



**Transforming Trauma Rehabilitation
Recommendations for the North East Region
Update 2020/21**

Progress on the journey or an uphill struggle?



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Contents

Major Trauma Rehabilitation in the Northern Region.....	5
Executive Summary.....	5
Purpose	5
Background	5
Methods.....	5
Outcomes.....	5
Key Network Rehabilitation Developments related to 2013 Outcomes.	6
Recommendations from 2013 – RAG rated for 2020	6
Introduction	7
Organisation of Rehabilitation Services in Northern Region.	8
Figure 1: Footprint of the Northern Trauma Network 2019.....	8
Tertiary ‘specialised’ rehabilitation services (Level 1)	8
Local (district) specialist rehabilitation services (Level 2).....	9
Local non-specialist rehabilitation teams (Level 3).....	9
Figure 2: Best practice pathway for trauma rehabilitation	9
National Drivers for change in Trauma Rehabilitation	9
Best practice tariff measures for Rehabilitation 2015 and 2019	9
Quality Surveillance 2015-2019	10
Peer review rehabilitation measures for Major Trauma Centres 2019/20	10
Peer Review Measures for Trauma Units 2019/20.....	11
Peer Review Measures for Major Trauma Networks 2019/20	11
TARN Results.....	11
Overall Numbers of TARN-eligible trauma patients in the Northern Trauma Network.....	11
Table 1: Number of patients submitted to TARN by unit and year from 2013/14 to 2018/19.....	11
Table 3: Number of patients ISS>15 who remain at each Trauma Unit	12
Table 3: Major and serious trauma patients categorised by Injury Severity Scores (ISS) Apr 18 -Mar 2019	13
Table 4: Patients admitted to TUs April to September 2012/13 vs 2018/19 (TARN)	14
Table 5: Number of patients admitted to each MTC from each geographical area from April to September 2012 (based on address of patients General Practitioner, GP).....	14
Rehabilitation Prescriptions.....	15
Table 6: Rehabilitation Prescriptions at the MTCs.....	15
TARN outputs relating to Rehabilitation for RVI and JCUH MTCs April – Dec 2012	16
Table 7: Age distribution of patients admitted across the NTN with serious trauma (ISS 9-15).....	16

Table 8: ISS distribution of adult patients admitted across the NTN.....	16
Rehabilitation Prescription Completion at Trauma Units.....	16
Rehabilitation Prescription Process at Trauma Units – Northumbria Audit Data	16
Conclusion.....	20
Traumatic Brain Injuries requiring Neurorehabilitation in the NTN	20
Table 10: Number of patients with AIS3+ traumatic brain injury in 2019	20
Rehabilitation Prescription at the RVI Major Trauma Centre.....	21
Table 11: Breakdown of clinical specialities involved in patients’ initial rehabilitation depending on their complexity score in the RVI.....	21
Table 12: Number of patients within each complex rehabilitation banding in the RVI MTC	22
Specialist Rehabilitation - BSRM Core Standards in Major Trauma Rehabilitation and NCASRI study.22	
BSRM core standards for use in the trauma pathway are described in Appendix 2, and local mapping to standards shown in the gap analysis and questionnaire responses.	22
Details of Rehabilitation Needs	22
Table 13: Percent of patients from NCASRI report and rehabilitation required	23
Table 14: Percent of patients from NCASRI with cognitive and emotional needs	23
Table 15: Impact of rehabilitation needs on family and staff from NCASRI	23
Table 16: NCASRI data for Northern Trauma Network.....	24
Waiting times for admission to specialist rehabilitation	24
Summary of Conclusions from data sources	24
Questionnaire Results from TUs and MTCs	25
1. Background Context.....	25
2. Leadership and Consultant Provision for Rehabilitation	27
3. Coordination and Communication.....	27
4. Specialist inpatient rehabilitation	28
Table 19: Barriers to Discharge.....	28
5. Community Provision.....	29
6. Data Collection and Outcome Measures	30
7. Rehabilitation Prescriptions (RPs).....	30
8. Vocational Rehabilitation.....	30
9. Teaching and Training	30
10. Mass Casualty Plans for Rehabilitation	30
Summary of Outcomes of Questionnaires.....	30
Update of Gap Analysis data and Performance against BSRM standards from 2013	31

Cross Reference BSRM core standards, Yorks and Humber Standards and Rehab Prescription Guidance – 2019 Update	34
Summary of Gap Analysis against standards	41
Gap Analysis Findings.....	41
Specialist Rehabilitation Inpatient Beds in Northern Region (March 2019).....	41
Level 2 Services	41
Table 20: Current level 2 rehabilitation beds	41
Level 1 Rehabilitation.....	42
Current Provision of Consultants in Rehabilitation Medicine in Northern Region 2019.....	42
Summary of Neurological Rehabilitation Services 2019	43
Conclusions	45
Appendix 1: Best practice tariff standards for Rehabilitation Prescription 2019	47
Appendix 2: Summary of BSRM core standards for Major trauma Rehabilitation.....	47
Appendix 3: Contributors to Questionnaire Completion.....	50
Appendix 4: Outcome measures from NTN Rehabilitation Workshops 2014/15.....	51
Requirements for Measurement Tools.....	52
Specific Measures Suggested by Workshop Participants	52
References	58

Major Trauma Rehabilitation in the Northern Region

Executive Summary

Purpose

This report has been prepared on behalf of the Northern Trauma Network Rehabilitation Group to provide an update on progress against the Transforming Trauma Rehabilitation recommendations made in 2013 to support commissioning of rehabilitation services for major and serious trauma in Northern Region.

