 (1.4)	60 (1.7)	48 (1.8)	47 (1.9)	55 (2.3)	36 (2.0)	10 (1.4)	0 (0.0)	380
Sales	103 (1.4)	114 (2.4)	110 (3.1)	73 (2.7)	57 (2.3)	57 (2.3)	40 (2.2)	12 (1.6)	0 (0.0)	566
Administrative support including clerical	87 (1.2)	124 (2.6)	115 (3.2)	101 (3.8)	98 (3.9)	114 (4.7)	65 (3.6)	17 (2.3)	1 (3.6)	722
Private Household	3 (0.0)	1 (0.0)	3 (0.1)	1 (0.0)	4 (0.2)	1 (0.0)	2 (0.1)	1 (0.1)	0 (0.0)	16
Protective service	17 (0.2)	11 (0.2)	5 (0.1)	8 (0.3)	9 (0.4)	8 (0.3)	5 (0.3)	0 (0.0)	0 (0.0)	63
Service, except protective and household	58 (0.8)	65 (1.4)	49 (1.4)	31 (1.2)	31 (1.2)	15 (0.6)	8 (0.4)	4 (0.5)	0 (0.0)	261
Farming, forestry, and fishing	23 (0.3)	19 (0.4)	15 (0.4)	12 (0.5)	11 (0.4)	18 (0.7)	11 (0.6)	2 (0.3)	0 (0.0)	111
Precision production, craft, and repair	67 (0.9)	52 (1.1)	52 (1.5)	48 (1.8)	28 (1.1)	36 (1.5)	25 (1.4)	9 (1.2)	2 (7.1)	319
Machine operators, assemblers, and inspectors	22 (0.3)	24 (0.5)	13 (0.4)	9 (0.3)	12 (0.5)	6 (0.2)	4 (0.2)	3 (0.4)	0 (0.0)	93
Transportation and material moving	13 (0.2)	16 (0.3)	14 (0.4)	5 (0.2)	11 (0.4)	8 (0.3)	6 (0.3)	1 (0.1)	0 (0.0)	74
Handlers, equipment cleaners, helpers, and laborers	22 (0.3)	13 (0.3)	12 (0.3)	8 (0.3)	3 (0.1)	10 (0.4)	4 (0.2)	0 (0.0)	0 (0.0)	72
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	6,136 (83.5)	3,663 (77.6)	2,546 (71.9)	1,820 (68.5)	1,635 (65.4)	1,554 (63.9)	1,208 (66.4)	485 (66.1)	22 (78.6)	19,069
Unknown	211 (2.9)	101 (2.1)	81 (2.3)	66 (2.5)	59 (2.4)	39 (1.6)	22 (1.2)	4 (0.5)	1 (3.6)	584
Total	7,347	4,718	3,541	2,657	2,500	2,431	1,818	734	28	25,774

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

Table 46. Veteran Status at Time of Injury

	Veteran Status			
n (%)	No	Yes	Unknown	Total
Total	9,024 (90.0)	816 (8.1)	192 (1.9)	10,032

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	986 (13.4)	436 (9.2)	371 (10.5)	275 (10.3)	239 (9.6)	252 (10.4)	203 (11.2)	72 (9.8)	2 (7.1)	2,836
Yes	272 (3.7)	176 (3.7)	123 (3.5)	69 (2.6)	91 (3.6)	106 (4.4)	95 (5.2)	38 (5.2)	1 (3.6)	971
N/A, Not a Veteran	5,945 (80.7)	4,017 (85.1)	2,983 (84.2)	2,270 (85.4)	2,134 (85.3)	2,049 (84.3)	1,506 (82.8)	614 (83.7)	24 (85.7)	21,542
Unknown	163 (2.2)	89 (1.9)	65 (1.8)	45 (1.7)	37 (1.5)	24 (1.0)	14 (0.8)	10 (1.4)	1 (3.6)	448
Total	7,366	4,718	3,542	2,659	2,501	2,431	1,818	734	28	25,797

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	Medicare	Medicaid	Worker's Compensation	Vet Admin	Other Government	No Pay	Private funds	Other	Total
Total	8,757 (49.6)	1,228 (6.9)	4,895 (27.7)	1,282 (7.3)	28 (0.2)	263 (1.5)	699 (4.0)	329 (1.9)	192 (1.1)	17,673

Footnote: Exclude 12,859 records coded as "unknown/decline". 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	5,871 (44.4)	2,584 (32.7)	1,528 (30.9)	1,157 (33.8)	891 (33.5)	553 (34.7)	290 (34.0)	158 (33.4)	8 (30.8)	13,040
Medicare	867 (6.6)	2,219 (28.1)	1,766 (35.7)	1,286 (37.5)	1,077 (40.5)	650 (40.8)	391 (45.8)	236 (49.9)	14 (53.8)	8,506
Medicaid	4,465 (33.8)	2,077 (26.3)	1,025 (20.7)	516 (15.1)	339 (12.8)	172 (10.8)	70 (8.2)	25 (5.3)	3 (11.5)	8,692
Worker's Compensation	1,035 (7.8)	582 (7.4)	373 (7.5)	281 (8.2)	211 (7.9)	117 (7.3)	51 (6.0)	23 (4.9)	0 (0.0)	2,673
Veterans Administration	90 (0.7)	64 (0.8)	55 (1.1)	28 (0.8)	36 (1.4)	32 (2.0)	23 (2.7)	10 (2.1)	1 (3.8)	339
Other Government	289 (2.2)	111 (1.4)	35 (0.7)	34 (1.0)	19 (0.7)	10 (0.6)	5 (0.6)	4 (0.8)	0 (0.0)	507
No Pay	181 (1.4)	31 (0.4)	20 (0.4)	21 (0.6)	18 (0.7)	6 (0.4)	9 (1.1)	4 (0.8)	0 (0.0)	290
Private funds	310 (2.3)	202 (2.6)	109 (2.2)	79 (2.3)	55 (2.1)	48 (3.0)	11 (1.3)	9 (1.9)	0 (0.0)	823
Other	109 (0.8)	40 (0.5)	35 (0.7)	25 (0.7)	11 (0.4)	7 (0.4)	4 (0.5)	4 (0.8)	0 (0.0)	235
Total	13,217	7,910	4,946	3,427	2,657	1,595	854	473	26	35,105

Footnote: Exclude 20,157 records coded as “unknown/decline”. This variable was not collected between 2006 and 2011.

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	2,122 (46.0)	1,625 (49.9)	1,159 (46.7)	990 (44.5)	957 (44.9)	592 (42.0)	310 (38.5)	153 (32.7)	10 (38.5)	7,918
\$25,000-\$49,999	1,030 (22.3)	648 (19.9)	607 (24.5)	541 (24.3)	467 (21.9)	301 (21.3)	150 (18.6)	113 (24.1)	3 (11.5)	3,860
\$50,000-\$74,999	548 (11.9)	368 (11.3)	290 (11.7)	286 (12.9)	282 (13.2)	194 (13.7)	115 (14.3)	60 (12.8)	4 (15.4)	2,147
\$75,000 or more	715 (15.5)	479 (14.7)	340 (13.7)	348 (15.6)	370 (17.4)	300 (21.3)	199 (24.7)	116 (24.8)	6 (23.1)	2,873
Participant doesn't know	110 (2.4)	54 (1.7)	24 (1.0)	22 (1.0)	19 (0.9)	9 (0.6)	5 (0.6)	8 (1.7)	0 (0.0)	251
Declined	93 (2.0)	85 (2.6)	61 (2.5)	37 (1.7)	37 (1.7)	15 (1.1)	27 (3.3)	18 (3.8)	3 (11.5)	376
Total	4,618	3,259	2,481	2,224	2,132	1,411	806	468	26	17,425

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

Footnote 2: Exclude 15,843 unknown records. This variable was not collected between 2006 and 2011.

Footnote 3: Participant doesn't know/Declined was added in October 2011.

Table 51. Vertebral Injury.

	Vertebral Injury			
n (%)	No	Yes	Unkn	Total
Total	1,193 (21.0)	4,456 (78.5)	29 (0.5)	5,678

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

Footnote 2: 2 records with missing data were excluded.

Table 52. Associated Injury

	Associated Injury			
n (%)	No	Yes	Unkn	Total
Total	3,417 (60.2)	2,228 (39.2)	34 (0.6)	5,679

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

Footnote 2: 1 record with missing data was excluded.

