

NZ Spinal Cord Injury Registry
Te Rēhita Whara Aho Tuaiwi ā-Motu

New Zealand Spinal Cord Injury Registry

Annual Summary Report 2025

In partnership with
PRAXIS
Spinal Cord Institute

The **New Zealand Spinal Cord Injury Registry (NZSCIR)** team gratefully acknowledges the 3,624 people with spinal cord injuries who have contributed their time and experiences to the Registry. We also acknowledge and thank all spinal service clinicians for their work and for contributing data to the Registry, and the Praxis Spinal Cord Institute for their ongoing Registry support and expertise.

We extend our thanks to statistician Arie Bates-Hermans for his specialist knowledge and contribution to the development of this report, and Jo Kinley from Hullaballoo Design for bringing our vision to life.

Finally, a big thank you to all the individuals who have given permission for their images to be included in this report.

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Spinal Cord Injury and the NZSCIR

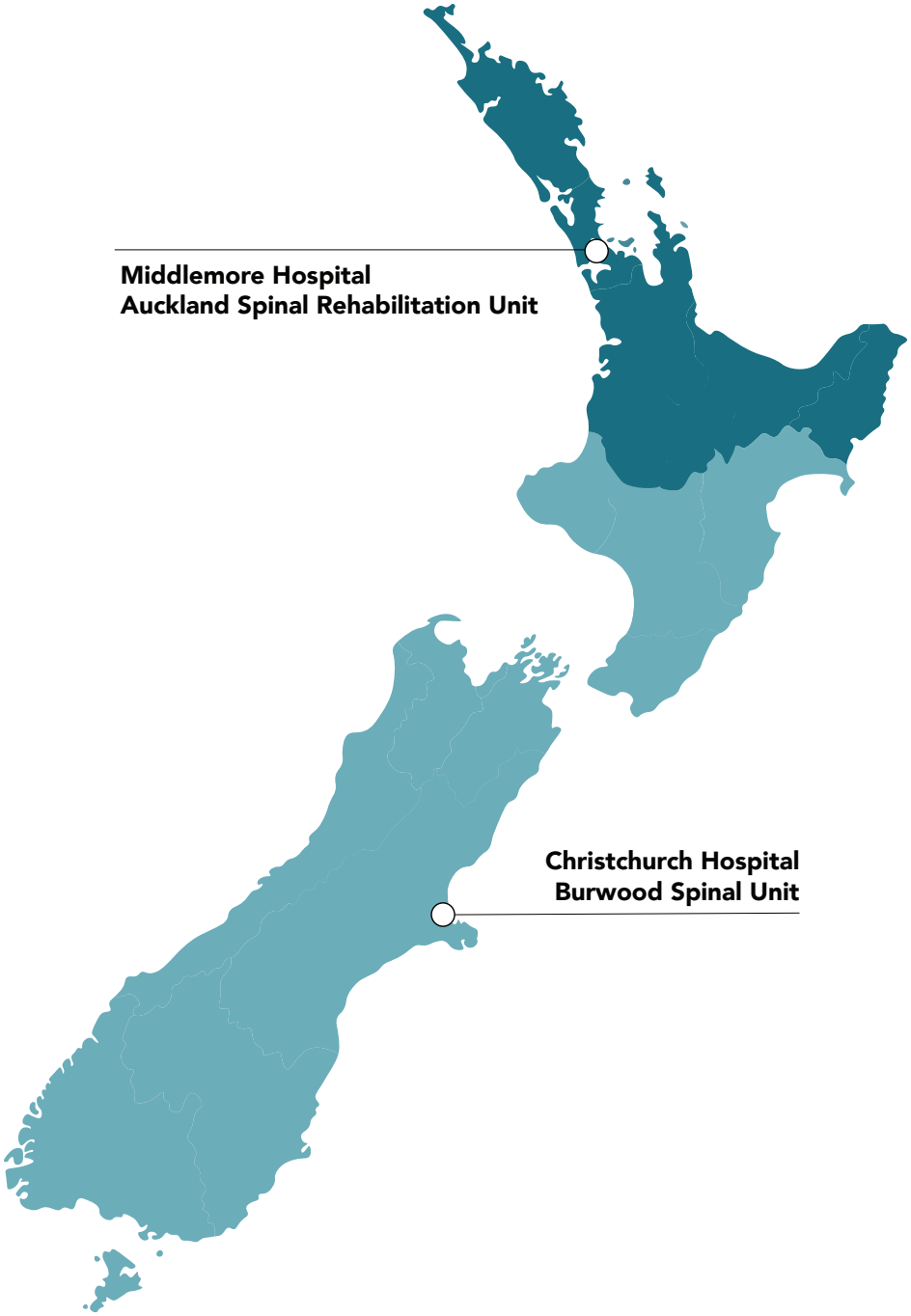
Spinal cord injury and impairment (SCI) is a relatively rare but complex condition that can have lifelong impacts on health, independence, participation and quality of life. In New Zealand, approximately 220 to 274 adults are diagnosed each year with either a **traumatic spinal cord injury (tSCI)** or a **non-traumatic spinal cord impairment (ntSCI)**, along with **cauda equina injuries (CEI)**. These conditions may result from sudden trauma or develop over time due to illness or underlying medical conditions.

SCI can affect people at any stage of life. Advances in acute and rehabilitative care have improved outcomes for many people living with SCI, however SCI remains a lifelong condition and health, rehabilitation and support needs can change over time.

The New Zealand Spinal Cord Injury Registry (NZSCIR) was established in August 2016 to improve understanding of SCI in Aotearoa New Zealand and support better outcomes for people living with SCI. The Registry provides a consistent source of information to inform clinical practice and service delivery, support continuous quality improvement and contribute to national and international research.

The NZSCIR is principally funded by the Accident Compensation Corporation (ACC) and supported by Health New Zealand | Te Whatu Ora, in partnership with the Praxis Spinal Cord Institute (Canada). Data is collected from adults who sustain a new tSCI or develop a new ntSCI and are admitted to one of New Zealand's two **supra-regional spinal services**: Auckland (Middlemore Hospital, Auckland Spinal Rehabilitation Unit [ASRU]) or Christchurch (Christchurch Hospital, Burwood Spinal Unit [BSU]). The Registry follows participants through their acute care, specialist rehabilitation (ASRU or BSU) and community-based follow-up.

The NZSCIR is overseen by a governance group representing consumers, clinicians, researchers, funders, and spinal service leaders. Day-to-day coordination is provided by registry coordinators at the two spinal centres, with administrative support from the NZ Spinal Trust. The NZSCIR operates under ethical approval from the Health and Disability Ethics Committee (HDEC). It enables the collection of a non-consented minimal data set, with additional data (including demographic information, complications, functional outcome measures and community follow-up) gathered through informed consent.



About this Report

The NZSCIR 2025 Annual Report provides an overview of data collected from 274 participants who either sustained a new tSCI or developed a new ntSCI and were admitted to one of New Zealand's two spinal services between 1 January and 31 December 2025.

The NZSCIR captures data on the majority of individuals who sustain or develop a SCI in Aotearoa New Zealand. It does not include the small number of people who are solely treated in regional hospitals and are not admitted to a supra-regional spinal service.

The report begins with an overview of the overall SCI population, followed by separate analyses of tSCI and ntSCI cohorts. It presents descriptive data on participant demographics, types and causes of SCI, hospital length of stay, functional outcomes and secondary complications following SCI.

NZSCIR annual reports are designed to inform research, clinical practice, policy development, and programme planning across the SCI sector.

To ensure privacy and confidentiality, strict statistical disclosure rules have been applied. Raw numbers (n) are provided where appropriate; however, where subgroup counts are fewer than five, raw numbers have been suppressed and only percentages reported. Due to rounding percentage totals may not add to exactly 100%.

Bolded terms throughout the report are defined in the glossary on page 22.