Background

The Major Trauma Network in Northern Region has been operational since 2013 and a regional working group developed clinical and operational standards for rehabilitation as well as a regional gap analysis and recommendations for future service developments. This document provides an update on progress against these standards over the past 5 years, taking into account national changes and more accurate data sources for the prediction of rehabilitation needs in major trauma.

Methods

Each Major Trauma Centre and Trauma Unit (TU) in the Network has provided data via questionnaire on their rehabilitation provision and processes, in addition to updated RAG rating against standards compared to 2013. Regional data from TARN and national specialist rehabilitation data related to major trauma outcomes (NCASRI) were also reviewed. Changes in service needs and provision are summarised.

Outcomes

The numbers of patients requiring trauma rehabilitation has significantly increased following the development of Major Trauma Systems. Developments in trauma rehabilitation have taken place mainly in the two Major Trauma Centres (MTCs), driven by national peer review and best practice tariff incentives. Routine assessment of rehabilitation needs has clarified gaps in provision, especially to meet psychological and social needs. Very limited progress has occurred in assessment and delivery of rehabilitation at trauma units. Significant gaps are still present for all areas of ongoing community and vocational rehabilitation. There are ongoing opportunities for collaborative work with commissioning bodies to deliver better rehabilitation across the pathway for patients after major trauma.

Key Network Rehabilitation Developments related to 2013 Outcomes.

- No Consultants in Rehabilitation Medicine (RM) in MSK and insufficient within neurological rehabilitation services for trauma.
RM Consultants now provide sessional input to both MTCs in the region with specific job-planned time for assessment of major trauma patients. There is now one FTE equivalent post at the RVI and the appointment of 2 RM Consultants at JCUH (6.5 sessions for trauma rehabilitation).
- Lack of communication, co-ordination and leadership across the pathway leading to disjointed care and inadequate management of patients.
There is an appointed Network Lead for Rehabilitation and there are rehabilitation coordinators (although inadequate numbers) at both MTCs. There are very few TU rehabilitation coordinators
- No specialist inpatient beds for MSK rehabilitation resulting in longer lengths of stay in acute beds or transfer to inappropriate settings
There is now a specialist 10 bedded Major Trauma Rehabilitation Unit at RVI and 3 specialist MSK rehabilitation beds at JCUH. This provision is less than the national standards suggest is required to meet needs of the increased number of trauma survivors (NCASRI 2019, Moran et al 2018)
- No specialist community Multi-Disciplinary Team (MDT) for MSK rehabilitation leading to suboptimal outcomes and longer lengths of rehabilitation.
MTC teams are providing improved outreach support for community rehabilitation providers.
- Insufficient level 1 and 2 beds for Neurological patients.
Level 1 and 2 inpatient rehabilitation bed numbers remain static with no increase despite increased need.
- Insufficient specialist community teams for Neurotrauma patients.
No new specialist services have been developed and there have been significant changes to specifications of community teams for Northumberland, Gateshead and Sunderland threatening these services
- No robust system for data collection to indicate the number of patients requiring specialist and non-specialist Recovery, Rehabilitation & Reablement (RR&R).
No changes to data collection systems out-with TARN across the Network.
- Lack of vocational rehabilitation resulting in no focus on reablement, return to work and social reintegration.
No changes to specialist provision via NHS services out-with ad hoc provision in specialist teams. . Momentum UK, the largest local charitable provider of Brain Injury Vocational Rehabilitation closed in 2019.
- No standardised or consistent approach to the use of outcome measures which makes it difficult to evaluate rehabilitation.
No regional changes – national measures including PROMS are collected via TARN.

Recommendations from 2013 – RAG rated for 2020

1. Provide additional Consultant level leadership in rehabilitation in order to promote inter-speciality working and improve patient management and outcomes e.g. Consultants in Rehabilitation Medicine/Consultant Allied Health Professionals.
2. Explore workforce options to improve coordination and communication across the whole pathway for example Rehabilitation Coordinators/Facilitators

3. Devise robust, flexible, fit for purpose systems to collect data and inform future commissioning and service provision.
4. Develop specialist rehabilitation inpatient beds for major trauma MSK patients. This would also ensure the capacity to provide intensive therapy. Further work is recommended to identify the number of beds required region-wide.
5. Create specialist MDTs which would deliver specialist rehabilitation for MSK major and serious trauma patients (inpatient and outpatient/community).
6. Provision of more level 1 and 2 rehabilitation beds for Neurotrauma patients in line with national recommendations.
7. Increase the current number of specialist community teams for rehabilitation of Neurotrauma patients to cover all areas.
8. Undertake robust and committed service redesign to deliver a best practice pathway, with particular focus on strengthening Recovery, Rehabilitation and Reablement services.
9. Ensure regional implementation of the rehabilitation prescription process for all major trauma patients across all services, from injury to re-enablement. This should include the redesign of the current Rehabilitation Prescription.
10. Integrate vocational rehabilitation into the trauma pathway. Undertake further work to develop recommendations for the use of outcome measures for the trauma rehabilitation pathway.
11. Develop a Directory of Rehabilitation Services with identified administrative support to maintain and update

Introduction

The commencement of Major Trauma Networks in England in 2012 has produced significant changes in patient flow with increased numbers being treated at Major Trauma Centres (MTCs), increases in consultant-led care, older trauma patients and overall increased survival. There has been a 19% increase in the odds of survival meaning many more patients require high quality clinical care and appropriate rehabilitation to return to their fullest level of social and vocational functioning (Moran et al 2018). Rehabilitation services have traditionally been delivered piecemeal on the basis of geography and commissioning of pockets of specialised rehabilitation, sometimes in stand-alone units. The major trauma system changes require potential redesign to meet the needs of patients at all stages of the rehabilitation pathway. This report aims to provide an update on work commenced in 2013 to clarify the major trauma rehabilitation pathway in North East England, and aim to plug the gaps. Regional reports from each provider and the most recent data relating to patient numbers and flow will be summarised, as well an updated gap analysis. The report will focus on adult rehabilitation services and pathways. A separate regional paediatric gap analysis is currently being carried out. The aims are to benchmark the progress in trauma rehabilitation provision since Network inception, and to provide data to aid providers in developing local rehabilitation services for trauma survivors.