Table 53. Spinal Surgery

	Spinal Surgery			
n (%)	No	Yes	Unkn	Total
Total	1,222 (21.5)	4,426 (77.9)	31 (0.5)	5,679

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

Footnote 2: 1 record with missing data was excluded.

Table 54. Place of Residence at Time of Injury.

	Residence at Time of Injury									
n (%)	Private	Hospital	Nursing Home	Group Living	Correctional Institute	Hotel Motel	Homeless	Other	Unkn	Total
Total	13,026 (97.9)	21 (0.2)	33 (0.2)	98 (0.7)	10 (0.1)	18 (0.1)	68(0.5)	8 (0.1)	26 (0.2)	13,308

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	Hospital	Nursing Home	Group Living	Correctional Instit	Hotel Motel	Deceased	Homeless	Assisted Living	Other	Unkn	Total
Total	26,661 (87.3)	495 (1.6)	2,000 (6.6)	399 (1.3)	48 (0.2)	83 (0.3)	698 (2.3)	17 (0.1)	8 (0.0)	24 (0.1)	99 (0.3)	30,532

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
Private Residence	20,807 (91.3)	11,627 (93.7)	6,675 (95.5)	4,344 (96.3)	3,282 (96.9)	2,521 (97.1)	1,763 (97.0)	715 (97.4)	28 (100.0)
Hospital	121 (0.5)	25 (0.2)	5 (0.1)	3 (0.1)	2 (0.1)	4 (0.2)	1 (0.1)	0 (0.0)	0 (0.0)
Nursing Home	889 (3.9)	354 (2.9)	178 (2.5)	86 (1.9)	58 (1.7)	38 (1.5)	34 (1.9)	10 (1.4)	0 (0.0)
Group Living Situation	299 (1.3)	171 (1.4)	43 (0.6)	21 (0.5)	10 (0.3)	4 (0.2)	3 (0.2)	1 (0.1)	0 (0.0)
Correctional Institution	34 (0.1)	15 (0.1)	7 (0.1)	6 (0.1)	4 (0.1)	1 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Hotel/Motel	52 (0.2)	7 (0.1)	4 (0.1)	1 (0.0)	1 (0.0)	0 (0.0)	0 (0.0)	2 (0.3)	0 (0.0)
Homeless	26 (0.1)	2 (0.0)	2 (0.0)	2 (0.0)	3 (0.1)	1 (0.0)	2 (0.1)	1 (0.1)	0 (0.0)
Assisted Living	18 (0.1)	6 (0.0)	4 (0.1)	2 (0.0)	0 (0.0)	1 (0.0)	0 (0.0)	1 (0.1)	0 (0.0)
Other, Unclassified	19 (0.1)	11 (0.1)	1 (0.0)	2 (0.0)	2 (0.1)	2 (0.1)	6 (0.3)	0 (0.0)	0 (0.0)
Unknown	525 (2.3)	193 (1.6)	73 (1.0)	45 (1.0)	26 (0.8)	25 (1.0)	9 (0.5)	4 (0.5)	0 (0.0)
Total	22,790	12,411	6,992	4,512	3,388	2,597	1,818	734	28

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	108 (1.9)	5,488 (96.6)	51 (0.9)	33 (0.6)	5,680

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	167 (3.8)	180 (6.0)	220 (9.4)	190 (11.3)	165 (12.6)	436 (29.8)	536 (34.7)	255 (34.7)	5 (17.9)
Yes	4,210 (95.2)	2,775 (92.9)	2,106 (89.9)	1,486 (88.2)	1,136 (86.6)	1,013 (69.3)	990 (64.2)	476 (64.9)	23 (82.1)
Unknown	47 (1.1)	31 (1.0)	17 (0.7)	9 (0.5)	11 (0.8)	13 (0.9)	17 (1.1)	3 (0.4)	0 (0.0)
Total	4,424	2,986	2,343	1,685	1,312	1,462	1,543	734	28

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

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

	Year of Injury median (n)								
	1973-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	Overall
Total	20.0 (4,562)	15.0 (4,950)	2.0 (3,841)	1.0 (3,295)	1.0 (3,623)	5.0 (3,443)	8.0 (3,607)	8.0 (3,211)	7.0 (30,532)

Footnote: Eligibility criteria changed in 1987 & 2000.

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

	Year of Injury median (n)								
	1973-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	Overall
Total	24.0 (1,224)	23.0 (1,626)	19.0 (1,747)	15.0 (1,875)	13.0 (1,900)	13.0 (1,577)	12.0 (1,351)	11.0 (1,158)	16.0 (12,458)

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

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

	Year of Injury median (n)								
	1973-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	Overall
Total	98.0 (1,198)	86.0 (1,645)	73.0 (1,742)	58.0 (1,840)	44.0 (1,903)	42.0 (1,449)	38.0 (1,325)	36.0 (1,180)	56.0 (12,282)

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	1973-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	Overall
Tetraplegia, complete	27.0 (313)	30.0 (348)	24.0 (315)	26.0 (321)	24.0 (313)	24.0 (265)	23.0 (176)	19.0 (126)	25.0 (2,177)
Tetraplegia, incomplete	24.0 (323)	22.0 (509)	18.0 (542)	15.0 (483)	10.0 (545)	11.0 (482)	10.0 (487)	9.0 (487)	14.0 (3,858)
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 (9)	9.0 (243)
Paraplegia, complete	23.0 (327)	22.0 (401)	19.0 (408)	16.0 (513)	13.0 (482)	15.0 (353)	14.0 (287)	13.0 (214)	17.0 (2,985)
Paraplegia, incomplete	21.5 (218)	22.0 (325)	18.0 (381)	13.0 (378)	12.0 (363)	11.0 (271)	10.0 (291)	10.0 (260)	14.0 (2,487)
Paraplegia, minimal deficit	0.0 (0)	10.0 (7)	13.0 (29)	10.0 (71)	12.0 (39)	10.5 (26)	11.0 (12)	10.0 (7)	11.0 (191)
Normal, minimal deficit	19.0 (36)	18.0 (24)	12.0 (13)	10.0 (8)	10.0 (8)	9.0 (18)	13.0 (6)	9.0 (6)	15.0 (119)
Unknown	16.0 (4)	23.0 (7)	24.0 (17)	18.0 (25)	18.0 (91)	16.0 (125)	12.0 (80)	11.0 (49)	15.0 (398)
Total	24.0 (1,224)	23.0 (1,626)	19.0 (1,747)	15.0 (1,875)	13.0 (1,900)	13.0 (1,577)	12.0 (1,351)	11.0 (1,158)	16.0 (12,458)

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)

Neurologic Impairment	Year of Injury median (n)								Overall
	1973- 1979	1980- 1984	1985- 1989	1990- 1994	1995- 1999	2000- 2004	2005- 2009	2010- 2014	
Tetraplegia, complete	142.0 (293)	121.0 (349)	111.0 (289)	99.0 (307)	71.0 (327)	65.5 (244)	62.0 (165)	54.0 (127)	97.0 (2,101)
Tetraplegia, incomplete	104.0 (333)	95.0 (526)	85.0 (548)	75.0 (465)	51.0 (544)	44.0 (471)	36.0 (489)	36.0 (501)	58.0 (3,877)
Tetraplegia, minimal deficit	0.0 (0)	41.0 (5)	22.0 (41)	25.5 (78)	14.0 (59)	23.0 (29)	17.0 (8)	10.0 (10)	22.0 (230)
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 (220)	53.0 (3,065)
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 (263)	41.0 (2,502)
Paraplegia, minimal deficit	0.0 (0)	19.0 (7)	33.0 (28)	27.0 (66)	19.0 (41)	19.0 (23)	14.0 (12)	9.0 (6)	21.0 (183)
Normal, minimal deficit	38.5 (6)	43.0 (9)	10.0 (5)	12.5 (8)	10.0 (9)	15.0 (11)	19.0 (3)	7.5 (6)	15.0 (57)
Unknown	132.0 (1)	88.0 (4)	115.0 (8)	36.0 (15)	31.0 (67)	35.5 (66)	44.0 (59)	35.0 (47)	38.0 (267)
Total	98.0 (1,198)	86.0 (1,645)	73.0 (1,742)	58.0 (1,840)	44.0 (1,903)	42.0 (1,449)	38.0 (1,325)	36.0 (1,180)	56.0 (12,282)

