

# Specialised Spinal Cord Injury Services and QIPP

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# 1. Executive Summary

This report is one in a series produced by the Specialised Healthcare Alliance looking at various services which have been prioritised by the National Specialised Commissioning Group in relation to QIPP (a policy which aims to deliver quality and productivity at a time of spending constraint). This report was particularly informed by a stakeholder workshop on specialised spinal cord injury (SCI) services organised by the Alliance and the South East Coast Specialised Commissioning Group on 22<sup>nd</sup> October 2010. A wide range of stakeholders including patients, commissioners, clinicians and representatives from patient organisations attended the workshop.

The report sets out some background information on QIPP and specialised SCI services before seeking to distil the major themes explored during the workshop in relation to: 1) treatment and care between injury and admission to spinal cord injury centre (SCIC), 2) life-long treatment and care and 3) patient-reported outcome measures (PROMs). For each theme, some context and background with regard to the key issues is given, as well as an overview of the discussion at the event.

**Among the most important points to emerge, attention is drawn to:**

- **The need to ensure effective communication, both between a referring trust and a SCIC and, more generally, between the various individuals and organisations providing care to a person with a SCI;**
- **The importance of exploring the possibility of greater involvement of GPs and other primary and community healthcare staff and of various initiatives, such as telerehabilitation and SCIC satellite clinics, in providing effective life-long care and treatment to patients;**
- **The potential of PROMs to capture vital data on what is most important to patients and the quality of the care provided to them.**

## 2. Background

### 2.1 What is 'QIPP'?

Quality, Innovation, Productivity and Prevention (QIPP) is the flagship policy being used by the NHS to find the £15-20 billion of savings identified by Sir David Nicholson as necessary in 2011/14 as a result of rapidly rising demand for services and a challenging fiscal climate.<sup>1</sup>

The overall aim of the scheme is to combine improvements in quality of care with efficiency savings which can be reinvested in front-line services. Ideally, quality and productivity will go hand-in-hand, providing a better service for the patient, as well as cost savings for the NHS as a whole.

The National Specialised Commissioning Group (NSCG) has prioritised ten services for taking forward the QIPP agenda, with each Specialised Commissioning Group (SCG) leading on one of the services. The South East Coast SCG is leading for spinal cord injury services.

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<sup>1</sup> For background on QIPP: *The NHS Quality, Innovation, Productivity and Prevention Challenge: an Introduction for Clinicians* (March 2010), available [here](#).

The Specialised Healthcare Alliance is looking at nine out of the ten services in relation to QIPP. The Alliance's aim is to ensure a balanced discussion between the four strands of QIPP and to identify any common themes which may be relevant to improving quality and efficiency in specialised commissioning across the board.

## 2.2 Specialised Spinal Cord Injury Services – the current picture

Definition Six of the Specialised Services National Definitions Set (SSNDS) defines specialised spinal cord injuries as follows:

'Specialised spinal cord injuries encompass any traumatic<sup>2</sup> insult to the spinal column at cervical (neck), thoracic (chest), thoracolumbar, lumbar, lumbo-sacral (lower back) or multiple levels which causes complete or partial interruption of spinal cord function.

Such injuries will usually lead to some degree of neurological deficit such as loss of motor function (weakness or paralysis), bowel and bladder function, and sensory or autonomic function (control of blood pressure, etc.).'<sup>3</sup>

The Definition explains that it is those services provided to SCI patients within a spinal cord injury centre (SCIC) which should be regarded as specialised. There are currently 11 SCICs in the UK (which includes eight in England) providing this type of care. Definition Six also covers complex spinal surgery, which may or may not occur within a SCIC service.

The multisystem impairments resulting from SCI can lead to several complications, particularly infections, respiratory complications and pressure sores. As a recent report by the Spinal Injuries Association (SIA) points out, 'evidence supports the need for people with spinal cord injury to be managed in a continuum of care, through the initial period of treatment and rehabilitation to on-going lifelong support, delivered by a specialist spinal cord injury service designed to meet the needs of the specific patient population served.'<sup>4</sup>

SCI centres provide treatment and management for SCI patients from the earliest point, which includes surgical or non-surgical stabilisation of the spine, ventilatory support and bowel and bladder management, through rehabilitation and reintegration of the patient, to life-long care, including readmissions for specialised and non-specialised services, outpatient and outreach services and regular check-ups.