Organisation of Rehabilitation Services in Northern Region.

The Northern Trauma Network footprint remains unchanged in the past 5 years. There are 2 Major Trauma Centres (MTCs) at James Cook University Hospital (JCUH), Middlesbrough in the South and the Royal Victoria Infirmary (RVI), Newcastle upon Tyne, in the North. These both act as hubs for surrounding Trauma Units (TUs) shown in Figure 1. The Network sits within the North East and Yorkshire region of NHS England and is coterminous with the newly formed North East and North Cumbria Integrated Care System (ICS).

Since 2013 Network changes include the development and implementation of a trauma bypass tool to triage major injuries to the MTCs, set up and operation of a Network governance structure, and establishment of rehabilitation services at both MTCs. West Cumberland Hospital is not a designated Trauma Unit but due to its location and the geography of the area will on occasion receive a trauma patient for initial reception, that patient would then be transferred to the nearest Trauma Unit or Major Trauma Centre depending on their need.

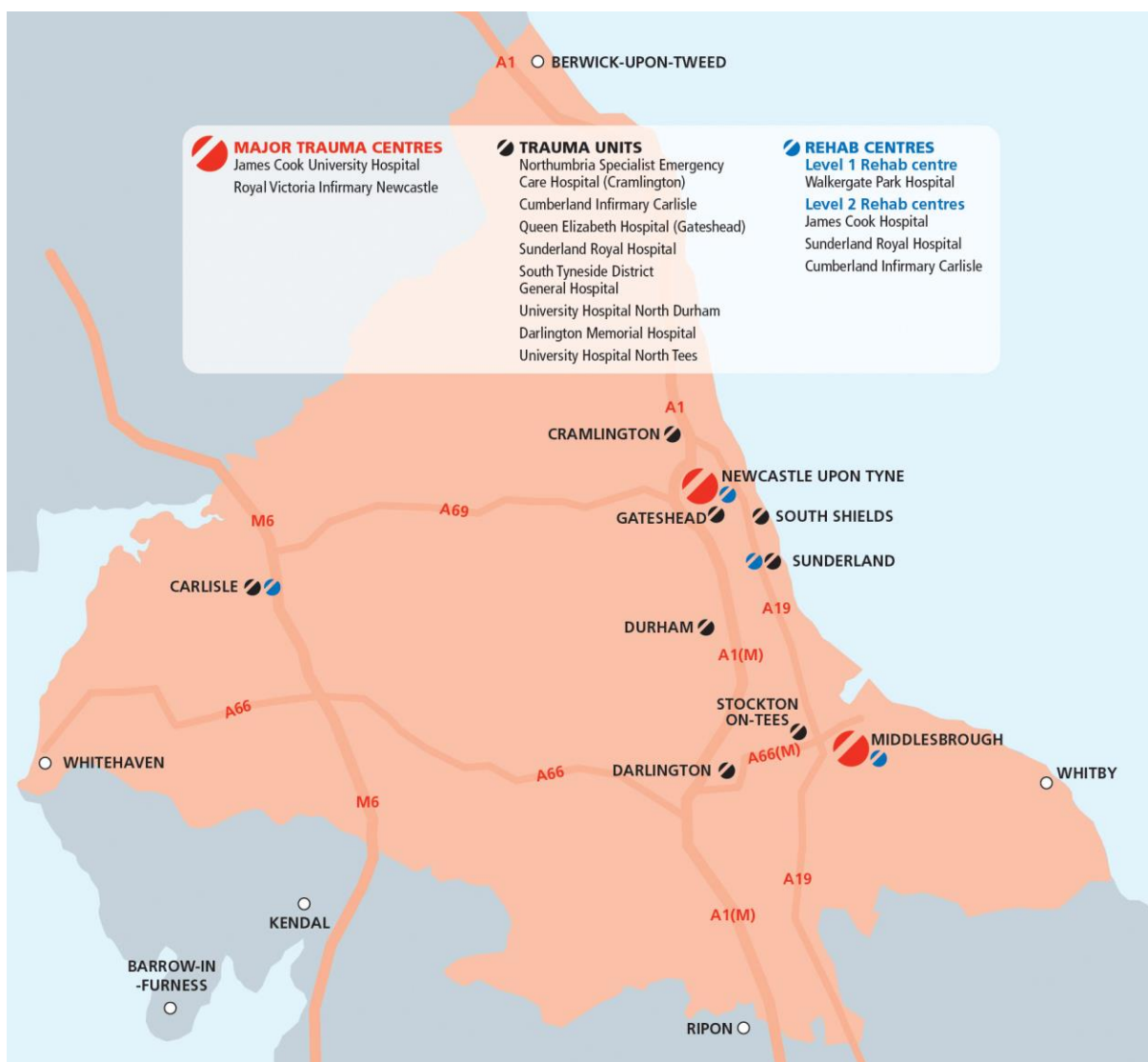


Figure 1: Footprint of the Northern Trauma Network 2019

Tertiary 'specialised' rehabilitation services (Level 1) are high cost / low volume services, which provide for patients with highly complex rehabilitation needs that are beyond the scope of

their local and district specialist services. These are normally provided in coordinated service networks planned over a regional population of 1-3 million through collaborative (specialised) commissioning arrangements. Level 1 facilities are based at Walkergate Park Centre for Neurorehabilitation and Neuropsychiatry in Newcastle. There are 35 beds for neurorehabilitation and an 11 bedded neurobehavioural unit. There has been no increase in bed provision since 2013.