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 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	274 (0.9)	573 (2.0)	942 (3.3)	4,273 (14.8)	4,418 (15.3)	3,010 (10.4)	1,477 (5.1)	547 (1.9)	74 (0.3)	15,588 (53.9)

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	435 (1.5)	357 (1.2)	574 (2.0)	1,136 (3.9)	777 (2.7)	834 (2.9)	589 (2.0)	796 (2.8)	558 (1.9)	1,220 (4.2)	1,036 (3.6)	1,820 (6.3)	31 (0.1)	10,163 (35.2)

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 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	1,421 (4.9)	747 (2.6)	513 (1.8)	239 (0.8)	108 (0.4)	9 (0.0)	3,037 (10.5)

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	55 (0.2)	33 (0.1)	7 (0.0)	12 (0.0)	11 (0.0)	1 (0.0)	119(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	5,892 (19.3)	9,635 (31.6)	408 (1.3)	7,524 (24.6)	5,682 (18.6)	322 (1.1)	178 (0.6)	891 (2.9)	30,532

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	2,713 (21.0)	4,209 (32.5)	181 (1.4)	3,226 (24.9)	2,115 (16.3)	105 (0.8)	73 (0.6)	325 (2.5)	12,947
Violence	796 (15.0)	705 (13.3)	35 (0.7)	2,245 (42.4)	1,286 (24.3)	80 (1.5)	11 (0.2)	143 (2.7)	5,301
Sports	1,163 (37.1)	1,473 (47.0)	41 (1.3)	178 (5.7)	191 (6.1)	16 (0.5)	19 (0.6)	50 (1.6)	3,131
Falls	923 (13.8)	2,642 (39.6)	130 (1.9)	1,258 (18.9)	1,301 (19.5)	90 (1.3)	60 (0.9)	264 (4.0)	6,668
Other	290 (11.8)	593 (24.1)	21 (0.9)	615 (25.0)	786 (32.0)	31 (1.3)	15 (0.6)	105 (4.3)	2,456
Unknown	7 (24.1)	13 (44.8)	0 (0.0)	2 (6.9)	3 (10.3)	0 (0.0)	0 (0.0)	4 (13.8)	29
Total	5,892	9,635	408	7,524	5,682	322	178 (0.6)	891	30,532

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.

Neurologic Category	Year of Injury								
	1973-1979	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	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)	399 (12.4)	5,892
Tetraplegia, incomplete	1,282 (28.1)	1,599 (32.3)	1,197 (31.2)	821 (24.9)	1,020 (28.2)	1,120 (32.5)	1,278 (35.4)	1,318 (41.0)	9,635
Tetraplegia, minimal deficit	4 (0.1)	13 (0.3)	62 (1.6)	115 (3.5)	89 (2.5)	61 (1.8)	48 (1.3)	16 (0.5)	408
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)	594 (18.5)	7,524
Paraplegia, incomplete	804 (17.6)	948 (19.2)	802 (20.9)	640 (19.4)	636 (17.6)	551 (16.0)	701 (19.4)	600 (18.7)	5,682
Paraplegia, minimal deficit	0 (0.0)	19 (0.4)	50 (1.3)	95 (2.9)	54 (1.5)	52 (1.5)	38 (1.1)	14 (0.4)	322
Normal	45 (1.0)	38 (0.8)	16 (0.4)	13 (0.4)	19 (0.5)	24 (0.7)	12 (0.3)	11 (0.3)	178
Unknown	7 (0.2)	17 (0.3)	25 (0.7)	41 (1.2)	149 (4.1)	194 (5.6)	199 (5.5)	259 (8.1)	891
Total	4,562	4,950	3,841	3,295	3,623	3,443	3,607	3,211	30,532

Footnote 1: Para & Tetra minimal deficit categories were added in 1987. Some records have been updated.

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

n(%)	Neurologic Category								Total
	Tetra Comp	Tetra Incomp	Tetra MinDef	Para Comp	Para Incomp	Para MinDef	Norm, MinDef	Unkn	
Total	3,361	5,128	343	4,579	3,328	282	277	5,492	22,790

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)	Motor Non-functional (C)	Motor Functional (D)	Recovered (E)	Unkn	Total
Total	13,416 (43.9)	3,261 (10.7)	3,659 (12.0)	8,791 (28.8)	178 (0.6)	1,227 (4.0)	30,532

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)	5,931 (45.7)	1,614 (13.1)	5,437 (41.9)
Sensory Incomplete (B)	1,597 (12.3)	499 (4.1)	1,296 (10.0)
Motor Non-functional (C)	1,790 (13.8)	684 (5.6)	1,507 (11.6)
Motor Functional (D)	2,404 (18.5)	1,090 (8.8)	4,061 (31.3)
Recovered (E)	0 (0.0)	3 (0.0)	122 (0.9)
Unknown	1,254 (9.7)	8,444 (68.5)	553 (4.3)
Total	12,976	12,334	12,976

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

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

ASIA Impairment Scale n(%)	Neurologic Level at Discharge									Total
	C01	C02	C03	C04	C05	C06	C07	C08	Unkn Cervic	
Complete (A)	122 (44.5)	223 (38.9)	340 (36.1)	1,696 (39.7)	1,550 (35.1)	1,164 (38.7)	517 (35.0)	164 (30.0)	19 (25.7)	5,795 (37.2)
Sensory Incomplete (B)	11 (4.0)	39 (6.8)	80 (8.5)	511 (12.0)	576 (13.0)	502 (16.7)	236 (16.0)	90 (16.5)	6 (8.1)	2,051 (13.2)
Non-functional Motor Incomplete (C)	31 (11.3)	61 (10.6)	144 (15.3)	630 (14.7)	535 (12.1)	354 (11.8)	182 (12.3)	59 (10.8)	7 (9.5)	2,003 (12.8)
Functional Motor Incomplete (D)	109 (39.8)	244 (42.6)	363 (38.5)	1,397 (32.7)	1,703 (38.5)	961 (31.9)	518 (35.1)	228 (41.7)	22 (29.7)	5,545 (35.6)
Unknown	1 (0.4)	6 (1.0)	15 (1.6)	39 (0.9)	54 (1.2)	29 (1.0)	24 (1.6)	6 (1.1)	20 (27.0)	194 (1.2)
Total	274	573	942	4,273	4,418	3,010	1,477	547	74	15,588

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

ASIA Impairment Scale n(%)	Neurologic Level at Discharge													
	T01	T02	T03	T04	T05	T06	T07	T08	T09	T10	T11	T12	Unkn Thorc	Total
Complete (A)	232 (53.3)	257 (72.0)	448 (78.0)	857 (75.4)	623 (80.2)	620 (74.3)	421 (71.5)	591 (74.2)	438 (78.5)	888 (72.8)	707 (68.2)	784 (43.1)	14 (45.2)	6,880 (67.7)
Sensory Only (B)	58 (13.3)	34 (9.5)	47 (8.2)	96 (8.5)	52 (6.7)	76 (9.1)	52 (8.8)	56 (7.0)	28 (5.0)	56 (4.6)	88 (8.5)	193 (10.6)	2 (6.5)	838 (8.2)
Motor Non-functional (C)	44 (10.1)	23 (6.4)	37 (6.4)	76 (6.7)	37 (4.8)	49 (5.9)	36 (6.1)	55 (6.9)	35 (6.3)	115 (9.4)	111 (10.7)	318 (17.5)	2 (6.5)	938 (9.2)
Motor Functional (D)	99 (22.8)	42 (11.8)	39 (6.8)	103 (9.1)	62 (8.0)	87 (10.4)	77 (13.1)	90 (11.3)	55 (9.9)	155 (12.7)	123 (11.9)	509 (28.0)	4 (12.9)	1,445 (14.2)
Unknown	2 (0.5)	1 (0.3)	3 (0.5)	4 (0.4)	3 (0.4)	2 (0.2)	3 (0.5)	4 (0.5)	2 (0.4)	6 (0.5)	7 (0.7)	16 (0.9)	9 (29.0)	62 (0.6)
Total	435	357	574	1,136	777	834	589	796	558	1,220	1,036	1,820	31	10,163

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

ASIA Impairment Scale n(%)	Neurologic Level at Discharge						
	L01	L02	L03	L04	L05	Unkn Lumbar	Total
Complete (A)	350 (24.6)	90 (12.0)	77 (15.0)	12 (5.0)	10 (9.3)	1 (11.1)	540 (17.8)
Sensory Only (B)	154 (10.8)	86 (11.5)	55 (10.7)	18 (7.5)	9 (8.3)	0 (0.0)	322 (10.6)
Motor Non-functional (C)	354 (24.9)	134 (17.9)	117 (22.8)	26 (10.9)	9 (8.3)	0 (0.0)	640 (21.1)
Motor Functional (D)	546 (38.4)	427 (57.2)	251 (48.9)	178 (74.5)	80 (74.1)	5 (55.6)	1,487 (49.0)
Unknown	17 (1.2)	10 (1.3)	13 (2.5)	5 (2.1)	0 (0.0)	3 (33.3)	48 (1.6)
Total	1,421	747	513	239	108	9	3,037

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

	ASIA Impairment Scale						
n(%)	Complete (A)	Sensory Incomplete (B)	Non-functional Motor Incomplete (C)	Functional Motor Incomplete (D)	Recovered (E)	Unknown	Total
Total	7,940 (34.8)	1,726 (7.6)	1,714 (7.5)	5,149 (22.6)	277 (1.2)	5,984 (26.3)	22,790

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	43.4 (5,419)	47.4 (5,964)	55.1 (6,158)

Footnote 1: 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	56.0	28.0	5,640	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.