The NZSCIR governance group welcomes feedback or questions on this report.
Please contact NZSCIR Coordinators at either site:
cm-NZSCIR@tewhatuora.govt.nz or ct-NZSCIR@tewhatuora.govt.nz

More information about NZSCIR is available from www.nzscir.nz

New Zealand Spinal Trust
Te Tarahiti Manaaki Tuanui

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NZSCIR 2025 DATA AT A GLANCE

83%
of ntSCI participants had paraplegia/cauda equina

41%
of participants had a ntSCI

Lowest
PRIVATE RESIDENCE
discharges on record

31% of participants
WALKED INDEPENDENTLY
on discharge

Highest number
of SCI recorded since NZSCIR began

PERIOPERATIVE DATA
reported on for the first time

46%
of all participants were aged 61 years or older

Lowest percentage of
CANCERS
on record

10 more
participants than 2024

PACIFIC PEOPLES
are over-represented among SCI nationally

FALLS
remained the leading cause of tSCI

MĀORI
are over-represented among Auckland enrolments

Total 2025 NZSCIR participants

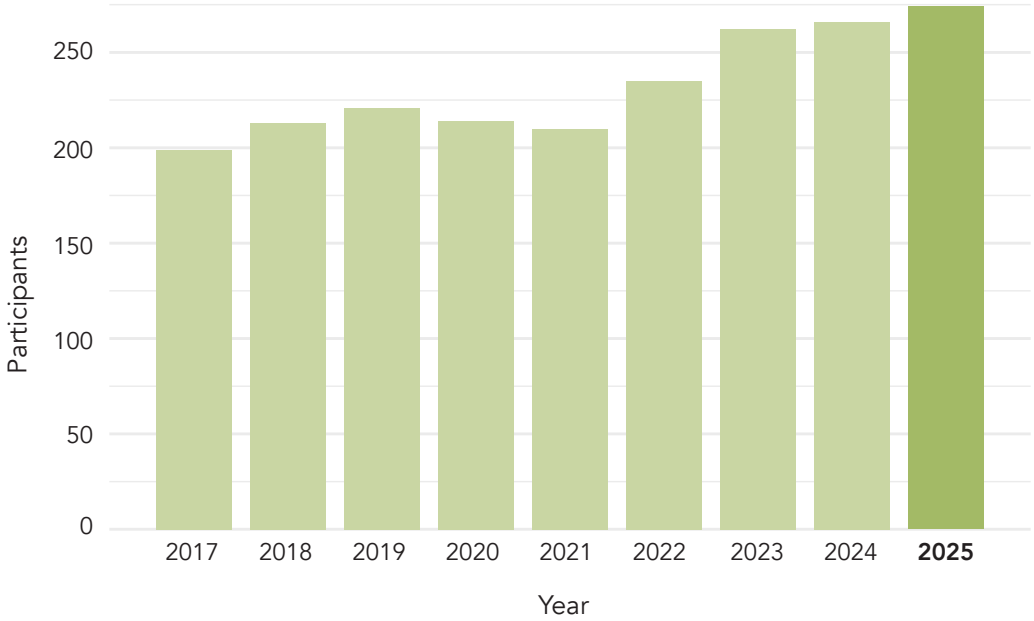
Since the Registry's establishment, the total number of individuals with SCI recorded each year has generally trended upward, rising from under 200 participants in 2017 to 274 in 2025 – the highest annual total since Registry records began. This is shown in Figure 1.

274
PARTICIPANTS 2025

Global incidence of SCI is estimated to be between 24 to 80 cases per million [1,2], with approximately half of those related to a traumatic injury. In 2025, the incidence of those who attended either spinal service was 51 per million (based on NZ population in 2025 – 5,339,400) [3]. This does not include those with SCI who were not admitted to these services but does include those with cauda equina.

*Please note, 2024 numbers quoted in this report differ from those previously published due to participants discharging after data was extracted for publication.

Figure 1: Total participants by calendar year (2017–2025)



Participants by facility

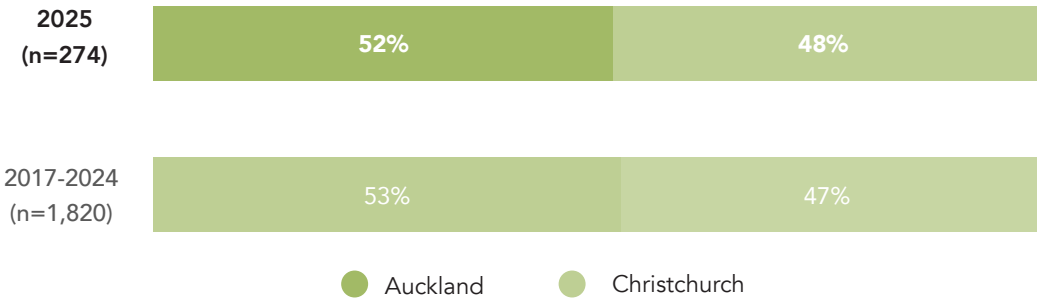
In 2025 Auckland enrolments increased by 20 compared with 2024, while Christchurch had 12 fewer participants than in 2024.

The number of participants receiving acute care only at Christchurch or Middlemore hospital and not attending specialist rehabilitation continued to increase in 2025 at both centres. Within this group, a greater proportion of tSCI participants attended acute care only in 2025 (26% compared with 20% in 2024), whereas the proportion of ntSCI participants attending acute care only decreased (24% compared with 28% in 2024).

Table 1: Participants attending supraspinal acute services only

	Middlemore Acute Only	Christchurch Acute Only
2025	**32 (22%)**	**37 (28%)**
2017-2024	181 (19%)	119 (14%)

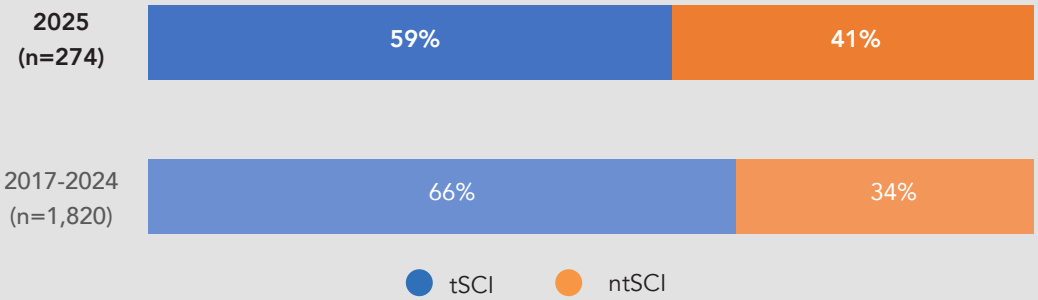
Figure 2: Total participants by facility (%)



Participants by SCI type

In 2025, 59% of participants had a tSCI and 41% had a ntSCI. This continues the trend seen in recent years of a growing proportion of ntSCI participants admitted to the spinal services and being enrolled in the Registry.

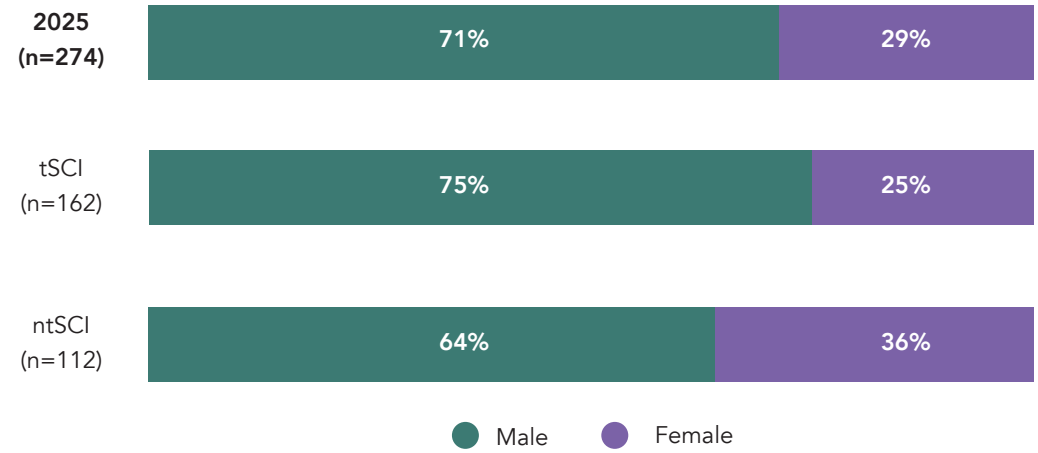
Figure 3: Total participants by type (%)



Participants by sex

In 2025, 71% of participants enrolled in the Registry were male. This is consistent with the pattern seen over 2017-2024. The male predominance across all years reflects the well-established higher incidence of SCI among males, seen in registries internationally [2]. This is more pronounced in the tSCI population compared with the ntSCI group, as seen in Figure 4.

Figure 4: Total participants by sex (%)



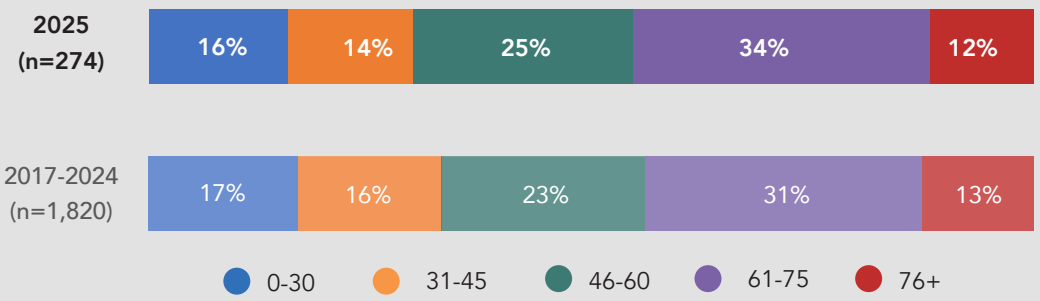
Participants by age

In 2025, the largest proportion of participants were aged 61-75 years, followed by those aged 46-60 years. These proportions are similar when compared with 2017-2024.