The services set out in the SSNDS, including specialised SCI services, are currently commissioned at a regional level by ten SCGs. However, the recent NHS White Paper<sup>5</sup> proposes that in a newly restructured NHS, regional services should be commissioned by the NHS Commissioning Board.

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<sup>2</sup> A spinal cord injury may also have non-traumatic origins. Definition Six explains that the specialised SCI service also includes 'the surgical and non-surgical stabilisation and rehabilitation of patients with non-progressive spinal cord dysfunction arising from spinal cord pathology or disease.' Specialised SCI care may also be given to patients with a benign or successfully treated spinal tumour. However, as a general rule, the specialised SCI service focuses on people with a traumatic SCI.

<sup>3</sup> Available [here](#).

<sup>4</sup> Spinal Injuries Association: *Preserving and Developing the National Spinal Cord Injury Service. Phase 2 – Seeking the Evidence* (May 2009), available [here](#).

<sup>5</sup> Available [here](#).

## Prevalence

The Royal College of Physicians estimates that traumatic spinal cord injury in the UK affects around 10–15 people per million of the population per year, meaning that there are an estimated 40,000 individuals in the UK living with a traumatic SCI. The prevalence of SCI of non-traumatic origin is currently unknown.<sup>6</sup>

At the same time, it must be acknowledged that accurate figures for the incidence of SCI in the UK are hard to obtain for a number of reasons, including difficulties around classification of injuries and the need to account for those SCI patients who are managed outside of SCI specialised services.

## Payment by Results

Definition Six explains that most, if not all, SCIC activity is outside Payment by Results (PbR) and therefore does not have a national tariff. The codes that do exist for SCIC activity largely apply to surgery and do not cover the range of services provided by SCICs. In particular there are currently very few codes for non-surgical care, especially rehabilitation, which makes up the majority of care provided by a SCIC.

An SCI Currencies Group was established by the South East Coast SCG to develop standardised commissioning currencies, based on the patient pathway, for commissioning spinal cord injury activity at SCI centres. All eight centres have participated in this work. In 2008 the group was adopted by the Department of Health as a PbR Development Site and is backed by the Department of Health PbR Team. Earlier this year, it was agreed that this group would become a sub-group of the National Spinal Cord Injuries Strategy Board.

## NSCISB and Other Bodies

The National Spinal Cord Injuries Strategy Board (NSCISB) was established in March 2010. Its purpose is:

- To agree a co-ordinated and common approach across England to the delivery and commissioning of services for people with a spinal cord injury;
- To ensure improved health outcomes for people with spinal cord injury in England by effective commissioning of appropriate high quality and cost effective services.

The NSCISB has also recently approved the protocol for a project on the development of a national model of care pathways for SCI. The project will involve a broad range of stakeholders and its key objectives are:

- To review, develop and implement national clinical pathways for acute admission and lifelong support of SCI patients in SCI centres and other NHS services;
- To identify and adopt standardised clinical outcome measures to support and evaluate patient care pathways;
- To review methods for SCI patient identification across NHS services and develop guidelines for clinical management of SCI patients in other NHS services;
- To review data collection methods in all SCI centres;
- To adopt a standardised minimum data set for all patients managed by SCI centres;

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<sup>6</sup> Royal College of Physicians: *Chronic Spinal Cord Injury: Management of Patients in Acute Hospital Settings* (March 2008), available [here](#).

- To incorporate new clinical pathways into the national commissioning framework and currencies for spinal cord injury.

Other key bodies include the South of England Spinal Cord Injury Consortium and the South of England Spinal Cord Injury Board. The former is managed by the South East Coast SCG and commissions services on behalf of the South East Coast, London, South Central and East of England SCGs, while the latter's members include five SCGs, the three SCI Centres in the south and patient representatives. The South of England Spinal Cord Injury Board was initially set up to work in implementing the *South of England Standards for Spinal Cord Injury Care* (2003). The *Standards* have recently been revised and updated.<sup>7</sup>

### **2.3 Specialised Spinal Cord Injury Services and QIPP**

The relatively high cost of treating spinal cord injuries means that the service is likely to come under particular pressure to produce efficiency savings. In addition, as the life expectancy of people with SCI continues to increase, the patient population will also grow, putting further pressure on resources. At the same time, there are various opportunities to drive up the quality of patient care, for example through providing appropriate life-long care to people with SCI.