Mean (n)	FIM Motor Total	
	Rehab Admit	Rehab Discharge
Total	25.5 (16,902)	54.8 (16,667)

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

Neurologic Category at Discharge Mean (n)	FIM Motor Total	
	Rehab Admit	Rehab Discharge
Tetraplegia, complete	15.0 (2,840)	28.6 (2,805)
Tetraplegia, incomplete	20.8 (5,573)	50.2 (5,504)
Tetraplegia, minimal deficit	36.2 (318)	77.9 (323)
Paraplegia, complete	30.3 (4,081)	65.0 (4,021)
Paraplegia, incomplete	34.2 (3,158)	69.5 (3,136)
Paraplegia, minimal deficit	41.6 (243)	78.6 (243)
Normal, minimal deficit	45.1 (63)	75.7 (64)
Unknown	25.0 (626)	50.4 (571)
Total	25.5 (16,902)	54.8 (16,667)

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 at Discharge and By Post-Injury Year

Neurologic Category	Post Injury Year mean (n)								
	1	5	10	15	20	25	30	35	40
Tetraplegia, complete	33 (1,419)	37.5 (1,041)	38 (831)	35.4 (767)	35.6 (679)	36.9 (542)	36.7 (365)	41.1 (160)	30.9 (7)
Tetraplegia, incomplete	64.5 (3,074)	64.7 (1,693)	64.4 (1,094)	61.6 (858)	59.3 (779)	60.3 (646)	59.7 (483)	60.3 (174)	64.4 (5)
Tetraplegia, minimal deficit	87.2 (45)	83.1 (17)	90.3 (4)	86.3 (4)	82 (1)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)
Paraplegia, complete	71.6 (2,100)	74.1 (1,555)	75.2 (1,227)	75.2 (1,061)	76.4 (945)	75.4 (716)	73.9 (483)	73.7 (200)	70 (9)
Paraplegia, incomplete	79.7 (1,654)	81.6 (926)	81.4 (643)	82.2 (551)	81.5 (500)	80.5 (393)	81.1 (279)	80.1 (131)	81 (4)
Paraplegia, minimal deficit	84 (25)	88 (17)	87.3 (3)	86 (2)	0.0 (0)	79 (1)	81 (1)	0.0 (0)	0.0 (0)
Normal, minimal deficit	86.7 (6)	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	63.5 (356)	68.1 (151)	64.4 (76)	64.4 (28)	64.8 (13)	67.3 (8)	77 (4)	80 (1)	0.0 (0)
Total	64.1 (8,679)	65.3 (5,400)	65 (3,878)	63.4 (3,271)	63.2 (2,917)	63 (2,306)	62.5 (1,615)	63.6 (666)	59.7 (25)

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

n (%)	Respirator Use at Rehab Admit				Respirator Use at System Discharge			
	No	Yes	Unkn	Total	No	Yes	Unkn	Total
Total	11,694 (88.0)	783 (5.9)	813 (6.1)	13,290	13,419 (99.2)	66 (0.5)	43 (0.3)	13,528

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

n (%)	Respirator Use at Rehab Admit				Respirator Use at System Discharge			
	No	Yes	Unkn	Total	No	Yes	Unkn	Total
Total	11,268 (73.2)	3,180 (20.7)	944 (6.1)	15,392	14,868 (93.3)	948 (5.9)	119 (0.7)	15,935

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

n (%)	Respirator Use - Tetraplegia				Respirator Use – Paraplegia			
	No	Yes	Unkn	Total	No	Yes	Unkn	Total
Total	8,289 (93.9)	312 (3.5)	231 (2.6)	8,832	7,965 (97.3)	18 (0.2)	206 (2.5)	8,189

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 by Male

Continued on next page

n (%)	Bladder Management at Discharge							
	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	480 (1.9)	3,508 (14.2)	9 (0.0)	254 (1.0)	10 (0.0)	2,800 (11.4)	565 (2.3)	5,095 (20.7)

*Footnote 1: * Codes were added November 1995.*

Footnote 2: 3 records with missing data were excluded.

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

n (%)	Bladder Management at Discharge							
	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	256 (1.0)	7 (0.0)	5,490 (22.3)	17 (0.1)	1,565 (6.4)	4,164 (16.9)	84 (0.3)	335 (1.4)
								24,639

*Footnote 1: *Codes were added November 1995.*

Footnote 2: 3 records with missing data were excluded.

Table 87. Method of Bladder Management at Discharge - Female*Continued on next page*

	Bladder Management at Discharge						
n (%)	None (diapers, etc.)	Indwelling Cath	Indwelling Cath, stoma*	Catheter free with ext collector, no sphincterotomy*	reflex stim, crede, external pressure	ICP only*	ICP-external collector, augmentation or continent diversion unknown
Total	185 (3.1)	1,672 (28.4)	4 (0.1)	1 (0.0)	159 (2.7)	1,135 (19.3)	1,224 (20.8)

*Footnote: *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)	194 (3.3)	1,219 (20.7)	6 (0.1)	84 (1.4)	5,887

*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	457 (2.5)	234 (2.4)	116 (2.1)	62 (1.7)	33 (1.2)	14 (0.7)	9 (0.6)	9 (1.6)	0 (0.0)
Indwelling Catheter	1,747 (9.5)	836 (8.4)	548 (9.8)	338 (9.3)	247 (9.0)	174 (8.4)	144 (10.0)	66 (11.4)	2 (9.5)
*Indwelling Catheter after augmentation	28 (0.2)	38 (0.4)	38 (0.7)	55 (1.5)	36 (1.3)	29 (1.4)	19 (1.3)	6 (1.0)	0 (0.0)
*Catheter Free with external collector, no sphincterotomy	352 (1.9)	310 (3.1)	310 (5.5)	311 (8.5)	302 (11.0)	256 (12.3)	122 (8.4)	39 (6.7)	2 (9.5)
*Catheter Free with external collector, with sphincterotomy	22 (0.1)	58 (0.6)	81 (1.4)	93 (2.6)	108 (3.9)	111 (5.3)	85 (5.9)	39 (6.7)	4 (19.0)
Catheter Free with external collector, sphincterotomy unknown	2,986 (16.2)	1,902 (19.1)	782 (14.0)	235 (6.5)	62 (2.3)	37 (1.8)	23 (1.6)	16 (2.8)	2 (9.5)
Crede, reflex stimulation, external pressure	459 (2.5)	212 (2.1)	85 (1.5)	52 (1.4)	42 (1.5)	42 (2.0)	25 (1.7)	10 (1.7)	0 (0.0)
*ICP only	2,948 (16.0)	1,742 (17.5)	1,116 (20.0)	813 (22.3)	562 (20.4)	363 (17.5)	252 (17.4)	99 (17.1)	3 (14.3)
*ICP with external collector	367 (2.0)	190 (1.9)	138 (2.5)	123 (3.4)	90 (3.3)	78 (3.8)	56 (3.9)	14 (2.4)	1 (4.8)
*ICP after augmentation or continent diversion	24 (0.1)	25 (0.3)	30 (0.5)	37 (1.0)	22 (0.8)	21 (1.0)	14 (1.0)	2 (0.3)	0 (0.0)
ICP unknown	2,863 (15.5)	874 (8.8)	312 (5.6)	100 (2.7)	30 (1.1)	9 (0.4)	9 (0.6)	3 (0.5)	0 (0.0)
Conduit	13 (0.1)	41 (0.4)	42 (0.8)	28 (0.8)	34 (1.2)	36 (1.7)	21 (1.5)	14 (2.4)	2 (9.5)
Suprapubic Cystotomy	1,564 (8.5)	1,426 (14.3)	952 (17.0)	771 (21.2)	711 (25.8)	553 (26.6)	383 (26.5)	149 (25.7)	1 (4.8)
Normal Micturition	3,995 (21.7)	1,764 (17.7)	897 (16.0)	533 (14.6)	409 (14.9)	303 (14.6)	243 (16.8)	103 (17.8)	4 (19.0)
Other	70 (0.4)	51 (0.5)	34 (0.6)	24 (0.7)	25 (0.9)	23 (1.1)	20 (1.4)	5 (0.9)	0 (0.0)
Unknown	526 (2.9)	254 (2.6)	108 (1.9)	67 (1.8)	38 (1.4)	30 (1.4)	20 (1.4)	5 (0.9)	0 (0.0)
Total	18,421	9,957	5,589	3,642	2,751	2,079	1,445	579	21