NZSCIR is primarily an adult registry, although participants as young as 14 years may be enrolled where this is deemed appropriate for rehabilitation at the specialist adult facilities.

The average age of all participants in 2025 was 54.4 years, with 46% of the cohort aged over 61 years.

Figure 5: Total participants by age (%)



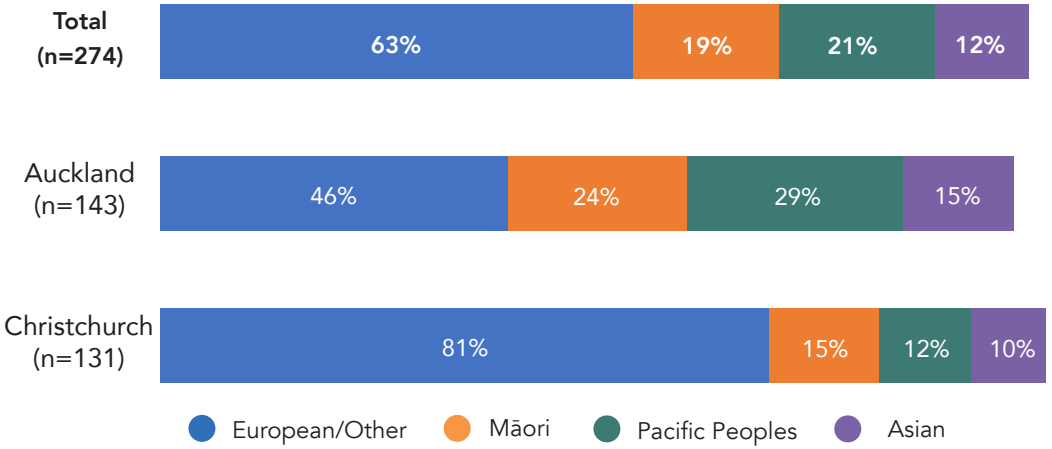
Participants by ethnicity

In accordance with the Ministry of Health's Ethnicity Data reporting protocols, NZSCIR reports total response ethnicity [4]. A person can belong to more than one ethnic group, and the NZSCIR caters for multiple responses. This method reports every ethnicity selected (i.e. in 2025, 274 participants recorded 297 responses). One single participant can have more than one 'ethnicity response' (e.g. Mr A identifies as Māori and Samoan, so records two ethnicity responses). This model supports the concept of self-identification where one can identify with more than one ethnicity.

In 2025, the majority of participants identified as European, followed by Māori, Pacific Peoples and Asian ethnicities. Ethnic diversity varied greatly between the two spinal centres, with Christchurch demonstrating a much larger proportion of European and Other (81%) compared with Auckland (46%).

Notably, Māori participants made up 24% of responses at Auckland and 15% in Christchurch, compared with Māori populations of 18% and 15% respectively in each region's catchment population. Pacific Peoples made up 29% of responses in Auckland and 12% in Christchurch, compared with Pacific Peoples populations of 9% and 4% respectively [5]. This suggests both Māori and Pacific Peoples are proportionally over-represented among Auckland enrolments relative to the general population. In Christchurch Pacific Peoples are also proportionally over-represented relative to the general population, whereas Māori enrolments are proportionate.

Figure 6: Total response ethnicity (%) by enrolling facility



*Percentages do not total 100%. Refer to text for details.


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Traumatic Spinal Cord Injury

Traumatic SCI results from an external physical event or accident, such as a fall, transport-related incident, sporting injury or peri-operative complication. In 2025, 162 participants sustained a tSCI, increasing from 158 in 2024 and accounting for 59% of all 2025 enrolments. While the number of tSCI admissions has remained relatively stable in recent years, the proportion of total enrolments has decreased from a peak of 73% in 2022 to 59% in 2025. This reflects the increasing number of ntSCI participants admitted to the supra-regional spinal centres over the same period.

162
tSCI 2025

Perioperative causes have been reported separately this year, having previously been grouped together with 'other', accounting for 12% of tSCI in 2025.

Figure 7: Comparison of tSCI by year

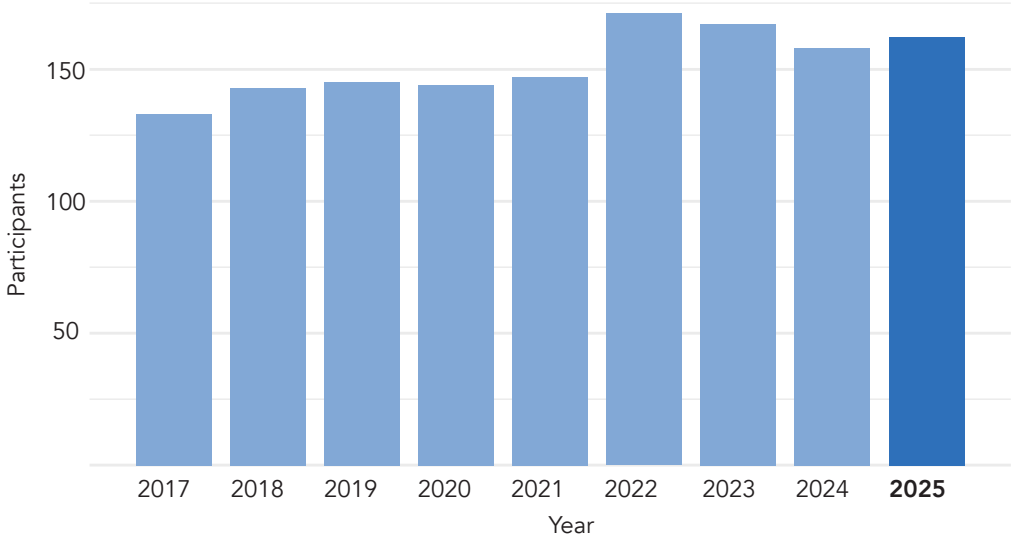


Table 2 shows the causes of tSCI sustained by those admitted to the spinal services in 2025.

Table 2: tSCI causes 2025 (n = 162)

Fall	Transport	Sports	Perioperative	Other
43%	**22%**	**14%**	**12%**	**9%**
n=70	n=36	n=23	n=19	n=14

Fall – includes anything from a slip on level ground to a fall from a height.

Transport – any injury sustained while using a vehicle for transport (e.g. accident involving a motor vehicle, motor bike, electric scooter or commuter pushbike), including pedestrians.

Sports – any sporting or leisure-related injury e.g. biking (e.g. mountain biking or road cycling), team ball sports (e.g. rugby), aero sports (e.g. paragliding), motor sports (e.g. motocross/dirt biking), water-related activities (e.g. accidents in the surf, pools or rivers), or power sports.

Perioperative – new or deterioration in neurological deficit attributable to a surgical procedure.

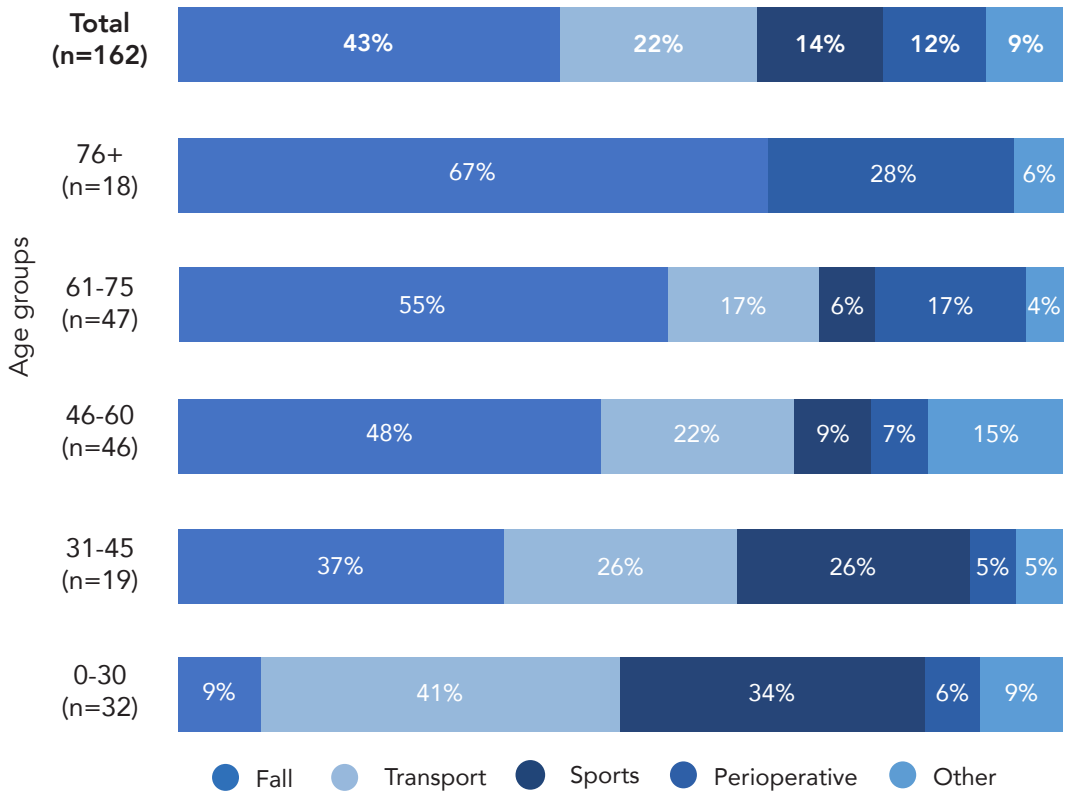
Other – includes assault, crushing/lifting injuries, or other non-classified causes.