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<sup>7</sup> 2010 *Standards* available [here](#).

### 3. Main Themes

#### 3.1 Treatment and Care Between Injury and Admission to Spinal Cord Injury Centre (SCIC)

There is strong evidence that delayed referral to a SCIC of newly injured SCI patients results in an increase in avoidable complications. The NSCISB has recently issued a policy statement on planning for SCI in trauma services. In the south of England several initiatives have been implemented recently with the aim of improving the referral process for people with new traumatic and non-traumatic SCI.

**The main conclusions from this session were:**

- **Excellent communication between the referring trust and a particular SCIC is vital;**
- **Acute outreach from SCICs, including a link professional within the SCIC, is one key way to ensure effective communication;**
- **Data collection, for example on the cost of delayed referral, would help to encourage change;**
- **It is important to ensure that non-clinical factors do not delay the discharge of patients from SCICs.**

#### Background

##### Guidelines

It is widely recommended<sup>8</sup> that a person with a confirmed spinal cord injury should be transferred as soon as possible to a SCIC. As the British Orthopaedic Association explains, this is because patients with spinal cord injuries are extremely vulnerable to avoidable complications, particularly pressure sores, urinary difficulties, autonomic problems and joint stiffness. The avoidance of these complications requires a high level of input from a dedicated multi-disciplinary team based in a SCIC.<sup>9</sup>

A recent survey by the SIA across England and Wales reported that 24 per cent of newly injured patients presented with complications on arrival at the SCIC. The most common complications were pressure sores (40 per cent), respiratory (28 per cent) and infection control (six per cent).<sup>10</sup> As the NSCISB policy document explains, many of these patients are effectively 'off-programme' and unable to proceed with rehabilitation for many months while the complications are addressed. The cost to the NHS is high, and many SCI beds are unavailable to newly injured patients because they are occupied by patients being treated for these complications. If complications could be avoided, more beds would be available to accept newly injured patients and they could be used more efficiently.<sup>11</sup>

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<sup>8</sup> For example by the NSCISB, in the *South of England Standards for Spinal Cord Injury 2010* and in the British Orthopaedic Association document *The Initial Care and Transfer of Patients with Spinal Cord Injuries*.

<sup>9</sup> British Orthopaedic Association: *The Initial Care and Transfer of Patients with Spinal Cord Injuries* (January 2006), available [here](#).

<sup>10</sup> Spinal Injuries Association: *Preserving and Developing the National Spinal Cord Injury Service. Phase 2 – Seeking the Evidence* (May 2009), available [here](#).

<sup>11</sup> NSCISB policy statement, available [here](#).

The British Association of Spinal Cord Injury Specialists (BASCI) has produced a good practice guide to improve healthcare given to people in District General Hospitals (this covers care of individuals with acute traumatic SCI as well as of those requiring longer-term care).<sup>12</sup> The guide emphasises the importance of excellent communication between the DGH and the SCI centre, and of awareness of the initial steps to be taken in the DGH to prevent avoidable complications.

However, there is currently no mandate in place to refer SCI patients to a SCIC and the SIA's survey revealed that 41 per cent of people surveyed had not been admitted to a SCIC within one month of injury and ten per cent had never been under the care of a SCIC.<sup>13</sup>

A key issue is the availability of beds at SCICs and, as a result, one of the main campaigning goals for the SIA in 2009-2011 is to achieve an increase in the number of SCIC beds.<sup>14</sup>

### Recent Initiatives

Various recent initiatives have been put in place that aim to prevent those avoidable complications which are due to a delay or failure in the timely transfer of a person with a confirmed spinal cord injury to a SCIC.

The NSCISB's policy statement on the planning of trauma services welcomes the development of Trauma Networks, but emphasises that spinal cord injury requires a separate pathway to spinal injury. The document underlines the principle that all newly injured SCI patients should be referred and transferred to a SCIC at the earliest opportunity. In addition, it stresses the importance of every hospital which receives trauma having a defined link with a specified partner SCIC and of excellent communications between the trauma centre and the SCIC, including the use of 24 hour image transfer. The document also includes a detailed diagram showing the pathways for newly injured trauma patients, starting from either a major trauma centre or a trauma unit.

The South of England Spinal Cord Injury Board has introduced a single telephone number covering all three SCI centres in the South. The trauma centre is requested to ring this number as soon as possible after the arrival of a newly injured person. After calling the number, the trauma centre will be put through to the appropriate SCIC which will then be able to give advice about the management of the patient.

