



Rick Hansen Institute
Institut Rick Hansen



Rick Hansen Spinal Cord Injury Registry:

SPECIAL REPORT 2011–2013



ACKNOWLEDGEMENTS

Thank you to the dedicated clinicians, researchers and coordinators who collect, analyze and input data into the Rick Hansen Spinal Cord Injury Registry (RHSCIR). We also wish to thank the 4,000+ individuals with traumatic spinal cord injury who have generously contributed their time and experiences to RHSCIR. The contributions of everyone involved are vital to improving our ability to provide care for those with spinal cord injuries and maximizing the potential for these individuals and others to reach the fullest recovery possible.



ABOUT THE RICK HANSEN SPINAL CORD INJURY REGISTRY

The Rick Hansen Spinal Cord Injury Registry (RHSCIR) is a pan-Canadian prospective observational registry of individuals sustaining a traumatic spinal cord injury who received treatment at any of 31 major Canadian acute care and rehabilitation hospitals. RHSCIR was initiated as a research study sponsored by the Rick Hansen Institute, and was developed to collect data on the epidemiology of traumatic spinal cord injuries, linking individuals with an SCI, clinicians, researchers, and health care administrators with the goal of improving both research and clinical practice for individuals with spinal cord injuries by facilitating the translation of research into clinical practice and promoting evidence-based best practices.

As of December 31, 2013, RHSCIR has a total of 4013 eligible participants with traumatic spinal cord injury (tSCI) enrolled since 2004. Participation has increased from 2 facilities reporting 69 cases in 2004 to 31 facilities reporting 582 cases in 2013, based on injury year. This special report includes data collected and analyzed during the 2011–2013 timeframe.



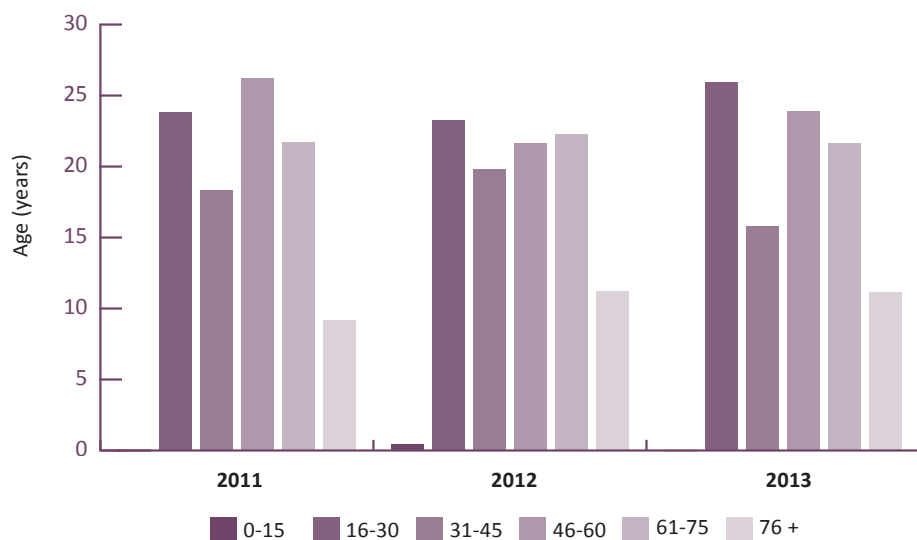
RHSCIR facilities are located in 15 cities across Canada



WHAT DOES THE POPULATION LOOK LIKE?

The mean age of RHSCIR participants was 49.6 years old in 2013, an increase from previous years. As the average age in Canada continues to increase, we expect this trend to continue.¹ The gender distribution is relatively unchanged since 2011, with males accounting for **79%** of all tSCI in 2013.