Traumatic SCI by age

Traumatic causes are shown by age in Figure 8.

- In 2025 the average age of participants with a tSCI was 52.2 years.
- Falls remained the leading cause of tSCI in 2025, accounting for 43% of tSCI participants. This was consistent across most age groups but was particularly evident among older participants, with 67% of those aged 76+ and 55% of those aged 61-75 sustaining their injury from a fall.
- Compared with 2024, the proportion of tSCI resulting from falls increased by 13 percentage points, while sports injuries dropped by 9 percentage points, returning closer to levels seen before the spike in 2024.
- Sports injuries were most concentrated in the under 45 age groups. This peaked at 34% among 0–30-year-olds, and were notably absent among participants aged 76+.
- Perioperative causes were most prevalent amongst the older age group categories (17% for 61-75 and 28% for 76+).

Figure 8: Comparison of age group with cause of tSCI (%)





Non-traumatic Spinal Cord Impairment

A ntSCI occurs when the spinal cord is affected by an illness, medical condition or structural changes not related to trauma. Causes may include deterioration of the spinal column, infection, tumours, or disorders affecting the blood supply to the spinal cord. Unlike traumatic SCI, ntSCI may develop gradually, with symptoms progressing over time, although some causes can result in a sudden onset of neurological impairment. NZSCIR includes conditions that lead to lasting impairment of spinal cord function without an external physical cause.

112
ntSCI 2025

In 2025, 112 participants were admitted with ntSCI, accounting for 41% of participants. This represents the highest number and proportion recorded since the Registry began and maintains the upward trend observed in recent years (Figure 9). The number of participants admitted with ntSCI has increased substantially from 66 in 2017 to 112 in 2025, while the proportion of all admissions has increased from 33% to 41%. Vascular disorders have been reported separately in this report due to a gradually increasing trend seen in this group in recent years.

Figure 9: Comparison of ntSCI by year

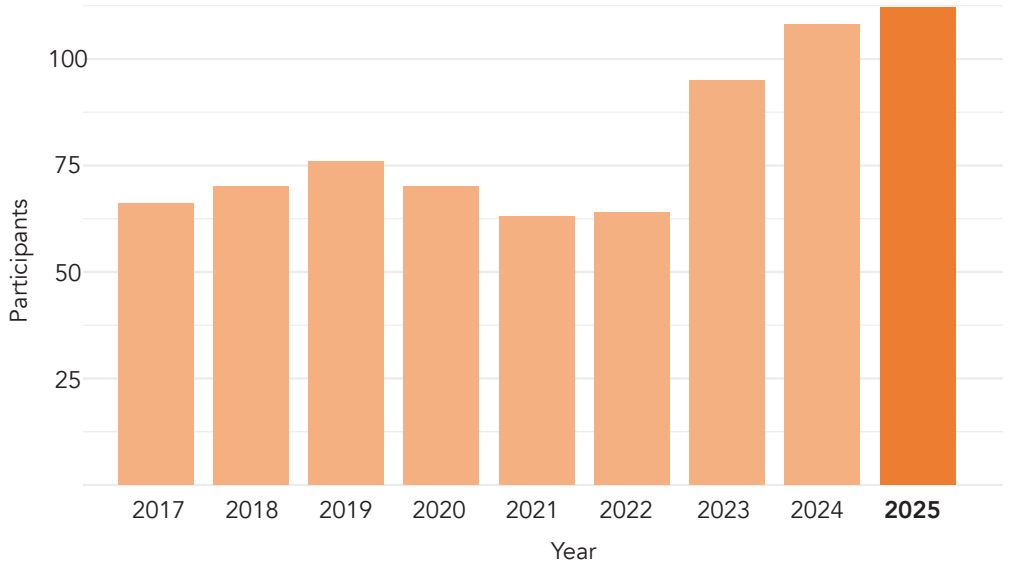


Table 3: ntSCI causes 2025 (n = 112)

Spinal Column Deterioration	Bacterial Infection	Other	Cancer	Vascular Disorders
40%	**18%**	**18%**	**12%**	**12%**
n=45	n=20	n=20	n=14	n=13

Spinal column deterioration – Any deterioration of the spinal column which protects the spinal cord can lead to spinal cord damage. This can include disc, ligament, joint or bony damage, including stenosis.

Cancer – any cancerous tumours or growths causing spinal cord damage or compression.

Bacterial infection – such as discitis or abscesses.

Vascular disorders – bleeds or lack of blood flow affecting the spinal cord.

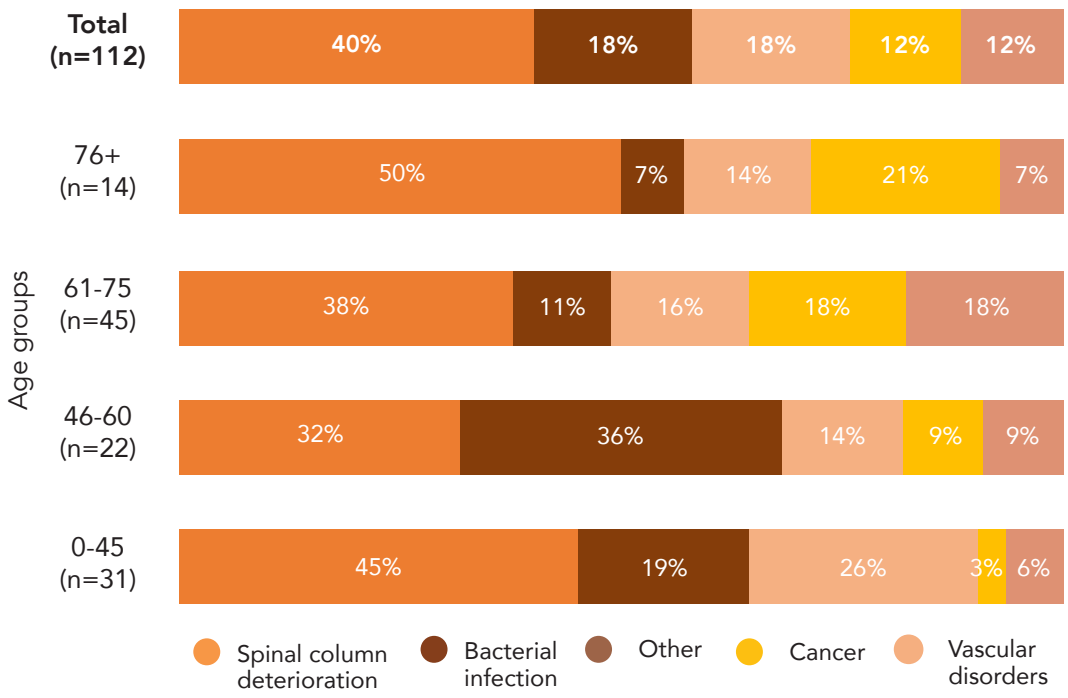
Other – e.g. non-cancerous/benign tumours, inflammatory/autoimmune disease, toxic causes.



Non-traumatic SCI by age

- In 2025 the average age of participants with a ntSCI was 57.4 years.
- Deterioration of the spinal column was the most common cause across all age groups except participants aged 46-60 years where bacterial infection was the leading cause.
- Deterioration of the spinal column peaked as a cause among those aged 76+ accounting for 50% of ntSCI.
- Cancerous tumours comprised 12% of ntSCI, demonstrating a significant reduction from the elevated total reported in 2024 (28%) and was the lowest total reported proportion for this group since 2017.
- Bacterial infection was most prevalent in the 46-60 age group, notably higher than in any other age band.
- Vascular disorders were most represented in the 61-75 age group.
- ntSCI of any cause were most prevalent in the 61-75 age band (n = 45).