Local (district) specialist rehabilitation services (Level 2) are typically planned over a district-level population of 250-500K, and are led or supported by a consultant trained and accredited in Rehabilitation medicine (RM), working both in hospital and the community setting. The specialist multidisciplinary rehabilitation team provides advice and support for local general rehabilitation teams. Level 2 facilities are currently available at Sunderland, South Tees and Carlisle with no changes in bed numbers.

Local non-specialist rehabilitation teams (Level 3) - within each locality who provide general multi-professional rehabilitation and therapy support for a range of conditions within the context of acute services (including stroke units), intermediate care or community services. The rehabilitation pathway is not complete until the patient has re-joined society having reached optimum functional potential e.g. employment and leisure. Level 3 services include community based rehabilitation teams which are significantly under resourced.

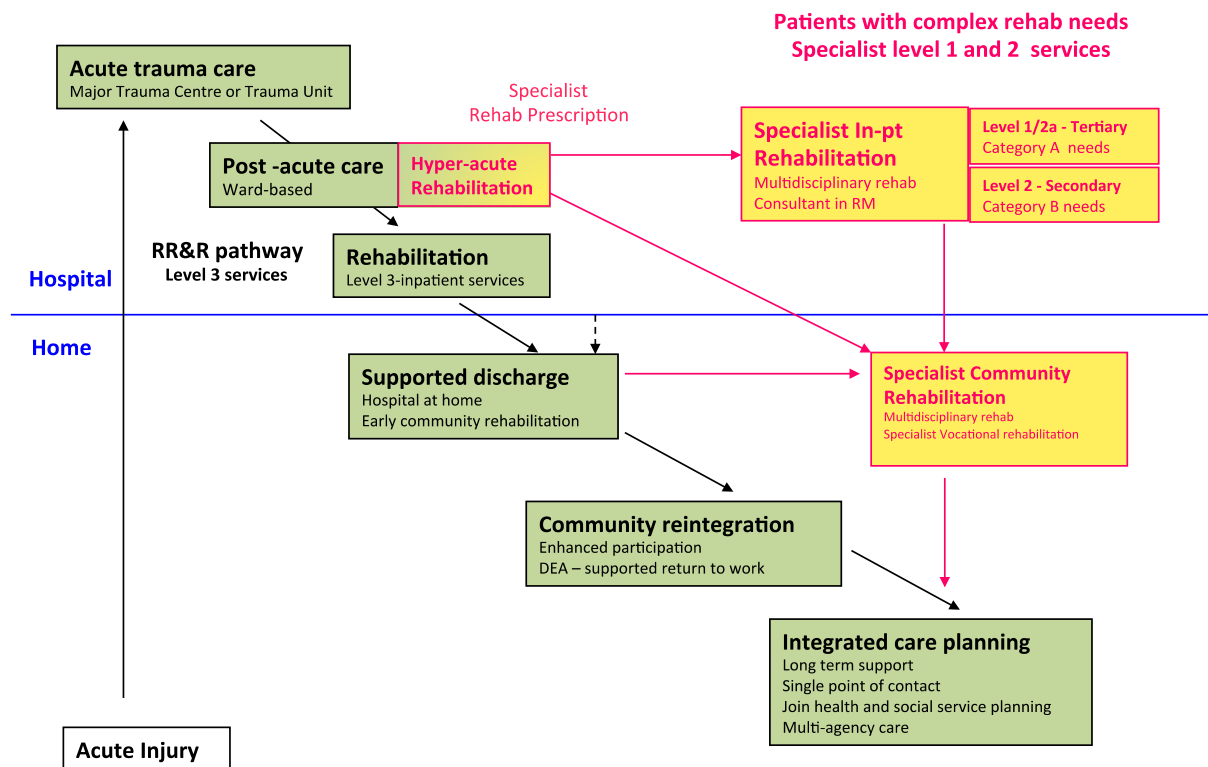


Figure 2: Best practice pathway for trauma rehabilitation

National Drivers for change in Trauma Rehabilitation

Best practice tariff measures for Rehabilitation 2015 and 2019

At the MTCs a rehabilitation assessment and prescription is now essential to meet best practice tariff (BPT). Relevant criteria to meet payment are in **Appendix 1**. In summary all patients with ISS >9 need a full rehabilitation assessment with-in 72 hours of admission, and a rehabilitation

prescription, including the patient's agreed ongoing goals and problems in physical, cognitive/emotional and psycho-social domains, which is updated on discharge and copies given to the patient, GP and the next treating community teams. To date there is no BPT for Trauma Units although a proposal is being worked up.

Quality Surveillance 2015-2019

The national major trauma peer review process working in collaboration with the Trauma Audit and Research Network – TARN – has had a significant impact on standards of care in rehabilitation for trauma patients. Peer Reviews of MTCs and Networks are conducted as part of the Quality Surveillance Team programme; Trauma Unit Peer Reviews are network led. The most recent rehabilitation standards are detailed below.