A web-based referral/registration system has also been introduced for use by acute hospitals on the arrival of a newly injured patient with a spinal cord injury. The trauma centre is instructed to complete online various aspects of the person's condition and to ensure that the patient is referred within four hours of their arrival. As well as facilitating referral, this system will build up data about the level of demand and record how long patients are waiting for admission to a SCIC.

The use of acute outreach is a fairly recent initiative. Teams from a SCIC visit patients who cannot be admitted to the Centre and advise teams in the non-specialised setting on treating the patient with a spinal cord injury.

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<sup>12</sup> Good practice guide, available [here](#).

<sup>13</sup> Spinal Injuries Association: *Preserving and Developing the National Spinal Cord Injury Service. Phase 2 – Seeking the Evidence* (May 2009), available [here](#).

<sup>14</sup> SIA, *Campaigning for Change 2009-2011*, available [here](#).

## Discussion

Stakeholders focused on the importance of good communication between the referring trust and the SCIC. It was felt that each referring trust should have a formal link with a particular SCIC and that there should be lines of communication between the trusts at both a senior management and a clinical level. In the West Midlands, the use of an individual within an SCIC who acts as a specified link contact has proved successful. Communication could also be improved by a system of feedback to the referring trust, which would emphasise the benefits of their timely referral of a patient to the SCIC.

The importance of acute outreach was widely recognised. This should be viewed both as a form of 'marketing' for the SCIC, since it helps to develop effective lines of communication, and as a way to improve the care provided to patients in the non-specialised setting and ultimately to reduce avoidable complications.

Many stakeholders stressed the benefits of putting in place guidelines or protocols for referral, which would be likely to involve further work around identifying and costing care pathways. Others suggested that the initial care of people with a spinal cord injury and the importance of referral to a SCIC should be included within the formal education and training of clinicians.

Participants agreed that systematic data collection would help to encourage change. For example, appropriate data could be used to estimate the cost of delayed referral, which would help to show the benefits of early referral.

Stakeholders also raised the issue of delayed discharges from SCICs for non-clinical reasons. This results in beds being occupied by patients who do not require specialised care and means that newly injured patients cannot be admitted to the SCIC. The reasons for this include:

- Delays in setting up care packages in the community;
- Delays in adaptations being made to a person's home to accommodate their wheelchair;
- Disputes between PCTs and social services about where the responsibility lies for the patient on discharge.

There was a concern that these issues should not be heightened by the proposals set out in the NHS White Paper. The new system would see the budget for the care of patients within a SCIC sitting with the NHS Commissioning Board, but that for the ongoing care outside of the SCIC sitting with GP commissioning consortia. It would therefore be important for GP consortia to be engaged with the holistic needs of the patient and with the entire patient pathway.



## 3.2 Life-Long Treatment and Care

The life expectancy for people with SCI continues to increase, meaning that the issue of life-long care, including end of life care, has become vital. This care involves preventing further disability and avoidable complications, optimising quality of life, minimising impairment and ensuring life-long health and well-being. As people with SCI live longer, they are also at risk from age-related diseases that affect the general population, including cardiovascular disease, infection and malignancies.

**The main conclusions from this session were:**

- **Relevant patient information should be provided to the patient and reinforced throughout life;**
- **Different aspects of a patient's care should be provided in the most appropriate setting, with the SCIC having an overall picture of the person's requirements;**
- **A greater involvement of GPs and other community and primary healthcare staff is recognised as becoming increasingly important, although a shift in this direction should be carefully managed;**
- **Communication between the various organisations providing care is vital;**
- **Various initiatives such as the use of telerehabilitation and SCIC satellite clinics could contribute to providing high quality life-long support.**

### Background

#### Guidelines

The *South of England Standards 2010* include various key sections which address the life-long care for people with SCI. These include:

- Topic 3: Communication between primary, secondary and tertiary services, which is vital for the long-term coordinated care of patients;
- Topic 8: Rehabilitation, which is to be led by a multidisciplinary team;
- Topic 9: Reintegration, which should commence immediately after injury and involve a range of people include the patient's family and carers;
- Topic 10: Review, which should include a carefully defined timetable for the first year post-discharge and then subsequent reviews based on medical assessment of the patient to occur at no greater than three-year intervals;
- Topic 11: Re-admission, which explains that SCI centres should re-admit patients requiring specialist management of their cord injury or related problems, while an outreach service provided by the SCI centre to patients and health professionals should support the management of other health problems in the appropriate healthcare setting.<sup>15</sup>

#### SIA Ageing Survey

In 2008 the SIA published the results of a survey on ageing of people from the ages of 50-80+ with a spinal cord injury.<sup>16</sup> The survey revealed that the location of a person's initial treatment has a significant impact on their health and perception of health. In addition, people whose long-term care is not provided in a SCIC reported more problems with spasm, pain, urinary tract infections and skin care.