Figure 10: Comparison of age group with cause of ntSCI (%)

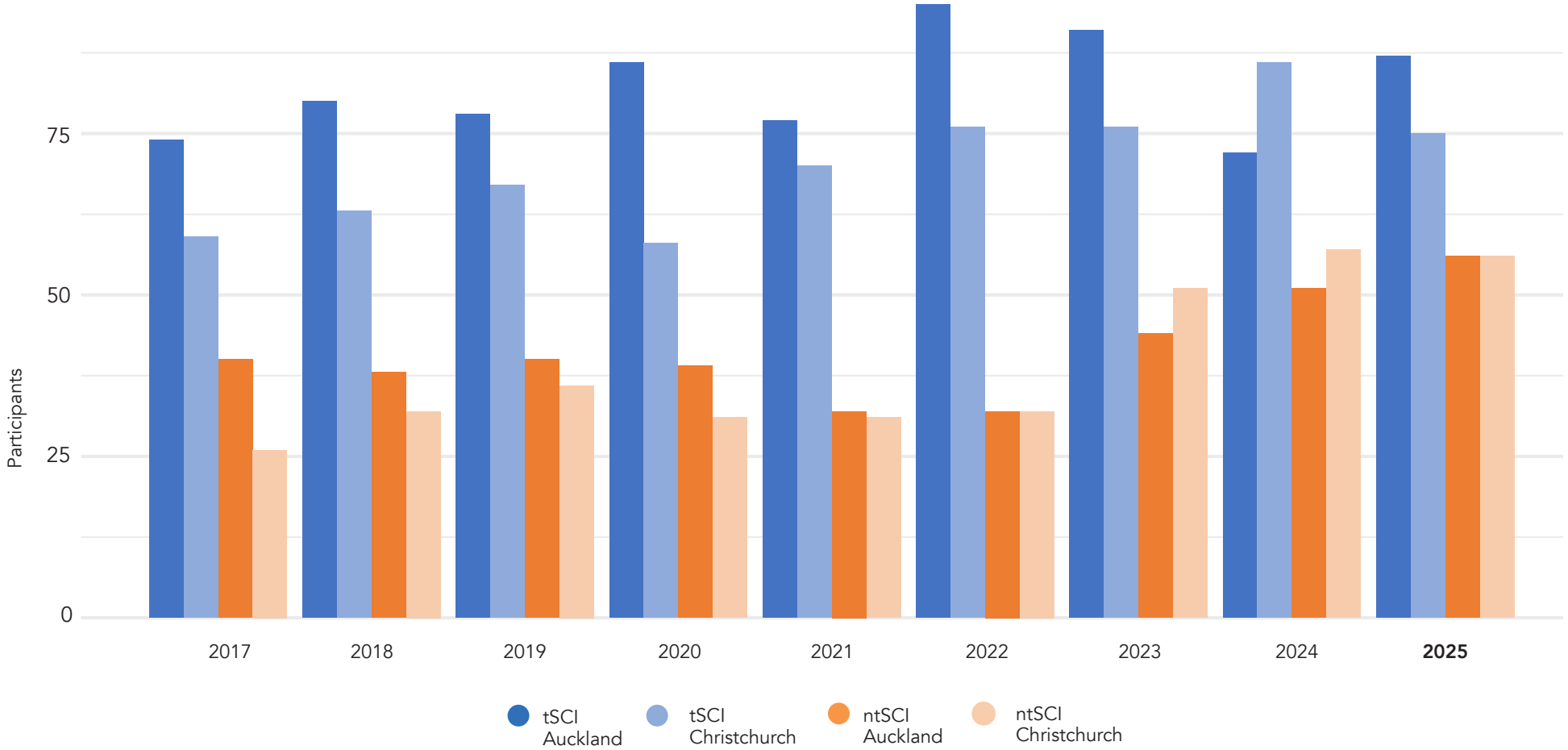




tSCI and ntSCI comparisons across services

- In Christchurch, both tSCI and ntSCI numbers decreased in 2025 compared with 2024.
- The number of participants admitted with ntSCI has increased at a faster relative rate than those with tSCI at both centres over the reporting period.
- In Auckland, those with tSCI rose to 87 in 2025 from a historically low 72 in 2024. This was a return to a level more consistent with previous years.

Figure 11: Comparison of tSCI & ntSCI admissions across services 2017-2025

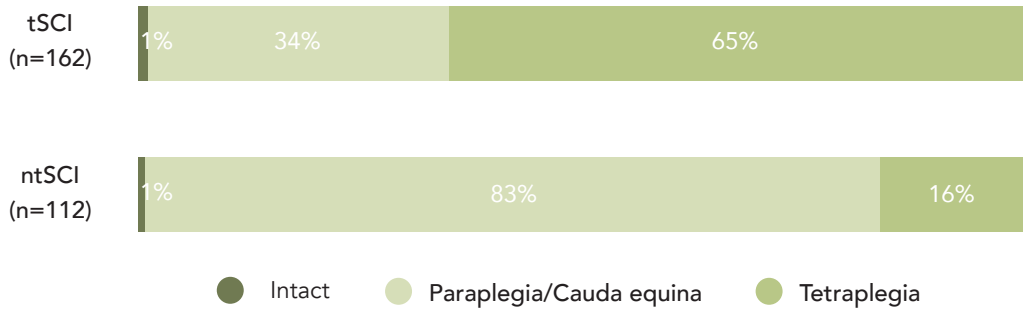


What is the severity & level of injury?

The spinal column has four regions: **cervical**, **thoracic**, **lumbar** and **sacral**. The level of injury identifies the lowest level of the spinal cord (from the head) that has normal movement and sensation. Figure 12 shows people grouped into those with tetraplegia and those with paraplegia (including cauda equina), based on their level of injury. **Tetraplegia** refers to partial or complete loss of movement and feeling in the arms, legs, body and breathing muscles as a result of a neck injury. **Paraplegia** indicates partial or complete loss of movement and feeling in the legs and lower body due to a spinal cord injury in the middle or lower back (thoracic, lumbar or sacral). All people with a SCI will likely have bowel, bladder and sexual function affected. People with incomplete injuries at any level may be able to stand or walk, depending on how their spinal cord was affected.

- Level of SCI differed markedly between tSCI and ntSCI participants. Among those with tSCI, the majority sustained tetraplegia (65%), with 34% sustaining paraplegia or CES.
- In contrast, ntSCI participants predominantly sustained paraplegia or CES (83%), while only 16% had tetraplegia.
- 2025 saw the highest proportion of ntSCI participants with paraplegia/cauda equina since Registry records began.

Figure 12: Last known level of SCI (%)



A participant's severity and level of injury are routinely assessed throughout their recovery, using the American Spinal Injury Association Impairment Scale (AIS) standardised assessment [6]. The extent of the severity of the injury is defined below:

Grade A: Impairment is complete; no motor or sensory function below injury level.

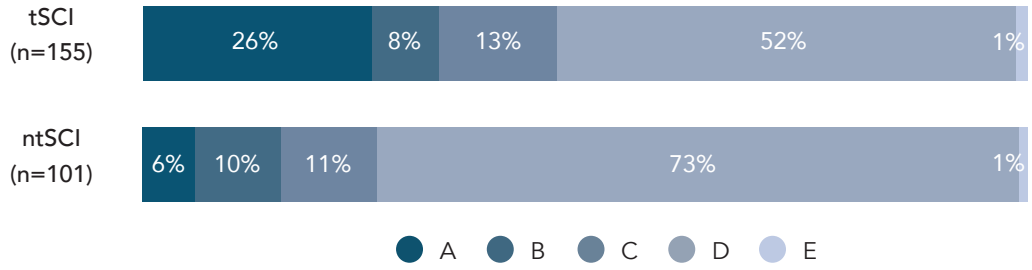
Grade B: Impairment is **incomplete**; sensory function, but not motor function, is preserved below the neurologic level (the first normal level above the level of injury) and some sensation is preserved in the **sacral** segments S4 and S5.

Grade C: Impairment is incomplete; some motor function is preserved below the neurologic level, but more than half of the key muscles below the neurologic level have a muscle grade less than 3 (i.e. insufficient strength to move against gravity).

Grade D: Impairment is incomplete; motor function is preserved below the neurologic level, and at least half of the key muscles below the neurologic level have a muscle grade of 3 or more (i.e. the joints can be moved against gravity).

Grade E: Participant's functions are normal; all motor and sensory functions are unhindered.

Figure 13: Last known severity of SCI (%)



The most common severity classification among 2025 participants was AIS D, although there were some clear differences between the tSCI and ntSCI groups.

- Almost three quarters of participants with ntSCI were classified as AIS D, compared with just over half of those with tSCI.
- In contrast, AIS A injuries were substantially more common among participants with tSCI compared with ntSCI, reflecting the greater proportion of complete injuries in the traumatic group.
- A small number of participants (1% in each group) were classified as AIS E, indicating they were discharged with no lasting neurological deficit.

Please note, data from 14 participants has been excluded from Figure 13 as the AIS classification could not be assessed.

What are the length of hospital stays?

NZSCIR captures the length of stay (LOS) in acute and rehabilitation settings. Medians are one way to show the middle point of data lists, but it is important to look at the whole range to understand the full picture, as shown by the box and whisker graphs in Figure 14.