Footnote: * Codes were added November 1995.

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	189 (4.3)	102 (4.2)	46 (3.3)	31 (3.6)	10 (1.6)	14 (2.7)	11 (2.9)	5 (3.2)	0 (0.0)
Indwelling Catheter	1,032 (23.6)	590 (24.0)	320 (22.8)	207 (23.8)	153 (24.0)	128 (24.7)	85 (22.8)	32 (20.6)	2 (28.6)
*Indwelling Catheter after augmentation	14 (0.3)	22 (0.9)	18 (1.3)	18 (2.1)	12 (1.9)	6 (1.2)	8 (2.1)	2 (1.3)	0 (0.0)
Crede, reflex stimulation, external pressure	127 (2.9)	78 (3.2)	33 (2.4)	20 (2.3)	19 (3.0)	12 (2.3)	12 (3.2)	10 (6.5)	1 (14.3)
*ICP only	674 (15.4)	425 (17.3)	322 (23.0)	232 (26.7)	214 (33.6)	171 (33.0)	116 (31.1)	45 (29.0)	1 (14.3)
*ICP after augmentation or continent diversion	10 (0.2)	23 (0.9)	23 (1.6)	19 (2.2)	13 (2.0)	9 (1.7)	8 (2.1)	5 (3.2)	0 (0.0)
ICP unknown	771 (17.7)	299 (12.2)	126 (9.0)	45 (5.2)	9 (1.4)	6 (1.2)	3 (0.8)	1 (0.6)	0 (0.0)
Conduit	11 (0.3)	25 (1.0)	21 (1.5)	15 (1.7)	13 (2.0)	9 (1.7)	8 (2.1)	8 (5.2)	0 (0.0)
Suprapubic Cystotomy	228 (5.2)	230 (9.4)	139 (9.9)	98 (11.3)	71 (11.1)	60 (11.6)	39 (10.5)	19 (12.3)	1 (14.3)
Normal Micturition	1,183 (27.1)	590 (24.0)	311 (22.2)	161 (18.5)	109 (17.1)	95 (18.3)	73 (19.6)	25 (16.1)	1 (14.3)
Other	14 (0.3)	19 (0.8)	14 (1.0)	16 (1.8)	7 (1.1)	3 (0.6)	7 (1.9)	1 (0.6)	0 (0.0)
Unknown	113 (2.6)	51 (2.1)	30 (2.1)	8 (0.9)	7 (1.1)	5 (1.0)	3 (0.8)	2 (1.3)	1 (14.3)
Total	4,366	2,454	1,403	870	637	518	373	155	7

Footnote: *Codes were added November 1995.

Table 90. Use of Halo Device at Rehab Discharge

	Halo Device at Discharge			
n (%)	No	Yes	Unkn	Total
Total	5,544 (97.6)	59 (1.0)	76 (1.3)	5,679

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

Footnote 2: 1 record with missing data was excluded.

Table 91. Use of Thoracolumbosacral Orthosis at Rehab Discharge

	TLSO Device at Discharge			
n (%)	No	Yes	Unkn	Total
Total	5,089 (89.6)	496 (8.7)	94 (1.7)	5,679

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

Footnote 2: 1 record with missing data was excluded.

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

	BMI (kg/m ²)				
	Mean	Standard Deviation	N	Minimum	Maximum
Total	26.4	6.3	5,504	11.99	74.21

Footnote1: Data required for all Admissions to System since October 1, 2006.

Footnote2: 176 records with unknown values were excluded.

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	25.8 (1,882)	27.1 (651)	26.2 (385)	26.5 (305)	25.8 (249)	25.9 (228)	26.0 (137)	25.8 (77)	24.1(3)

Footnote1: Form II entered to the data base since January, 2007.

Footnote2: 12,598 records with unknown values were excluded..

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	14,464 (63.5)	8,548 (68.9)	5,015 (71.7)	3,295 (73.0)	2,463 (72.7)	1,913 (73.7)	1,293 (71.1)	499 (68.0)	15 (53.6)
1	5,069 (22.2)	2,315 (18.7)	1,213 (17.3)	742 (16.4)	579 (17.1)	440 (16.9)	321 (17.7)	162 (22.1)	7 (25.0)
2	1,571 (6.9)	647 (5.2)	337 (4.8)	214 (4.7)	172 (5.1)	124 (4.8)	102 (5.6)	39 (5.3)	3 (10.7)
3	515 (2.3)	244 (2.0)	120 (1.7)	76 (1.7)	63 (1.9)	48 (1.8)	40 (2.2)	19 (2.6)	2 (7.1)
4	196 (0.9)	95 (0.8)	46 (0.7)	33 (0.7)	34 (1.0)	25 (1.0)	16 (0.9)	5 (0.7)	0 (0.0)
5	93 (0.4)	36 (0.3)	10 (0.1)	13 (0.3)	11 (0.3)	5 (0.2)	4 (0.2)	1 (0.1)	0 (0.0)
6	39 (0.2)	16 (0.1)	17 (0.2)	4 (0.1)	6 (0.2)	3 (0.1)	4 (0.2)	0 (0.0)	0 (0.0)
> 6	28 (0.1)	9 (0.1)	6 (0.1)	10 (0.2)	3 (0.1)	1 (0.0)	7 (0.4)	1 (0.1)	0 (0.0)
Unknown # of Rehospitalizations	65 (0.3)	44 (0.4)	26 (0.4)	15 (0.3)	7 (0.2)	3 (0.1)	1 (0.1)	0 (0.0)	0 (0.0)
Status Unknown	750 (3.3)	457 (3.7)	202 (2.9)	110 (2.4)	50 (1.5)	35 (1.3)	30 (1.7)	8 (1.1)	1 (3.6)
Total	22,790	12,411	6,992	4,512	3,388	2,597	1,818	734	28

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	24.2 (7,046)	21.3 (3,144)	21.1 (1,639)	20.9 (1,018)	20.7 (819)	20.8 (616)	21.3 (482)	17.3 (221)	33.8 (12)

Footnote: Exclude those with unknown number of days rehospitalized or with no/unknown rehospitalizations (90,293 records).