Peer review rehabilitation measures for Major Trauma Centres 2019/20

- There should be a named lead clinician for acute trauma rehabilitation services who is a consultant in rehabilitation medicine, and have an agreed list of responsibilities and a minimum of 1PA specified for the role.
- There should be a multidisciplinary specialist rehabilitation team with injury specific experience which should include:-
 - Consultant in RM
 - Physiotherapist
 - Occupational therapist
 - Speech and language therapist
 - Dietitian
 - Clinical psychologist/neuropsychologist
- There should be specified contacts for pain management specialist, pharmacist, orthotic services, prosthetic services, wheelchair provision
- There should be a rehabilitation co-ordinator who is responsible for the coordination and communication regarding the patients' current and future rehabilitation available during day time hours 7 days a week. This rehabilitation coordinator should be a nurse or allied health professional at AFC Band 7 or above with experience in rehabilitation and have links to the specialist rehabilitation team. (This post can be shared with the major trauma coordinator. This post can be a combined post for adults and children).
- There should be a weekly MDT meeting for discussion and management of patients with potential complex rehabilitation needs. The meeting should include Consultant in Rehabilitation Medicine, rehabilitation/trauma coordinator, other relevant specialist areas as required.
- All patients should receive a rehabilitation assessment as specified in the 2019 Rehabilitation Prescription standards. Rehabilitation audit data should be submitted to TARN for all patients that require a Rehabilitation Prescription.
- The trauma rehabilitation service should include a clinical psychologist for the assessment and treatment of major trauma patients Inpatient and outpatient clinical psychology services should be available.
- For patients identified as having Category A or B needs and so potentially requiring specialist (level 1 or 2) rehabilitation, the Patient Categorisation Tool, or Complex Needs Checklist should be completed by a Consultant in Rehabilitation Medicine or their designated deputy.

Peer Review Measures for Trauma Units 2019/20

- There should be a rehabilitation coordinator who is responsible for coordination and communication regarding the patient's current and future rehabilitation including oversight of the rehabilitation prescription. This rehabilitation coordinator should be a nurse or allied health professional.
- There should be the following allied health professionals with dedicated time to support rehabilitation of trauma patients:-
 - Physiotherapist
 - Occupational therapist
 - Speech and language therapist
 - Dietitian
- There should be specified referral and access pathways for:-
 - Rehabilitation medicine consultant
 - Pain management
 - Psychology/neuropsychology assessment
 - Mental health/psychiatry
 - Specialised rehabilitation
 - Specialist vocational rehabilitation
 - Surgical appliances
 - Orthotics and prosthetics
 - Wheel-chair services
- All patients should receive a rehabilitation assessment including barriers to return to work. Where a prescription is required this should be completed within 72 hours. The prescription should be updated on discharge and a copy given to the patient. All patients repatriated from the MTC should have their prescription reviewed and updated at the trauma unit.

Peer Review Measures for Major Trauma Networks 2019/20

- There should be a network lead for rehabilitation with experience in trauma rehabilitation. The director should have an agreed list of responsibilities and time specified for the role.

TARN Results

TARN data is submitted by each MTC according to BPT targets for rehabilitation prescription (**Appendix 1**). TUs also submit data. Comparison of entries from 2012/13 and 2018/19 will allow analysis of changes in the Network over the past 5 years. This data provides up to date useful information about the numbers of patients presenting with major and serious trauma and their rehabilitation needs. Data presented is dependent on submission rates and completeness from each unit, and timescales of submission for differing variables may result in variation in total numbers compared to local figures in some instances.

Overall Numbers of TARN-eligible trauma patients in the Northern Trauma Network

The increased number of TARN-eligible patients in part reflect increased case ascertainment and submission in units across the Network. Distribution in the Network is shown on the table below.

Table 1: Number of patients submitted to TARN by unit and year from 2013/14 to 2018/19

Unit	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	Grand Total
Cumberland Infirmary Carlisle (CIC)	83	146	162	302	377	417	1487

Darlington Memorial Hospital (DMH)	85	95	228	302	333	342	1385
James Cook University Hospital (JCUH)	812	757	799	832	876	955	5031
Queen Elizabeth Hospital (QE)	151	162	253	264	224	230	1284
Royal Victoria Infirmary Newcastle (RVI)	1079	1040	1057	1019	1184	1165	6544
South Tyneside District Hospital (STDH)	162	155	163	127	112	138	857
Sunderland Royal Hospital	332	385	368	389	393	362	2229
Northumbria Specialist Emergency Care Hospital (NSECH) *	281	239	256	361	325	291	1753
University Hospital of North Durham (UHND)	90	156	190	231	318	277	1262
University Hospital of North Tees (UHNT)	133	205	195	220	237	271	1261
West Cumberland Hospital (WCH)	66	81	79	87	120	53	486
Grand Total	3274	3421	3750	4134	4499	4501	23579

* includes numbers from North Tyneside and Wansbeck prior to 2015/16

Almost half of the overall population of major and serious trauma patients now present to the MTCs, the other 50% to the trauma units. Some of these patients have secondary transfer to the MTCs, but a proportion remain at TUs, and require their rehabilitation needs to be met where they are. The table below shows details of patients with major trauma ISS>15 who are not transferred for each TU.

Table 2: Number of patients ISS>15 who remain at each Trauma Unit

TU	Number of patients ISS > 15 not transferred to MTCs (% total ISS>15)
	Jan 2019- Dec 2019
CIC	82 (68)
DMH	78 (83)
QE	56 (84)
STGH	19 (70)
SRH	78 (69)
NSECH	71 (72)
UHND	56 (66)
NTees	48 (75)

Between 66% and 84% of patients in 2019 who presented to trauma units with major trauma remained at a Trauma Unit, they will then require rehabilitation on the site to which they are first admitted.