Table 5 shows the median LOS at each spinal service in 2025 compared with 2024.

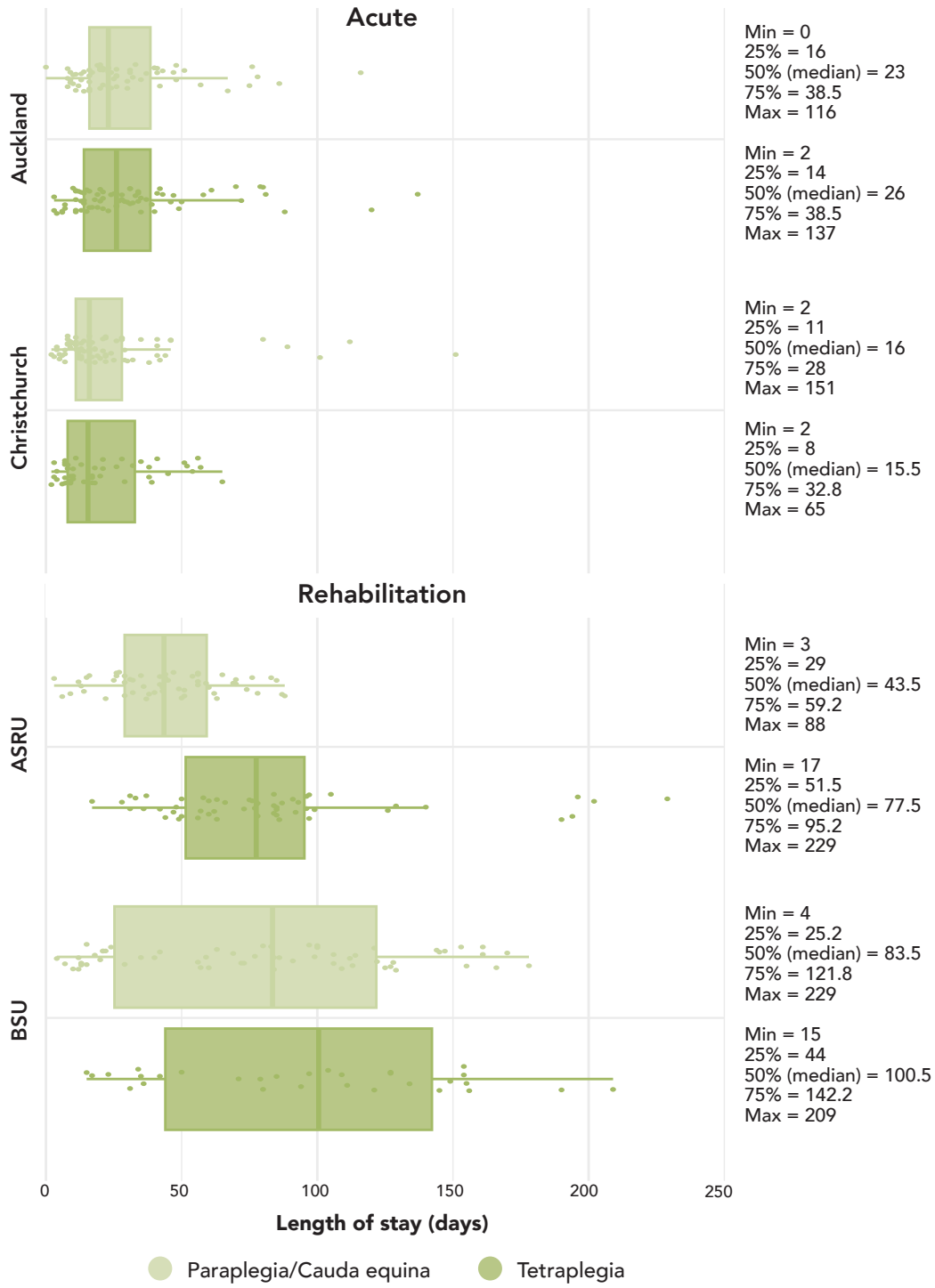
Table 5: Median LOS (days) comparison between 2025 and 2024

	Paraplegia		Tetraplegia	
	2025 median	Change	**2025 median**	Change
Auckland				
Acute	23	=	26	▲ 2
Rehab	43.5	▼ 4.5	77.5	▲ 2.5
Christchurch				
Acute	16	▲ 1	15.5	▲ 1.5
Rehab	83.5	▲ 31.5	100.5	▲ 32.5

The box-and-whisker plots (Figure 14) show considerable spread within each group, with a small number of extreme outliers. This is why medians, rather than means are used to summarise the 'typical' LOS.

- Median length of stay increased for most spinal service groups in 2025 compared with 2024, with the most notable increases occurring in Christchurch's rehabilitation LOS for both those with a paraplegia (increase of 31.5 days) and those with a tetraplegia (increase of 32.5 days).
- The median rehabilitation LOS in Christchurch exceeded Auckland for both paraplegia and tetraplegia, demonstrating a reversal in the pattern seen in 2024.
- Tetraplegia is associated with longer LOS than paraplegia across both facilities and both acute and rehabilitation settings.
- Rehabilitation stays are consistently and substantially longer than acute stays.
- Christchurch has a markedly larger interquartile range in the rehabilitation data compared with Auckland, showing much more variability in their LOS.

Figure 14: 2025 Length of stay



Where do people go after discharge from the spinal service?

NZSCIR captures discharge destination from the spinal service and whether this is temporary or permanent. Distinguishing between temporary and permanent discharge destinations provides important context and will be incorporated into future reporting.

The discharge destination options are:

Private residence – owned or rented house, flat, or apartment.

Hospital – ongoing rehabilitation and discharge planning at a regional hospital. As data collection stops on discharge from either spinal service, the NZSCIR does not collect the participants' discharge destination post-regional hospital discharge.

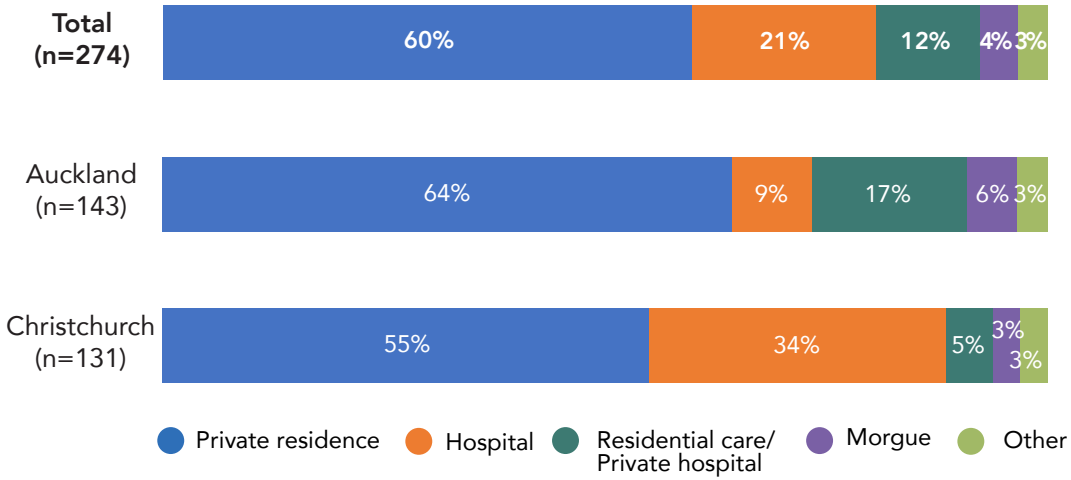
Residential care homes (RCH)/assisted living residence (ALR)/private hospital (PH) – includes nursing homes/rest homes (i.e. home where care is provided for those who require it) or private hospitals for long term hospital level care.

Morgue – those participants who died during spinal service admission.

Other – includes groups with numbers too small to report on, such as those discharged to a hotel/motel or a correctional institute and those with no permanent discharge destination.

- Most people discharge to a private residence, however in 2025 this number was lower than the previous five years. This coincides with the highest proportion of people discharging to a hospital since Registry records began.
- In Christchurch, 34% of participants discharged to another hospital. The Christchurch catchment spans a larger geographic area, and participants from more distant regions are often discharged to their local hospital to facilitate discharge planning closer to home. Historically Christchurch discharge to hospital numbers have always been approximately double those seen in Auckland, however in 2025 it was approximately 3.5 times the rate of Auckland.
- 4% of total participants were discharged to the morgue, in keeping with historical rates. However, Auckland reported double the number of discharges to the morgue compared with Christchurch (6% vs 3%).

Figure 15: Discharge destinations (%)





How many people have spinal surgery?