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	148 (6.4)	81 (6.1)	72 (7.6)	52 (7.6)	51 (7.7)	24 (4.0)	11 (2.3)	12 (5.4)	0 (0.0)
Cancer	20 (0.9)	17 (1.3)	10 (1.1)	12 (1.8)	7 (1.1)	13 (2.1)	6 (1.2)	5 (2.3)	0 (0.0)
Endocrine/Nutrition Diseases	24 (1.0)	22 (1.7)	5 (0.5)	3 (0.4)	4 (0.6)	6 (1.0)	12 (2.5)	5 (2.3)	0 (0.0)
Diseases of the Blood	67 (2.9)	33 (2.5)	23 (2.4)	9 (1.3)	12 (1.8)	12 (2.0)	11 (2.3)	3 (1.4)	0 (0.0)
Mental Disorders	54 (2.3)	30 (2.3)	21 (2.2)	11 (1.6)	5 (0.8)	7 (1.2)	4 (0.8)	7 (3.2)	0 (0.0)
Diseases of the Nervous System	78 (3.4)	30 (2.3)	20 (2.1)	6 (0.9)	22 (3.3)	9 (1.5)	13 (2.7)	3 (1.4)	0 (0.0)
Diseases of the Circulatory System	273 (11.8)	107 (8.1)	78 (8.2)	54 (7.9)	47 (7.1)	41 (6.8)	51 (10.5)	17 (7.7)	2 (16.7)
Diseases of the Respiratory System	342 (14.8)	140 (10.6)	121 (12.8)	55 (8.0)	73 (11.0)	70 (11.6)	71 (14.6)	26 (11.7)	0 (0.0)
Diseases of the Digestive System	194 (8.4)	164 (12.4)	117 (12.3)	62 (9.1)	89 (13.4)	83 (13.7)	58 (11.9)	27 (12.2)	2 (16.7)
Diseases of the Genitourinary System	1,051 (45.5)	522 (39.5)	353 (37.2)	301 (44.0)	236 (35.6)	273 (45.0)	203 (41.8)	73 (32.9)	5 (41.7)
Childbirth and/or Complications of Childbirth	23 (1.0)	34 (2.6)	32 (3.4)	22 (3.2)	13 (2.0)	4 (0.7)	1 (0.2)	1 (0.5)	0 (0.0)
Diseases of the Skin	429 (18.6)	301 (22.8)	257 (27.1)	216 (31.6)	243 (36.7)	187 (30.9)	163 (33.5)	60 (27.0)	4 (33.3)
Disease of the Musculoskeletal System	210 (9.1)	117 (8.9)	104 (11.0)	62 (9.1)	51 (7.7)	58 (9.6)	61 (12.6)	33 (14.9)	3 (25.0)
Congenital anomalies	2 (0.1)	0 (0.0)	1 (0.1)	0 (0.0)	1 (0.2)	4 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)
Symptoms and Ill-defined conditions	95 (4.1)	42 (3.2)	21 (2.2)	22 (3.2)	12 (1.8)	14 (2.3)	13 (2.7)	6 (2.7)	0 (0.0)
Injuries and Poisonings	152 (6.6)	104 (7.9)	81 (8.5)	54 (7.9)	48 (7.2)	45 (7.4)	50 (10.3)	30 (13.5)	3 (25.0)
Inpatient Rehab Services	190 (8.2)	55 (4.2)	14 (1.5)	12 (1.8)	13 (2.0)	9 (1.5)	14 (2.9)	5 (2.3)	0 (0.0)
Other, Unclassified	438 (18.9)	210 (15.9)	150 (15.8)	119 (17.4)	104 (15.7)	59 (9.7)	54 (11.1)	14 (6.3)	0 (0.0)
Total participants	2,312	1,321	948	684	663	606	486	222	12

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	1,017 (10.2)	814 (12.8)	572 (12.4)	505 (13.3)	453 (13.8)	357 (13.7)	226 (12.4)	82 (11.2)	0 (0.0)
Very Good	2,076 (20.7)	1,507 (23.7)	1,136 (24.6)	971 (25.5)	874 (26.6)	731 (28.1)	508 (27.9)	191 (26.0)	12 (42.9)
Good	3,155 (31.5)	2,102 (33.0)	1,539 (33.3)	1,344 (35.3)	1,154 (35.1)	929 (35.8)	636 (35.0)	258 (35.1)	10 (35.7)
Fair	1,701 (17.0)	1,053 (16.5)	764 (16.6)	567 (14.9)	511 (15.6)	404 (15.6)	308 (16.9)	149 (20.3)	2 (7.1)
Poor	547 (5.5)	264 (4.1)	184 (4.0)	119 (3.1)	103 (3.1)	79 (3.0)	92 (5.1)	40 (5.4)	2 (7.1)
Don't Know	26 (0.3)	18 (0.3)	7 (0.2)	7 (0.2)	2 (0.1)	2 (0.1)	3 (0.2)	0 (0.0)	0 (0.0)
Refuses	95 (0.9)	46 (0.7)	39 (0.8)	53 (1.4)	22 (0.7)	19 (0.7)	3 (0.2)	1 (0.1)	0 (0.0)
Unknown/Not Done/Under 18	1,399 (14.0)	562 (8.8)	375 (8.1)	244 (6.4)	167 (5.1)	76 (2.9)	42 (2.3)	13 (1.8)	2 (7.1)
Total	10,016	6,366	4,616	3,810	3,286	2,597	1,818	734	28

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	2,924 (32.7)	643 (11.4)	326 (7.9)	288 (8.5)	259 (8.6)	237 (9.1)	180 (9.9)	81 (11.0)	3 (10.7)
Somewhat Better	2,003 (22.4)	966 (17.1)	547 (13.3)	380 (11.2)	342 (11.4)	299 (11.5)	236 (13.0)	79 (10.8)	4 (14.3)
About the Same	1,565 (17.5)	2,750 (48.7)	2,273 (55.1)	1,923 (56.5)	1,683 (56.0)	1,516 (58.4)	987 (54.3)	371 (50.5)	15 (53.6)
Somewhat Worse	667 (7.5)	546 (9.7)	485 (11.8)	407 (11.9)	412 (13.7)	388 (14.9)	310 (17.1)	163 (22.2)	3 (10.7)
Much Worse	374 (4.2)	129 (2.3)	98 (2.4)	77 (2.3)	80 (2.7)	54 (2.1)	61 (3.4)	24 (3.3)	1 (3.6)
Don't Know	12 (0.1)	9 (0.2)	6 (0.1)	5 (0.1)	4 (0.1)	3 (0.1)	1 (0.1)	0 (0.0)	0 (0.0)
Refuses	103 (1.2)	47 (0.8)	43 (1.0)	54 (1.6)	27 (0.9)	22 (0.8)	2 (0.1)	2 (0.3)	0 (0.0)
Unknown/Not Done/Under 18	1,291 (14.4)	552 (9.8)	348 (8.4)	272 (8.0)	201 (6.7)	78 (3.0)	41 (2.3)	14 (1.9)	2 (7.1)
Total	8,939	5,642	4,126	3,406	3,008	2,597	1,818	734	28

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

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	18.7 (8,284)	20.6 (5,591)	21.3 (4,120)	21.9 (3,425)	22.4 (3,017)	22.8 (2,476)	23.0 (1,749)	23.5 (703)	24.6 (25)

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	70.6 (8,691)	76.5 (5,818)	78.0 (4,252)	80.7 (3,543)	83.6 (3,125)	83.0 (2,512)	83.6 (1,778)	87.7 (720)	86.7 (27)

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	73.2 (8,643)	77.1 (5,789)	78.5 (4,224)	79.4 (3,530)	79.4 (3,117)	79.0 (2,503)	76.5 (1,775)	76.9 (717)	70.8 (26)

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	48.8 (8,518)	58.4 (5,723)	60.6 (4,200)	63.1 (3,497)	65.2 (3,091)	66.8 (2,493)	65.0 (1,761)	63.2 (713)	52.5 (26)

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	86.3 (8,461)	86.2 (5,673)	86.4 (4,194)	87.2 (3,489)	87.5 (3,079)	87.5 (2,475)	86.4 (1,748)	86.7 (711)	82.9 (26)

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	3,482 (47.4)	2,541 (53.9)	1,990 (56.2)	1,553 (58.4)	1,519 (60.8)	1,448 (59.6)	1,038 (57.1)	413 (56.3)	19 (67.9)
Several days	1,685 (22.9)	1,027 (21.8)	730 (20.6)	526 (19.8)	487 (19.5)	547 (22.5)	419 (23.0)	171 (23.3)	3 (10.7)
More than half the days	512 (7.0)	352 (7.5)	255 (7.2)	183 (6.9)	148 (5.9)	144 (5.9)	130 (7.2)	61 (8.3)	3 (10.7)
Nearly every day	724 (9.9)	415 (8.8)	299 (8.4)	192 (7.2)	185 (7.4)	185 (7.6)	168 (9.2)	63 (8.6)	1 (3.6)
Declined	19 (0.3)	15 (0.3)	14 (0.4)	6 (0.2)	5 (0.2)	5 (0.2)	3 (0.2)	6 (0.8)	0 (0.0)
Unknown/Interview not done/Under 18	924 (12.6)	368 (7.8)	253 (7.1)	197 (7.4)	156 (6.2)	102 (4.2)	60 (3.3)	20 (2.7)	2 (7.1)
Total	7,346	4,718	3,541	2,657	2,500	2,431	1,818	734	28