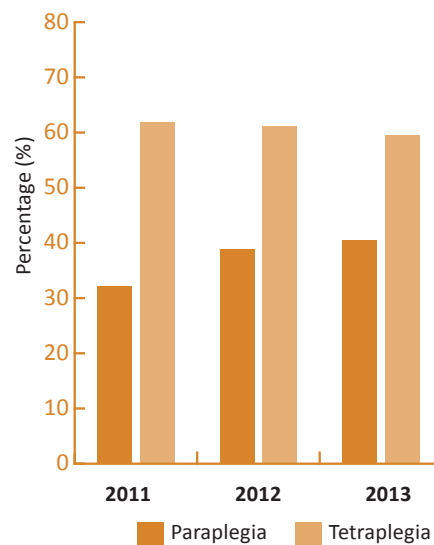
AGE GROUPS BY INJURY YEAR



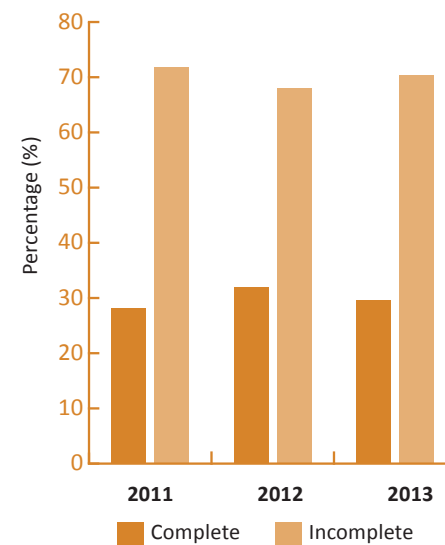
WHAT IS THE SEVERITY AND LEVEL OF INJURY?

RHSCIR data shows that tetraplegia is more common than paraplegia: approximately **60%** of all participants have some loss of sensation or movement in all four limbs. Incomplete injuries (individual retains some motor or sensory function below the injury) account for **70%** of all cases.

PARAPLEGIA VS. TETRAPLEGIA
(2011–2013)



COMPLETE VS. INCOMPLETE INJURIES
(2011–2013)



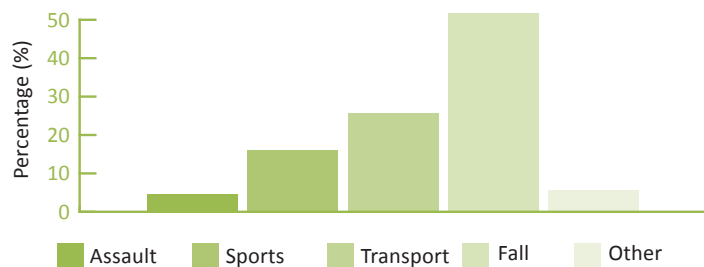
¹ According to Statistics Canada, **14.8%** of the population were ages 65 years and older in the 2011 census year. Over the next two census periods (2016 and 2021), 3 in 10 Canadians will fall in the 65+ age category.



HOW DOES THE INJURY OCCUR?

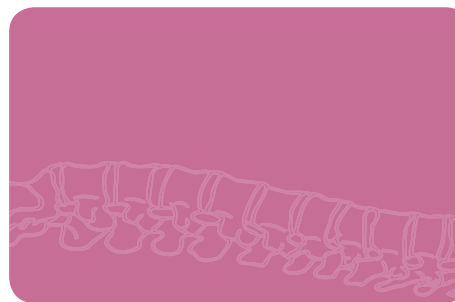
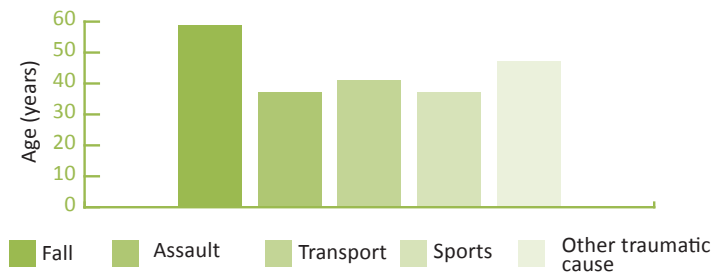
The mechanism of injury observed between 2011 and 2013 provides some background regarding how participants were injured. Falls were the most common mechanism, accounting for **48.2%** of all observed injuries. This is followed by transportation-related injuries (**29%**), sports-related injuries (**13.2%**), assault-related injuries (**4.6%**) and all other (5%).

MECHANISM OF INJURY (2011–2013)



The highest mean age (57.8 years old) is associated with falls, while the lowest mean age (37.2 years old) is associated with assault.

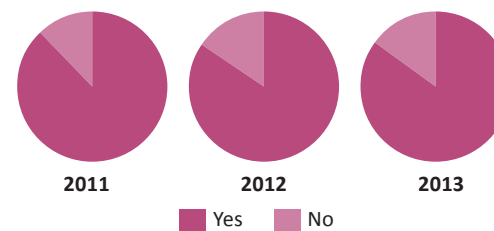
MEAN AGE AT INJURY BY MECHANISM OF INJURY (2011–2013)



WHERE DO PEOPLE GO AFTER INJURY TO RECEIVE TREATMENT?