Secondary Transfers

For the same time period, patients with major trauma treated at JCUH, 111 (11%) were secondary transfers in to the MTC, with 52 of these being in the category of most severely injured patients (13% of all ISS>15) of serious trauma patients. At the RVI 357 (31%) major trauma patients were secondarily transferred in, and 202 of these were patients who were ISS>15 (36% of all ISS>15). Rehabilitation planning for this group needs to consider their home area, repatriation and local provision.

Table 3: Rehabilitation Needs Identified on initial rehabilitation prescriptions in Northern Trauma Network 2019 for patients where needs are recorded

	Yes	Total	%
Physical need	981	1024	96
Cognitive needs	337	1011	33
Psycho-social	238	1002	24

The majority of trauma patients have a physical rehabilitation need, one third have a psychological/cognitive need and a quarter a psycho-social need at the point of initial rehabilitation prescription.

Table 4: Major and serious trauma patients categorised by Injury Severity Scores (ISS) Apr 18 -Mar 2019

MTC	Apr-12 - Mar-13			Apr-18-Mar-19		
	ISS 9-15	ISS 16+	Totals	ISS 9-15	ISS 16+	Totals
JCUH	201	209	410	409	375	784
RVI	334	402	736	426	554	980

There is a significant increase in major trauma patients at each MTC. The distribution of serious (ISS 9-15) vs major (ISS>15) is 50/50, suggesting patients with less severe injuries are being treated at MTCs as well as those with more severe injuries. Both MTCs are Tus for their local population and as such will see a range of trauma, in addition to the patients in the table above they will also see some categorised as ISS 1-8.

Table 5: Patients admitted to TUs April to September 2012/13 vs 2018/19 (TARN)

Site	Patients admitted to TU's			
	Apr-12 - Mar-13		Apr-18-Mar-19	
	ISS 9-15	ISS 16-25	ISS 9-15	ISS 16-25
Cumberland Infirmary Carlisle	37	24	206	124
Darlington Memorial Hospital	43	27	183	99
North Tyneside General Hospital	80	28	0	0
Queen Elizabeth Hospital (Gateshead)	83	11	94	52
South Tyneside District Hospital	65	35	53	39
Sunderland Royal Hospital	178	65	174	98
The Northumbria Specialist Emergency Care Hospital	56	16	74	45
University Hospital of North Durham	54	13	129	100
University Hospital of North Tees	112	37	136	57
West Cumberland Hospital*	32	26	30	14
Total admitted to TUs	740	282	1079	628
Total including MTCs	1275	893	1914	1557

*West Cumberland Hospital is not a designated TU but receives major trauma patients due to geography

The table above shows a significant increase in serious and major trauma to all units which may be a reflection of increased case ascertainment. The MTCs receive 60% of patients with ISS 16 and above compared to 70% in 2012/13, and 44% (43% 2012/13) of patients with ISS of 9-15. Future development of rehabilitation services thus needs to include TUs and their supporting community services in addition to those using MTCs.

Geographical Distribution of Major Trauma Patients' Home Areas

Table 6: Number of patients admitted to each MTC from each geographical area from April to September 2012 (based on address of patients General Practitioner, GP)

Local Area	RVI		JCUH	
	ISS 9-15	ISS 16-75	ISS 9-15	ISS 16-75
County Durham and Darlington	9	21	9	20
North Cumbria	13	26	0	2
Newcastle	49	27	0	1
Northumberland	46	42	0	1
South of Tyne and Wear	27	47	0	3
South and North Tees (inc N Yorks)	1	1	70	61
Other (out of area or GP unknown)	12	23	8	9
Total				

Table 7: Number of patients admitted to each MTC from each geographical area from April to September 2019 (based on address of patients General Practitioner, GP)

Local Area	RVI		JCUH	
	ISS 9-15	ISS 16-75	ISS 9-15	ISS 16-75
County Durham and Darlington	21	32	27	36
North Cumbria	21	26	1	3
Newcastle	138	93	1	2
Northumberland	75	61	0	2
South of Tyne and Wear	34	47	1	4
South and North Tees (inc N Yorks)	2	7	290	141
Other (out of area or GP unknown)	19	26	23	23
Total	310	292	343	211

Again, significant increase in numbers reflects case ascertainment, and those with major trauma are being seen in the MTCs, but a significant number of those with serious trauma are now also being transferred, with an increase in numbers from most units compared to 2012. This is relevant to repatriation and rehabilitation planning.

Rehabilitation Prescriptions

MTC data

Rehabilitation prescriptions were introduced to document the rehabilitation needs of the patients and identify how they will be addressed. The Rehabilitation Prescription (RP) is completed for all major and serious trauma patients and therefore should indicate the number of patients requiring rehabilitation. In the year 1 April 2018- end March 2019 the overall completion rate for RPs for patients ISS >8 was 62% compared to national average of 75%. This level is in part a reflection of a lack of paediatric rehabilitation service and RP completion at the RVI.

Change in Numbers of Patients requiring RPs

Table 8: Rehabilitation Prescriptions at the MTCs

	Rehabilitation Prescriptions 2012 6 months	Rehabilitation Prescriptions 2019 6 months based on TARN quarterly reports
JCUH	246	233
RVI	501	269
Total in NTN	747	502

The figures in the table above give the number of rehabilitation prescriptions completed in the MTCs in 6 months from May to October 2012, and a similar timescale in 2019. The 2012 figures reflect local recording processes at the time of recording rather than formalised TARN data. Changes to best practice tariff in April 2019 are reflected in the above numbers which are a record of rehabilitation prescription at **discharge from the MTCs**, rather than the initial RP and rehabilitation assessment carried out on admission as in 2012. The decrease is related to patients who do not have ongoing rehabilitation needs.