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<sup>15</sup> 2010 Standards available [here](#).

<sup>16</sup> SIA: *Survey on Ageing with a Spinal Cord Injury*, available [here](#).

The survey also found that 22 per cent of people surveyed are never involved in active exercise and a further 10 per cent engage in active exercise less than once a week. In addition, 29 per cent of respondents are not eating three meals a day regularly and only 18.9 per cent of people always eat five portions of fruit and vegetables per day.

## Discussion

There was general agreement among the stakeholders regarding the importance of patient information, which helps to support self-management, encourage independence and reduce preventable re-admissions. Information needs to be provided as early as possible and updated at regular intervals, taking into account the potential for the patient's needs and expectations to change over time. It was suggested that the SIA is in an ideal position to support this process. The provision of long-term psychological support was also agreed to be key.

Ideally, all patients should receive life-long care and support from a SCIC, which would include regular reviews. Reviews should be nurse-led, although patients should have access to a multi-disciplinary team when required. At the same time, it was recognised that different aspects of a person's care should be provided in the most appropriate setting. For example, diabetes care for someone with a SCI and diabetes should not be provided in the SCIC. Similarly, some minor complications could be treated in a primary or community setting or in a non-specialised acute setting. This would ensure that the valuable resources in a SCIC, including beds, expertise and staff time, were used in the most effective and appropriate way.

The discussion also looked at settings and provision of care outside the SCIC. Some stakeholders felt that GPs were not in a good position to provide support to patients as a result of a lack of knowledge. However, other participants suggested that the involvement of GPs could be achieved through a 'flagging' system which would alert GPs to the point at which they should contact the SCIC. Some stakeholders suggested that more training generally on SCI was required for healthcare professionals in primary and community settings.

The importance of communication between the different centres and people providing care and treatment to patients was highlighted. Participants felt that the SCIC (if the patient had access to one) should remain the central coordinator of the person's care, but should not necessarily provide all of that care. A lead healthcare professional within the SCIC could case-manage an individual patient and the SCIC should have good links with the appropriate centres which would provide other aspects of their patients' care.

Stakeholders discussed the importance of patients having ownership over their own condition, which could involve the patient owning their medical notes. This would both encourage independence and enable a smoother transition for the patient between different healthcare settings.

Finally, various initiatives were discussed as potential ways to provide long-term support for patients. These included telerehabilitation and telecare (whereby the monitoring of the patient's rehabilitation is carried out remotely via telelinks), equipment prescriptions and SCIC satellite clinics which could operate in a 'hub and spoke' model, with the SCIC at the centre providing the majority of inpatient care.

### 3.3 PROMs (Patient-Reported Outcome Measures)

The government's recent health White Paper places great emphasis on the importance of outcomes for the future of the NHS in England.

The purpose of this session was to focus on one type of outcome: patient-reported outcome measures (PROMs).

This focus on patient-reported outcomes, rather than on clinical outcomes or CQUINs (which are used to incentivise outcomes) was chosen for various reasons. As set out above, work is already under way as part of the national care pathways project to identify and adopt standardised clinical outcome measures. In addition, while CQUINs are already being used at a local level (for example a set of CQUIN targets has been established by the South of England Consortium – please see appendix 4.1), it is not possible at present to identify national CQUINs. This is because many of the SCGs do not have separate contracts for SCI. Rather, they have trust-wide contracts (each SCIC sits within a larger trust) and therefore use trust-wide CQUINs which are unlikely to include any SCI-specific goals.