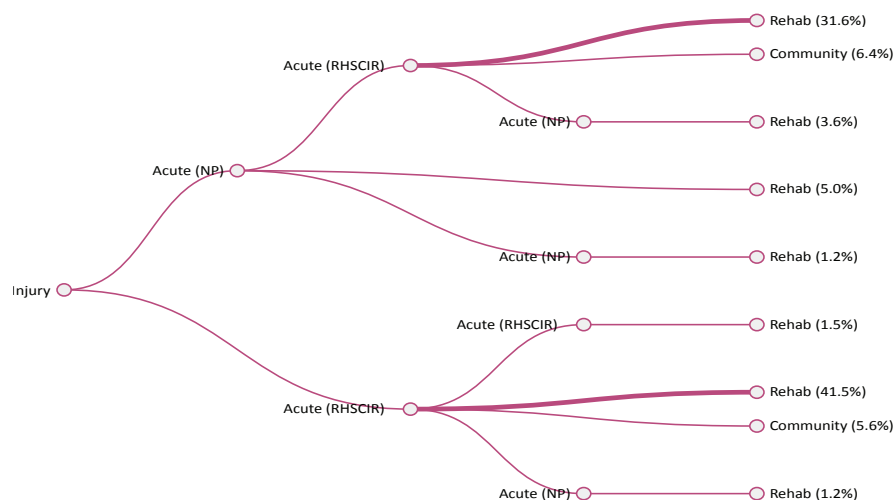
Most commonly, participants enrolled in RHSCIR are admitted to a non-designated spinal cord acute care centre prior to specialized care; and **85%** of all participants are admitted to a designated spinal cord acute care centre within one calendar day from injury.

ADMISSION TO DESIGNATED ACUTE CARE FACILITY WITHIN 1 CALENDAR DAY (%)





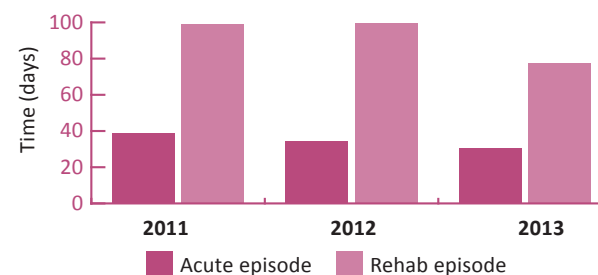
CARE PATHWAY VISUALIZATION (2011–2013)



Legend: **NP:** Non-Participating **RHSCIR:** Rick Hansen Spinal Cord Injury Registry
Where: Care pathway has more than 1% of participants (graphic represents 97% of data)

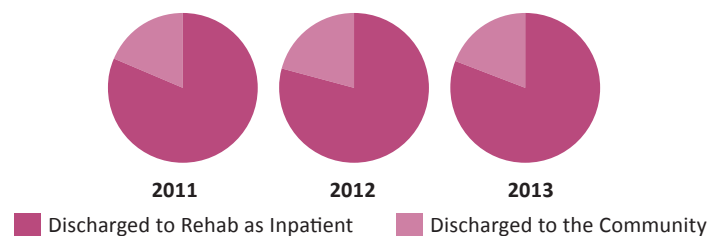
RHSCIR also captures length of stay in acute and rehab care, as well as discharge destinations from all RHSCIR facilities. For 2013, the mean number of days spent in acute care following a tSCI is 30 days, and often includes time at more than one acute care facility. Of participants with known discharge destinations from acute care, **81%** of participants were admitted to rehab care as an inpatient. The mean length of stay in rehab is approximately 77 days, after which the majority (**95%**) are discharged to the community.

MEAN LENGTH OF STAY SUMMARY BY INJURY YEAR IN DAYS (2011–2013)

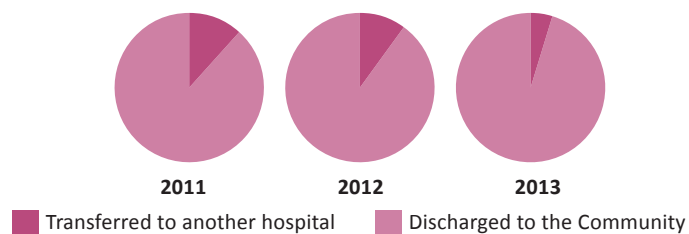


DISCHARGE DESTINATION BY YEAR (WHEN DISCHARGE DESTINATION KNOWN)

FROM ACUTE FACILITY (%)