TARN outputs relating to Rehabilitation for RVI and JCUH MTCs April – Dec 2012

Further TARN data taken from information recorded on the rehabilitation prescriptions is tabulated below to give further information on rehabilitation needs.

Table 9: Age distribution of patients admitted across the NTN with serious trauma (ISS 9-15)

Age distribution admitted ISS 9-15	Number of patients					
	Apr-12 - Mar-13			2019		
	RVI	JCUH	TU's	RVI	JCUH	TUs
Age						
Under 16	26	16	29	93	35	69
16-65	214	133	404	519	474	941
65+	94	52	307	442	558	1672

Table 10: ISS distribution of working age adult patients admitted across the NTN

16-65 years admitted to MTCs	Number of patients					
	Apr-12 - Mar-13			2019		
	RVI	JCUH	TU's	RVI	JCUH	TUs
ISS Score						
8 and below	115	73	175	66	80	191
9-15	214	133	404	173	185	499
16 and above	238	135	140	280	209	251

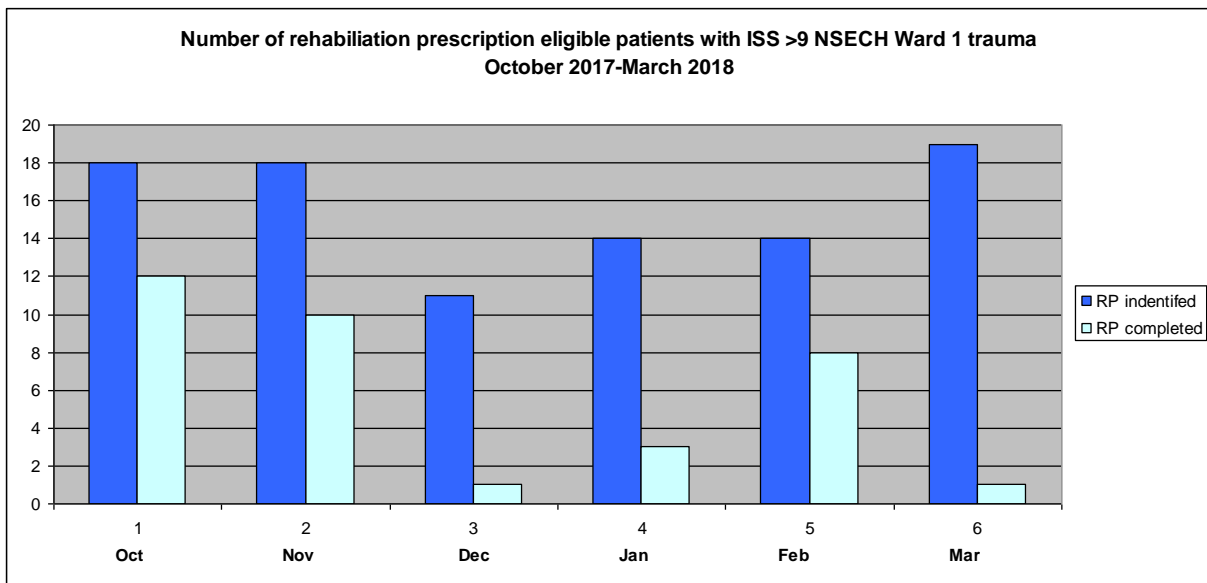
Rehabilitation Prescription Completion at Trauma Units

Several of the trauma units are working to deliver the rehabilitation prescription however without the required resource it is difficult to implement fully. The limited data available is shown in the table below. The nationally reported TU completion rate is 46.7% completion, data is shown in the table below

Rehabilitation Prescription Process at Trauma Units – Northumbria Audit Data

Trauma Units do not receive a best practice tariff payment for rehabilitation prescription, which is a larger barrier to implementation of the process. In 2018/19 an audit the RP process was carried out at Northumbria Emergency Care Centre by Senior Trauma and Orthopaedics physiotherapist Diane Williams and her team. The results and conclusions are shown below:-

Number of rehabilitation prescription eligible patients with ISS >9 on ward 1 trauma NSECH October 2017-March 2018



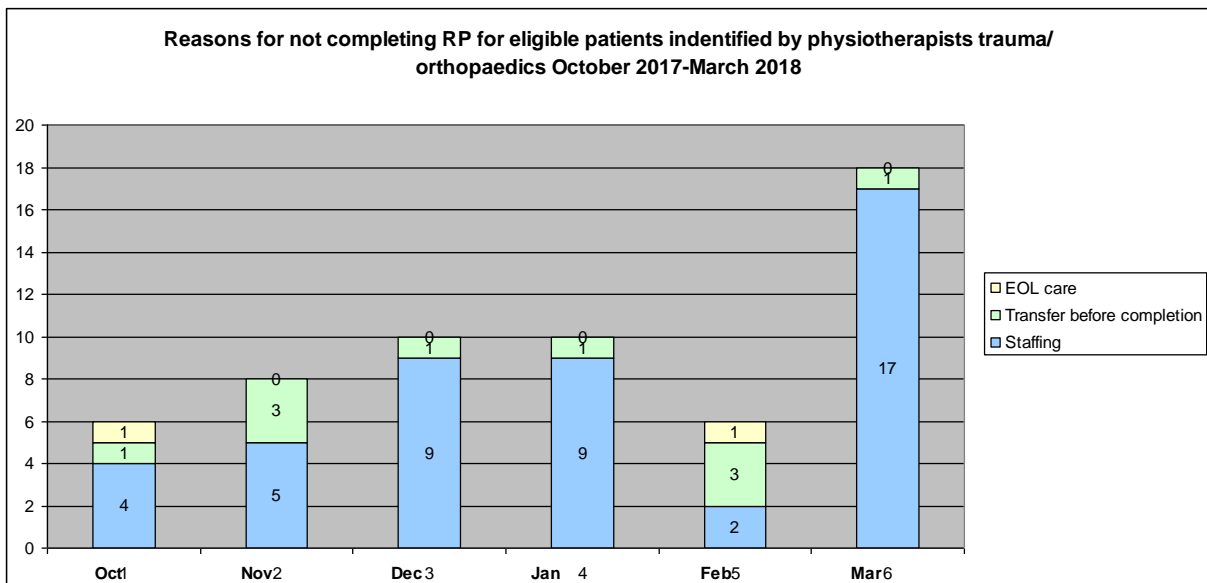
The ward 1 physiotherapists identified a total of 94 trauma/orthopaedic patients who were RP eligible. 35 were completed which is 37.2% of those patients physiotherapists identified as being RP eligible. The TARN dataset for the same period showed that there were 116 patients recorded as being RP eligible. 35 were completed which is 30.1%.