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	3,330 (45.3)	2,655 (56.3)	2,047 (57.8)	1,576 (59.3)	1,570 (62.8)	1,577 (64.9)	1,145 (63.0)	443 (60.4)	19 (67.9)
Several days	1,960 (26.7)	1,056 (22.4)	777 (21.9)	579 (21.8)	514 (20.6)	482 (19.8)	411 (22.6)	172 (23.4)	6 (21.4)
More than half the days	458 (6.2)	261 (5.5)	181 (5.1)	144 (5.4)	115 (4.6)	118 (4.9)	84 (4.6)	47 (6.4)	0 (0.0)
Nearly every day	665 (9.1)	366 (7.8)	280 (7.9)	157 (5.9)	140 (5.6)	154 (6.3)	119 (6.5)	46 (6.3)	1 (3.6)
Declined	18 (0.2)	16 (0.3)	9 (0.3)	6 (0.2)	3 (0.1)	3 (0.1)	4 (0.2)	6 (0.8)	0 (0.0)
Unknown/Interview not done/Under 18	915 (12.5)	364 (7.7)	247 (7.0)	195 (7.3)	158 (6.3)	97 (4.0)	55 (3.0)	20 (2.7)	2 (7.1)
Total	7,346	4,718	3,541	2,657	2,500	2,431	1,818	734	28

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 (6,581)	4.5 (4,392)	4.4 (3,319)	4.4 (2,487)	4.2 (2,355)	4.2 (2,337)	4.3 (1,773)	4.2 (719)	4.3 (26)

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	1,665 (18.6)	1,171 (20.8)	981 (23.8)	906 (26.6)	858 (28.5)	811 (31.2)	529 (29.1)	212 (28.9)	7 (25.0)
A little bit	1,832 (20.5)	1,196 (21.2)	833 (20.2)	663 (19.5)	600 (19.9)	477 (18.4)	329 (18.1)	158 (21.5)	5 (17.9)
Moderately	1,187 (13.3)	809 (14.3)	582 (14.1)	452 (13.3)	436 (14.5)	376 (14.5)	295 (16.2)	120 (16.3)	3 (10.7)
Quite a bit	1,113 (12.5)	700 (12.4)	501 (12.1)	413 (12.1)	319 (10.6)	304 (11.7)	242 (13.3)	100 (13.6)	4 (14.3)
Extremely	560 (6.3)	410 (7.3)	263 (6.4)	188 (5.5)	146 (4.9)	120 (4.6)	92 (5.1)	33 (4.5)	2 (7.1)
Don't Know	16 (0.2)	5 (0.1)	3 (0.1)	2 (0.1)	3 (0.1)	1 (0.0)	2 (0.1)	1 (0.1)	0 (0.0)
Refuses	87 (1.0)	40 (0.7)	39 (0.9)	53 (1.6)	26 (0.9)	19 (0.7)	4 (0.2)	2 (0.3)	0 (0.0)
N/A, No Pain	1,185 (13.3)	708 (12.5)	535 (13.0)	426 (12.5)	398 (13.2)	405 (15.6)	280 (15.4)	91 (12.4)	5 (17.9)
Unknown/Not Done/Under 18	1,294 (14.5)	603 (10.7)	389 (9.4)	303 (8.9)	222 (7.4)	84 (3.2)	45 (2.5)	17 (2.3)	2 (7.1)
Total	8,939	5,642	4,126	3,406	3,008	2,597	1,818	734	28

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	3,201 (55.4)	2,323 (61.4)	1,915 (67.1)	1,511 (71.5)	1,416 (75.4)	1,558 (80.0)	1,451 (80.3)	595 (81.1)	21 (75.0)
Yes	2,090 (36.2)	1,258 (33.3)	823 (28.9)	484 (22.9)	359 (19.1)	326 (16.7)	317 (17.5)	133 (18.1)	6 (21.4)
Unknown/Not Done	488 (8.4)	202 (5.3)	114 (4.0)	119 (5.6)	102 (5.4)	64 (3.3)	40 (2.2)	6 (0.8)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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	3,468 (60.0)	2,479 (65.5)	2,028 (71.1)	1,571 (74.3)	1,463 (77.9)	1,587 (81.5)	1,487 (82.2)	606 (82.6)	23 (82.1)
Yes	1,819 (31.5)	1,097 (29.0)	710 (24.9)	420 (19.9)	312 (16.6)	296 (15.2)	281 (15.5)	121 (16.5)	4 (14.3)
Unknown/Not Done	492 (8.5)	207 (5.5)	114 (4.0)	123 (5.8)	102 (5.4)	65 (3.3)	40 (2.2)	7 (1.0)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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	3,473 (60.1)	2,452 (64.8)	1,967 (69.0)	1,538 (72.8)	1,443 (76.9)	1,573 (80.7)	1,460 (80.8)	602 (82.0)	23 (82.1)
Yes	1,817 (31.4)	1,127 (29.8)	773 (27.1)	452 (21.4)	331 (17.6)	311 (16.0)	308 (17.0)	125 (17.0)	4 (14.3)
Unknown/Not Done	489 (8.5)	204 (5.4)	112 (3.9)	124 (5.9)	103 (5.5)	64 (3.3)	40 (2.2)	7 (1.0)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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

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

Type of Mobility Aid	Post Injury Year n(%)								
	1	5	10	15	20	25	30	35	40
None	947 (16.4)	556 (14.7)	387 (13.6)	192 (9.1)	119 (6.3)	126 (6.5)	119 (6.6)	37 (5.0)	1 (3.6)
Straight Cane	556 (9.6)	339 (9.0)	263 (9.2)	156 (7.4)	125 (6.7)	113 (5.8)	114 (6.3)	56 (7.6)	4 (14.3)
Quad Cane	109 (1.9)	60 (1.6)	24 (0.8)	14 (0.7)	12 (0.6)	6 (0.3)	6 (0.3)	1 (0.1)	0 (0.0)
Walker	607 (10.5)	313 (8.3)	172 (6.0)	82 (3.9)	60 (3.2)	39 (2.0)	46 (2.5)	25 (3.4)	0 (0.0)
Crutches	179 (3.1)	131 (3.5)	93 (3.3)	69 (3.3)	71 (3.8)	65 (3.3)	70 (3.9)	32 (4.4)	2 (7.1)
Ankle-Foot Orthotic	174 (3.0)	118 (3.1)	99 (3.5)	81 (3.8)	57 (3.0)	43 (2.2)	52 (2.9)	29 (4.0)	1 (3.6)
Knee-Ankle-Foot Orthotic	131 (2.3)	78 (2.1)	59 (2.1)	36 (1.7)	38 (2.0)	37 (1.9)	23 (1.3)	13 (1.8)	1 (3.6)
Other	77 (1.3)	53 (1.4)	44 (1.5)	28 (1.3)	20 (1.1)	15 (0.8)	11 (0.6)	7 (1.0)	0 (0.0)
N/A, Patient Not Ambulatory	3,036 (52.5)	2,200 (58.2)	1,799 (63.1)	1,458 (69.0)	1,379 (73.5)	1,516 (77.8)	1,413 (78.2)	582 (79.3)	19 (67.9)
Unknown/Not Done	491 (8.5)	203 (5.4)	111 (3.9)	119 (5.6)	101 (5.4)	66 (3.4)	43 (2.4)	6 (0.8)	1 (3.6)
Total Participants	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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.