**The main conclusions from this session were:**

- **Any PROMs questionnaires must be able to be used by all patients, but must also be sensitive to the different needs and expectations of different patients;**
- **PROMs questionnaires could be used to capture data on the essential issues which should have been addressed at the point of discharge from a SCIC;**
- **PROMs questionnaires could also be developed to capture psychological/social outcomes throughout the life of a person with a spinal cord injury, although developing such measures would inevitably be challenging.**

#### Background

Patient-Reported Outcome Measures (PROMs) are a way of measuring the health gain to patients after a particular surgical procedure. At present, PROMs are only used for patients having hip or knee replacements, varicose vein surgery or hernia surgery. The patient's health gain is typically measured using short, pre- and post- operative surveys which are filled out by the patient and which measure patients' health status or health-related quality of life at a single point in time.

While PROMs are currently being used only in relation to a small number of elective procedures, the government's health White Paper sets out plans to expand the use of PROMs 'across the NHS wherever practicable.' In addition, it must be noted that the approach used by PROMs questionnaires is not necessarily new. For example, mental health services and counselling services often use a framework to assess the impact of their intervention.

There are currently no national PROMs questionnaires for SCI. The aim of this session, therefore, was to discuss those issues which are most important to patients and the potential ways in which patients could become involved in measuring and improving outcomes. Ultimately, the aim would be to establish national PROMs for SCI services.

## Discussion

As a result of the current absence of PROMs for SCI, the discussion during this session was at an early stage. However, several key issues of agreement emerged. In particular, it was noted widely that any PROMs questionnaires must recognise and be sensitive to the different and changing needs of each individual with a SCI. At the same time, any PROMs questionnaires which are developed must be able to be used by a wide range of patients for their value to be realised.

Stakeholders at the workshop recognised the merit of collecting patient-reported data and some gave examples of where this is already happening in individual trusts. In Oswestry, for example, ensuring that a certain percentage of patient surveys are completed is part of the trust's CQUIN scheme and in Stoke Mandeville a patient feedback group has been set up called SPIN ('Spinal Patients Involved'). It is likely, however, that many initiatives used at present involve recording patient experiences rather than outcomes. It is this process of measuring outcomes which represents the major challenge moving forward.

Some participants proposed that a possible point at which patient-reported outcomes could be measured and recorded is on discharge from a SCIC. It was suggested that questionnaires used on the point of discharge should capture data on the essential aspects of care which ought to have been addressed. These include bowel and bladder management, skin care, equipment provision and the setting up of a long-term care plan. A speaker from the Spinal Injuries Association put across very effectively the importance of these issues not only for the person's health, but also for their psychological well-being.

Data could also be collected at intervals by the SCIC to monitor the patient's ongoing and long-term health and well-being. Questionnaires would aim to record data on those 'key' issues discussed above, but ideally would also cover issues such as psychological well-being, relationships, employment and education. While some of these issues are not the direct responsibility of the SCIC, it is important for the SCIC to have ownership over the complete needs of a person with a SCI. At the same time, there would be difficulties in measuring these more psychological/social issues. For example, patients' expectations would differ, as well as the reference point for each patient, and it would be challenging to collect patient-reported outcomes from people who were not being treated at a SCIC.

## 4. Appendix

### 4.1 South of England Consortium CQUIN Goals for 2010/11

Goal no.	Description of goal	Quality Domain(s) <sup>17</sup>	Indicator number <sup>18</sup>	Indicator name
1	Improve responsiveness to the information needs of patients.	Experience	1	Patients and carers to be provided with information within two weeks of referral to SCIC services where this is prior to transfer to the SCIC.
2	Inform future service development and design across healthcare settings by improving the level of evidence of early patient pathways, clinical effectiveness and potential barriers.	Effectiveness Patient experience Innovation	2	Improve the collection and reporting of data which will inform future service development and design across healthcare settings.
3	Optimise admission times for patients who require rehabilitation as a result of a spinal cord injury by permitting referring teams to direct their referral to where there is a bed.	Experience Effectiveness	3	Increase information to referring teams on priority of referral and bed availability.
4	Reduce the number of bed days at SCIC due to avoidable complications acquired at referring hospitals.	Effectiveness Patient experience	4a  4b  4c	Establish the potential to reduce the presence of avoidable pressure sores on admission to SCIC.  Establish the potential to reduce the number of days where a patient is ventilated when capable of weaning.  Increase the knowledge of appropriate SCI management in treating teams at referring hospitals and support them in the implementation of this management.

<sup>17</sup> Safety / Effectiveness / Experience / Innovation

<sup>18</sup> May be several for each goal