Surgery is one of the primary treatments in managing SCI, performed to decompress the spinal cord and stabilise the bony spine. Surgical rates for 2025 are shown in Figures 16 and 17:

- Overall, 76% of the total cohort underwent surgical intervention, while 24% were managed non-surgically.
- Surgery rates were broadly similar between injury types, with tSCI participants having surgical management slightly more often than ntSCI participants.
- Auckland reported a higher surgical intervention rate compared with Christchurch.

Figure 16: tSCI v ntSCI surgery rates (%)

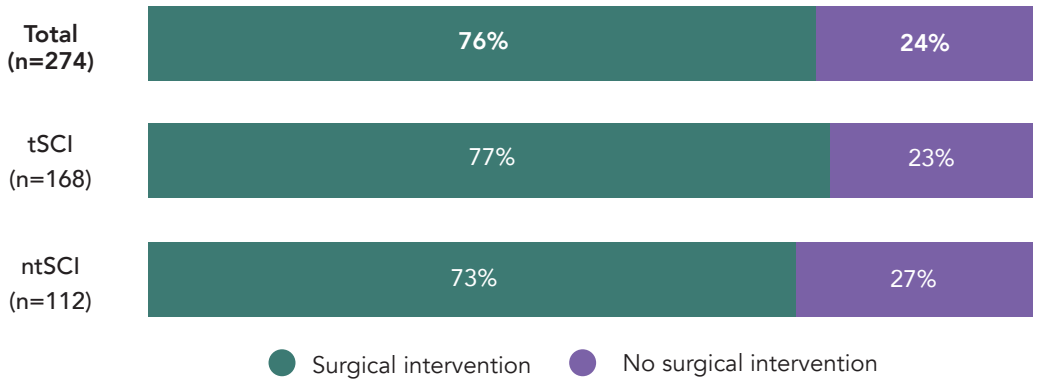
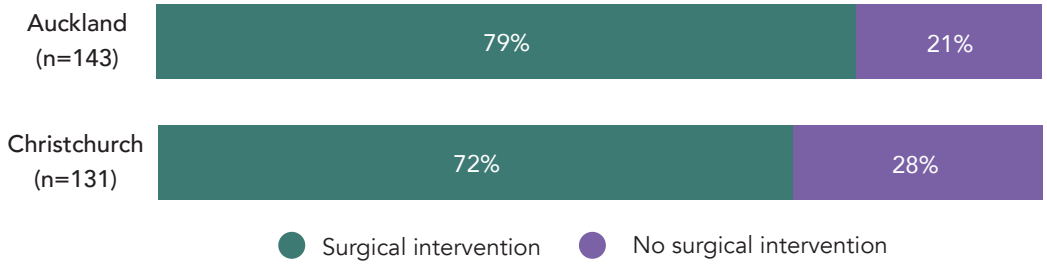


Figure 17: Surgery rates by facility

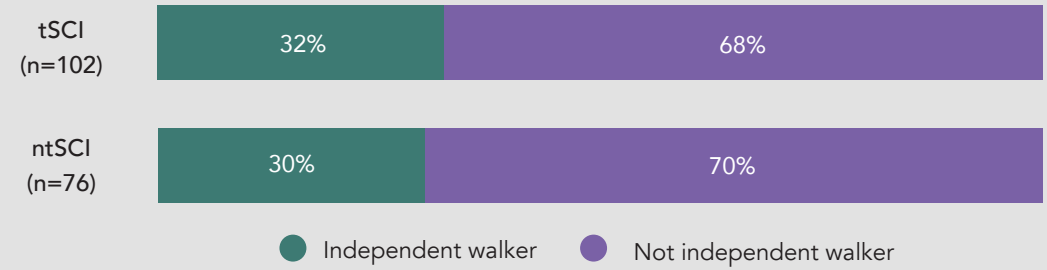


How many people walk on discharge?

NZSCIR defines an 'independent walker' as someone who can walk 100m outdoors unsupervised, with or without a mobility aid.

- At rehab discharge, 31% of participants were classified as independent walkers, while the remaining 69% were not independent walkers.
- Independent walking rates were similar between injury types, with 32% of tSCI participants and 30% of ntSCI participants achieving independent walker status in 2025.

Figure 18: Independent mobility on rehab discharge (%)



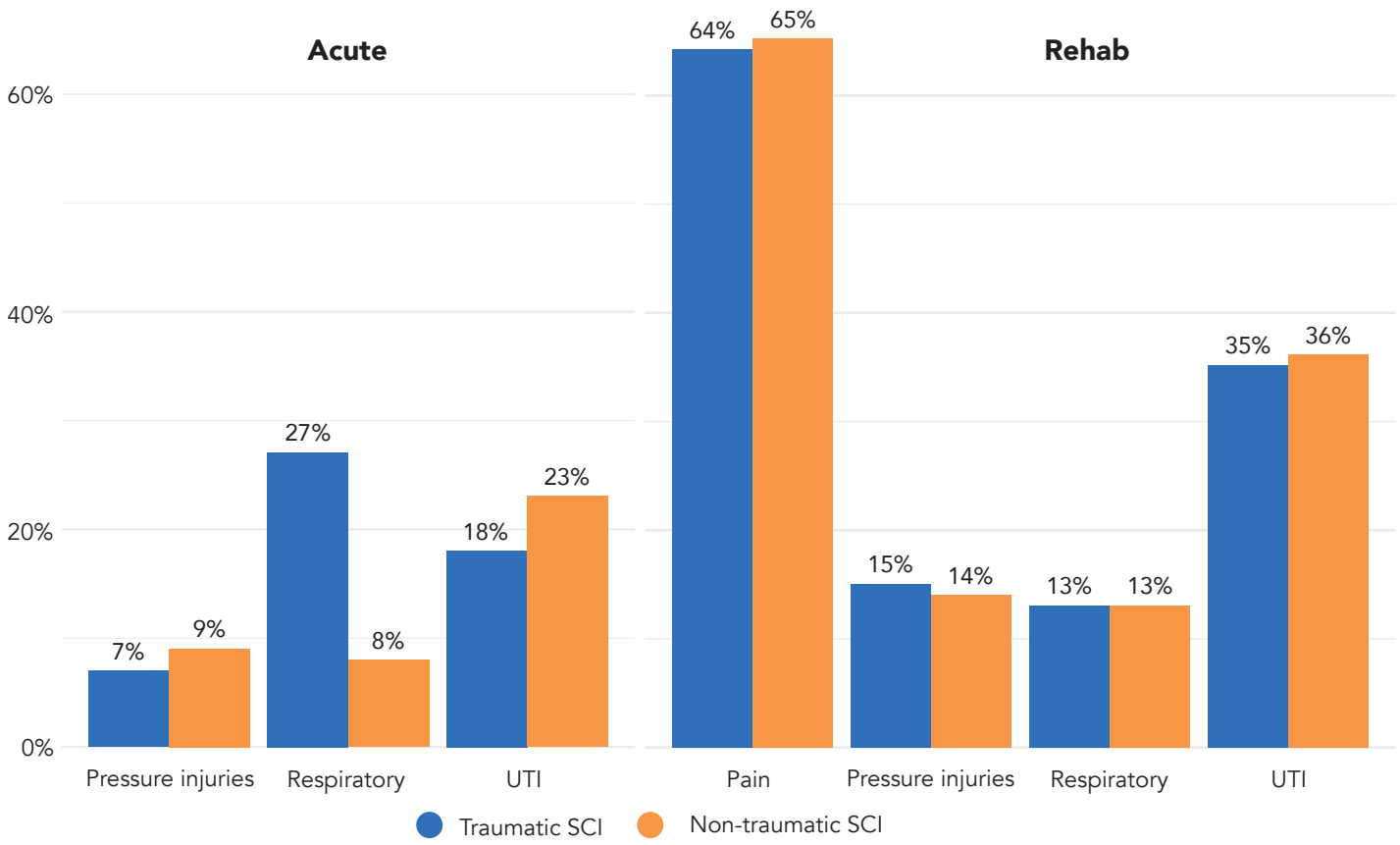
Secondary complications

Secondary complications can occur in the acute or rehabilitation phase of a person's recovery following SCI. These include **respiratory complications**, **urinary tract infections**, **pressure injuries** and **pain**. The following section will look at how often these secondary complications occur in acute and/or rehabilitation care.

During the acute phase, respiratory complications were more common among tSCI participants than ntSCI participants, whereas urinary tract infections were more frequently reported by ntSCI participants than tSCI participants. Pressure injuries were relatively low in both groups during acute care.

Complication rates were markedly higher during rehabilitation. Pain was reported at substantially higher rates than any other complication during rehabilitation, with roughly two-thirds of both tSCI and ntSCI participants reporting being treated for pain on discharge from the service. Urinary tract infections were the second highest complication for all participants, while pressure injuries and respiratory complications were reported at similar, lower rates across both injury types.

Figure 19: Acute and rehabilitation complications



Pre-existing conditions

For consented participants, pre-existing conditions are collected as part of the full data set using the Charlson Comorbidity Index. The most common conditions are listed in Table 6.