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	1,932 (33.4)	1,146 (30.3)	750 (26.3)	472 (22.3)	337 (18.0)	336 (17.2)	327 (18.1)	150 (20.4)	8 (28.6)
Yes	3,356 (58.1)	2,443 (64.6)	1,990 (69.8)	1,524 (72.1)	1,440 (76.7)	1,549 (79.5)	1,442 (79.8)	579 (78.9)	19 (67.9)
Unknown/Not Done	491 (8.5)	194 (5.1)	112 (3.9)	118 (5.6)	100 (5.3)	63 (3.2)	39 (2.2)	5 (0.7)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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	1,983 (34.3)	1,364 (36.1)	1,137 (39.9)	921 (43.6)	897 (47.8)	949 (48.7)	841 (46.5)	327 (44.6)	6 (21.4)
Power Wheelchair	1,267 (21.9)	1,003 (26.5)	788 (27.6)	572 (27.1)	509 (27.1)	563 (28.9)	558 (30.9)	235 (32.0)	12 (42.9)
Power-Assist Wheelchair	71 (1.2)	50 (1.3)	27 (0.9)	21 (1.0)	16 (0.9)	20 (1.0)	27 (1.5)	10 (1.4)	1 (3.6)
Scooter	12 (0.2)	16 (0.4)	24 (0.8)	8 (0.4)	14 (0.7)	14 (0.7)	14 (0.8)	5 (0.7)	0 (0.0)
Other	5 (0.1)	3 (0.1)	3 (0.1)	1 (0.0)	1 (0.1)	0 (0.0)	1 (0.1)	1 (0.1)	0 (0.0)
Non-user	1,932 (33.4)	1,146 (30.3)	750 (26.3)	472 (22.3)	337 (18.0)	336 (17.2)	327 (18.1)	150 (20.4)	8 (28.6)
Unknown/Not Done	509 (8.8)	201 (5.3)	123 (4.3)	119 (5.6)	103 (5.5)	66 (3.4)	40 (2.2)	6 (0.8)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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	1,498 (25.9)	825 (21.8)	614 (21.5)	423 (20.0)	400 (21.3)	421 (21.6)	387 (21.4)	157 (21.4)	9 (32.1)
Home Only	2,328 (40.3)	1,559 (41.2)	1,191 (41.8)	866 (41.0)	727 (38.7)	815 (41.8)	766 (42.4)	286 (39.0)	8 (28.6)
Outside Home Only	170 (2.9)	133 (3.5)	102 (3.6)	78 (3.7)	78 (4.2)	62 (3.2)	53 (2.9)	21 (2.9)	1 (3.6)
Both	1,242 (21.5)	1,059 (28.0)	818 (28.7)	624 (29.5)	578 (30.8)	581 (29.8)	563 (31.1)	264 (36.0)	9 (32.1)
Unknown/Not Done	541 (9.4)	207 (5.5)	127 (4.5)	123 (5.8)	94 (5.0)	69 (3.5)	39 (2.2)	6 (0.8)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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
Owens Computer Only	136 (2.4)	103 (2.7)	67 (2.3)	50 (2.4)	61 (3.2)	61 (3.1)	43 (2.4)	9 (1.2)	0 (0.0)
Daily	2,733 (47.3)	2,063 (54.5)	1,581 (55.4)	1,228 (58.1)	1,080 (57.5)	1,146 (58.8)	1,126 (62.3)	484 (65.9)	16 (57.1)
Weekly	626 (10.8)	423 (11.2)	333 (11.7)	196 (9.3)	174 (9.3)	185 (9.5)	139 (7.7)	57 (7.8)	2 (7.1)
Monthly	241 (4.2)	158 (4.2)	122 (4.3)	81 (3.8)	64 (3.4)	63 (3.2)	71 (3.9)	19 (2.6)	0 (0.0)
N/A, Doesn't own Computer	1,493 (25.8)	824 (21.8)	620 (21.7)	436 (20.6)	401 (21.4)	423 (21.7)	389 (21.5)	159 (21.7)	9 (32.1)
Unknown/Not Done	550 (9.5)	212 (5.6)	129 (4.5)	123 (5.8)	97 (5.2)	70 (3.6)	40 (2.2)	6 (0.8)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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	3,780 (65.4)	1,900 (50.2)	1,305 (45.8)	849 (40.2)	656 (34.9)	604 (31.0)	577 (31.9)	223 (30.4)	9 (32.1)
Car	427 (7.4)	465 (12.3)	405 (14.2)	339 (16.0)	332 (17.7)	365 (18.7)	310 (17.1)	122 (16.6)	2 (7.1)
Van	886 (15.3)	962 (25.4)	822 (28.8)	638 (30.2)	630 (33.6)	749 (38.4)	717 (39.7)	308 (42.0)	15(53.6)
Other	141 (2.4)	205 (5.4)	138 (4.8)	127 (6.0)	123 (6.6)	126 (6.5)	104 (5.8)	48 (6.5)	1 (3.6)
Combination	10 (0.2)	31 (0.8)	48 (1.7)	35 (1.7)	35 (1.9)	35 (1.8)	62 (3.4)	26 (3.5)	0 (0.0)
Unknown/Not Done	535 (9.3)	220 (5.8)	134 (4.7)	126 (6.0)	101 (5.4)	69 (3.5)	38 (2.1)	7 (1.0)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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	850 (14.7)	654 (17.3)	467 (16.4)	300 (14.2)	259 (13.8)	327 (16.8)	291 (16.1)	112 (15.3)	2 (7.1)
Yes, From Wheelchair	87 (1.5)	176 (4.7)	202 (7.1)	160 (7.6)	182 (9.7)	230 (11.8)	245 (13.6)	101 (13.8)	10(35.7)
Yes, Not from wheelchair	522 (9.0)	830 (21.9)	744 (26.1)	676 (32.0)	677 (36.1)	717 (36.8)	656 (36.3)	290 (39.5)	6 (21.4)
N/A, Doesn't Own	3,780 (65.4)	1,900 (50.2)	1,305 (45.8)	849 (40.2)	656 (34.9)	604 (31.0)	577 (31.9)	223 (30.4)	9 (32.1)
Unknown/Not Done	540 (9.3)	223 (5.9)	134 (4.7)	129 (6.1)	103 (5.5)	70 (3.6)	39 (2.2)	8 (1.1)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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	980 (17.0)	694 (18.3)	565 (19.8)	405 (19.2)	384 (20.5)	434 (22.3)	405 (22.4)	137 (18.7)	5 (17.9)
Yes	4,276 (74.0)	2,879 (76.1)	2,157 (75.6)	1,585 (75.0)	1,395 (74.3)	1,446 (74.2)	1,364 (75.4)	591 (80.5)	22 (78.6)
Unknown/Not Done	523 (9.1)	210 (5.6)	130 (4.6)	124 (5.9)	98 (5.2)	68 (3.5)	39 (2.2)	6 (0.8)	1 (3.6)
Total	5,779	3,783	2,852	2,114	1,877	1,948	1,808	734	28

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	803 (18.2)	557 (18.6)	468 (20.0)	338 (20.1)	282 (21.5)	366 (25.0)	379 (24.6)	182 (24.8)	2 (7.1)
TV	1,742 (39.4)	1,334 (44.7)	1,140 (48.6)	794 (47.1)	620 (47.2)	778 (53.2)	846 (54.8)	339 (46.2)	13 (46.4)
Radio	362 (8.2)	280 (9.4)	297 (12.7)	210 (12.5)	155 (11.8)	193 (13.2)	232 (15.0)	94 (12.8)	1 (3.6)
Internet	1,993 (45.0)	1,506 (50.4)	1,190 (50.7)	859 (51.0)	692 (52.7)	734 (50.2)	818 (53.0)	400 (54.5)	13 (46.4)
Other print	905 (20.5)	706 (23.6)	555 (23.7)	382 (22.7)	296 (22.5)	313 (21.4)	337 (21.8)	168 (22.9)	5 (17.9)
Educational video, DVD/CDs	162 (3.7)	87 (2.9)	69 (2.9)	46 (2.7)	29 (2.2)	39 (2.7)	31 (2.0)	19 (2.6)	0 (0.0)
Others	1,488 (33.6)	880 (29.5)	605 (25.8)	435 (25.8)	312 (23.8)	300 (20.5)	325 (21.1)	94 (12.8)	0 (0.0)
*Conversations with family or friends	562 (12.7)	390 (13.1)	256 (10.9)	186 (11.0)	172 (13.1)	150 (10.3)	179 (11.6)	161 (21.9)	7 (25.0)
*Conversations with health professionals	983 (22.2)	632 (21.2)	432 (18.4)	321 (19.1)	278 (21.2)	231 (15.8)	277 (18.0)	229 (31.2)	14 (50.0)
No Access	152 (3.4)	99 (3.3)	96 (4.1)	76 (4.5)	57 (4.3)	46 (3.1)	58 (3.8)	26 (3.5)	1 (3.6)
Unknown	291 (6.6)	137 (4.6)	89 (3.8)	72 (4.3)	42 (3.2)	33 (2.3)	29 (1.9)	8 (1.1)	2 (7.1)
Total Participants	4,424	2,987	2,345	1,685	1,313	1,462	1,543	734	28

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.

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Spinal Cord Injury Model Systems

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