FROM REHAB FACILITY (%)



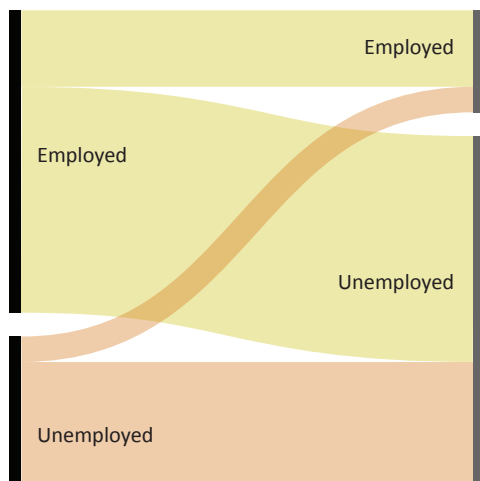


WHAT ARE THE SOCIAL IMPACTS, POST-INJURY?

Individuals sustaining a tSCI can expect a number of significant life changes. RHSCIR attempts to quantify some of these changes, including changes in: (1) employment status, (2) household income and (3) marital status, through follow-up interviews.

At the time of injury, **67%** of participants indicated they were currently employed, however only **25%** of this group remained employed one year post-discharge. Of the **33%** of participants unemployed at the time of injury, **17%** gained employment within one year after discharge.

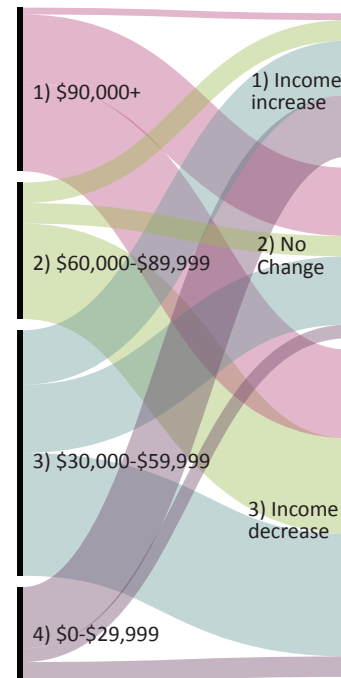
CHANGE IN EMPLOYMENT STATUS ONE YEAR POST-DISCHARGE (2013)



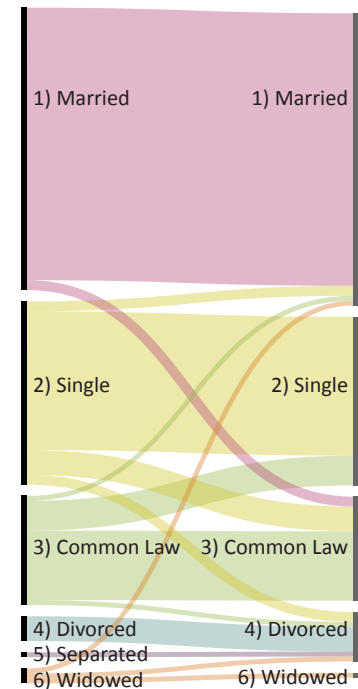
51% of participants indicated their household income had decreased one year post-discharge, **27%** reported no change and **22%** reported an increase in household income.

82% of participants reported no change in marital status one year post-discharge.

CHANGE IN HOUSEHOLD INCOME ONE YEAR POST-DISCHARGE (2013)



CHANGE IN MARITAL STATUS ONE YEAR POST-DISCHARGE (2013)





NUMBER OF PARTICIPANTS ANALYZED:

- **Data in this report is for 2011-2013**
 - Year 2011: 708 (380 expanded data set, 54%)
 - Year 2012: 687 (403 expanded data set, 59%)
 - Year 2013: 582 (319 expanded data set, 55%)
 - Years 2011–2013 combined: 1977 (1102 expanded data set, 56%)
- **Analysis**
 - Age: 1955
 - Gender: 1977
 - Para vs Tetra: 1230
 - Complete vs Incomplete: 1307
 - Mechanism of Injury: 1646
 - Mechanism of Injury by Age: 1625
 - Care Pathway: 982
 - Time to RHSCIR admission within 1 day: 1610
 - Discharge destinations from Acute: 1542
 - Discharge destinations from Rehab: 1275
 - Length of Stay in Acute: 1603
 - Length of Stay in Rehab: 1036
- **Number of interviews completed in 2013 one year from injury (social factors): 127**
 - Employment: 124
 - Income: 94
 - Marital Status: 125



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