*Percentages do not sum to 100% as participants may report more than one pre-existing condition

Table 6: Pre-existing conditions

Hypertension	33%
Diabetes	18%
Depression/Mood problems	12%
Osteoarthritis/degenerative arthritis	11%
Obstructive sleep apnoea	10%
Any malignancy	8%
Coronary artery disease	8%
Bone fractures	6%
Chronic lung disease	6%
Asthma	6%

NZSCIR provides important information

The NZSCIR helps connect the two supra-spinal services, clinicians, researchers and people living with SCI. It is an extensive data resource, providing valuable information and insights into the management of SCI and the outcomes for people sustaining these injuries or impairments.

In 2025, the NZSCIR established a relationship with the spinal research team at the University of Auckland. Two data requests to support research have been submitted: one looking at the factors which may influence recovery following SCI, and the other taking an in-depth look how the Destination Policy is being adhered to in NZ. This exciting partnership between academic and healthcare sectors will hopefully lead to further collaboration in the future.

The NZSCIR completed an audit investigating documentation, completeness and accuracy of the ISNCSCI neurology assessments being completed within the rehabilitation spinal services. This audit was an important step in identifying opportunities to strengthen clinical documentation and assessment practices. It informed several quality improvement initiatives including procedures for incorporating ISNCSCI forms into e-notes, the creation of the Neurological Assessment of Spinal Cord Injury procedure, and the re-establishment of an enhanced peer review programme.

Another significant 2025 milestone was completion of the data point review and migration to version 2 of the NZSCIR. This was a large project which spanned several years. Version 2 has removed superfluous datapoints which were either difficult to populate or had not been requested or used over the period of the Registry. Stakeholders and clinicians played an integral role this process, helping to ensure future data collection remains relevant, meaningful and aligned with a *priori* research questions.

NZSCIR limitations

While NZSCIR aims to capture the majority of people who sustain a new SCI in NZ, some exceptions exist. People with chronic or congenital impairments affecting the spinal cord such as multiple sclerosis or spina bifida, are often managed by other neurological services rather than specialist spinal services and are therefore not captured by the Registry. The Registry's inclusion criteria stipulate only individuals admitted to one of the two specialist spinal services are enrolled. ASRU and BSU are limited to 20 and 30 beds respectively (50 beds nationally), meaning strict admission criteria and waiting lists apply. Some people may be treated and discharged from their regional hospital. Although these individuals may receive in-reach support from spinal service clinical staff, those who are not admitted to one of the four specialist hospitals will not be captured on the Registry.

Admission criteria, service delivery models, regional demand and occupancy fluctuations differ between the two units, therefore direct comparison of enrolment patterns between centres should be made with caution. Due to the relatively small annual sample sizes of some subgroups, percentages in a single year can be sensitive to a small number of cases moving between categories which may create data and sampling limitations.



The purpose of this report is to describe annual findings and associations. No attempt has been made to establish causation, and the results should be interpreted accordingly. Analysis incorporating data across multiple years would provide a stronger basis for identifying trends and exploring changes over time.

Finally, the NZSCIR is currently only able to report on comprehensive outcomes e.g. functional progressions, surgical data and complications, for those who are fully consented as these metrics are not captured in the MDS.

NZSCIR future direction and opportunities

In 2023, the NZSCIR changed the format of the annual reports, introducing historical data in some of the reporting fields. This allows a snap shot look at emerging trends, however due to the nature of the report, this is still limited to certain variables. A special report has been an objective of the NZSCIR for some time and will be released in 2026. This will enable longitudinal trends to be recognised and relationships between different variables to be identified.

The NZSCIR acknowledges the importance of gathering community follow-up data from consented participants, allowing true insight into the impact of a SCI on everyday life once a person is discharged from the inpatient services. Previous work in this space has shown return rates for the follow-up questionnaires could be improved on, which is another future project for the NZSCIR. Consumer feedback has identified that the form itself could be enhanced making it less of a time burden to complete, as well as a suggestion of offering a koha as an acknowledgement and thanks to those who take the time to complete these questionnaires. We hope to be able to develop our community follow-up process to optimise return rates to further enrich the community data in the future.

As the NZSCIR is an opt-in Registry, only those who give consent have an extended dataset collected. As a result, comparisons across the whole SCI population are currently limited to variables captured in the minimal dataset. The NZSCIR endeavours to get an Ethics amendment to extend the minimal dataset in the future. This would enable a broader range of information to be collected across the entire Registry population, allowing opportunity to compare the full spinal population and more accurately capture the full burden of SCI in New Zealand.

Denominators for report summaries

Note: The NZSCIR collects a full data set for consented participants (n=192) and a minimal data set for those who were not consented (n=82). NZSCIR data used for this report was last updated and extracted on 30 August 2026.

Data collected from 274 new injuries between 1 January and 31 December 2025 (or ntSCI admission rehabilitation between these dates)

Number of participants represented in each data summary:

Total participants: **274**
Mechanism and cause of injury: **274**
Gender/Ethnicity/Age: **274**
Traumatic SCI: **162**
Non-Traumatic SCI: **112**
Severity: **263**
Level of injury: **274**
Length of stay (acute): **272**
Length of stay (rehabilitation): **205**
Discharge destination: **274**
Surgical intervention rates: **274**
Pre-existing conditions: **192**

Full consented data set: 192
Minimal data set: 82

Walking in the community: **178**

Complications during acute care:
UTI: **184**
Respiratory: **187**
Pressure Injuries: **178**

Complications during rehabilitation:
Pain: **168**
UTI: **178**
Respiratory: **178**
Pressure Injuries: **177**

Glossary

Cauda equina injury (CEI) – an injury or compression of nerve roots exiting the lumbar spine at the bottom of the spinal cord. Whilst not officially a spinal cord injury, this nerve injury does impact on bowel, bladder, sexual function and/or leg sensation and strength.

Cervical spine – The upper seven vertebrae located in the neck (C1-C7). The nerves from this area control head and neck movement, the diaphragm, deltoids, biceps and muscles controlling the wrist and hands.

Complete injury – An injury where there is no sensory and motor function (inability to feel or move) preserved in the last nerves leaving the spinal cord (sacral 4th and 5th nerves). This usually results in a total lack of sensory and motor function below the level of the injury.

Incomplete injury – An injury where there is some sensory or motor function (ability to feel, touch or move) below the level of the injury. This must include the last nerves leaving the spinal cord (sacral 4th and 5th nerves).

Lumbar spine – The five vertebrae in the lower back (L1 – L5). Injury to this area damages the very lower-most tip of the spinal cord (known as the conus medullaris) or the cauda equina, which results in decreased control of hips and legs, as well as bladder, bowel and sexual function.

Non-traumatic spinal cord injury/dysfunction (ntSCI) – A spinal cord injury that occurs as a result of a medical cause or illness such as vertebral degeneration, infection or cancer.

Pain – Includes self-reported generic (nociceptive) pain and neuropathic pain (pain that is often ongoing and intense that occurs spontaneously or by light touching and is characterized by feelings of burning, shooting, tingling, etc.)

Paraplegia – Complete or partial loss of sensation and/or movement in the legs and often in part of, or the entire trunk. Can affect breathing muscles. It is caused by an injury to the spinal cord in the thoracic (trunk) region or below including cauda equina. May have bowel, bladder and sexual function affected.

Pressure injuries – Tissue injured by pressure and/or shear forces.

Respiratory complications – Includes pneumonia, venothromboembolic events (including pulmonary embolus [PE] and deep vein thrombosis [DVT]), obstructive sleep apnea and other respiratory complications.

Sacral spine – The five vertebrae located in the pelvic area (S1 – S5). As with lumbar injuries, damage to the sacral nerves can result in decreased control of hips, legs, bladder, bowel and sexual function.

Supra-regional spinal service (spinal service) – NZ has two supra-regional spinal services and four facilities. Waitaha Canterbury District: Christchurch Hospital (acute) and Burwood Spinal Unit (acute/rehabilitation). Counties Manukau District: Middlemore Hospital (acute) and Auckland Spinal Rehabilitation Unit (rehabilitation).

Spinal cord injury/impairment (SCI) – Damage to the spinal cord resulting in impairment of muscle function, sensation and/or autonomic function (bowel, bladder and sexual function).

Tetraplegia or Quadriplegia – Complete or partial loss of sensation and/ or movement in the arms, and typically in the trunk and legs. Usually affects breathing muscles. May have bowel bladder and sexual function affected. It is caused by an injury to the spinal cord in the neck.

Thoracic spine – The twelve vertebrae that extend through the chest area (T1 – T12). The nerves from this area control chest and abdominal muscles.

Traumatic spinal cord injury (tSCI) – A spinal cord injury that occurs as a result of trauma such as a fall, a motor vehicle crash, or a sporting accident.

Urinary Tract Infection (UTI) – A bacterial infection of the urinary tract, treated with antibiotics.



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