The potential reasons for discrepancies in patient numbers are:-

- Lack of understanding by the physiotherapists as how to assess if a patient was eligible
- Staffing pressures leading to not checking if patients were RP eligible. (weekends in particular)
- Patients being transferred to a base site/community hospital prior to a RP being commenced and therefore being missed.

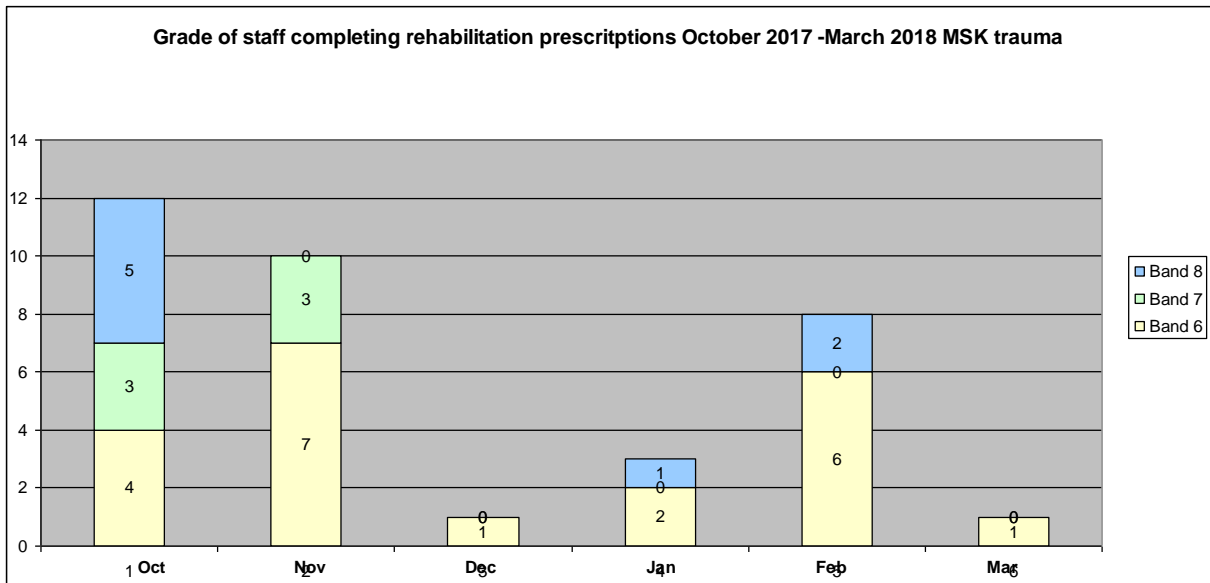
There were a couple of patients each month who had RP's completed on the ward, but the patients subsequently did not meet the criteria for a RP. These patients were identified by the TARN administrators and fed back to the ward 1 physiotherapists as a learning point. e.g. Some femoral shaft fracture patients had RP's completed, but after histology, they were confirmed as having had a pathological fracture and these are not TARN eligible. This information is only known retrospectively to the ward staff.

Reasons for not completing rehabilitation prescriptions for eligible patients identified by physiotherapists on ward 1 trauma NSECH October 2017-March 2018



The main reason each month for RP not being completed for patients who had been identified as RP eligible was a lack of staffing resources. The ward on average has 2.5 WTE qualified *clinical* physiotherapy time Monday - Friday when all staff are in. During the week staff have rest days following their weekend working and there is annual leave to consider, so often the staffing is 1-2 WTE. At weekends that falls to 1.0 WTE qualified physiotherapist. Across all seven days, the staff after completing initial new assessments and seeing patients for potential discharge home, felt that they had completed all the RP's that they could physically do within the time available. During the winter pressures period (December & January), there was more pressure on staff to assess and discharge patients to help with hospital flow and more time was spent on clinical assessment rather than completing RP's. In March, there was more annual leave. Weekends are staffed from a wider pool of physiotherapists and not specifically the same orthopaedic staff who work on the ward during the week. So for the trial and audit period only the staff permanently on orthopaedics (> band 5) were instructed in how to complete RP's. Therefore some weekend patients will have been missed as staff with the right skill set were not working. The second highest reason for not completing RP's was that a patient was transferred to another site before it could be completed (<72 hours) and staff on base and community sites have not yet had training in completion of RP's as this was an acute ward based trial. Some patients became palliative and so RP's were not completed.

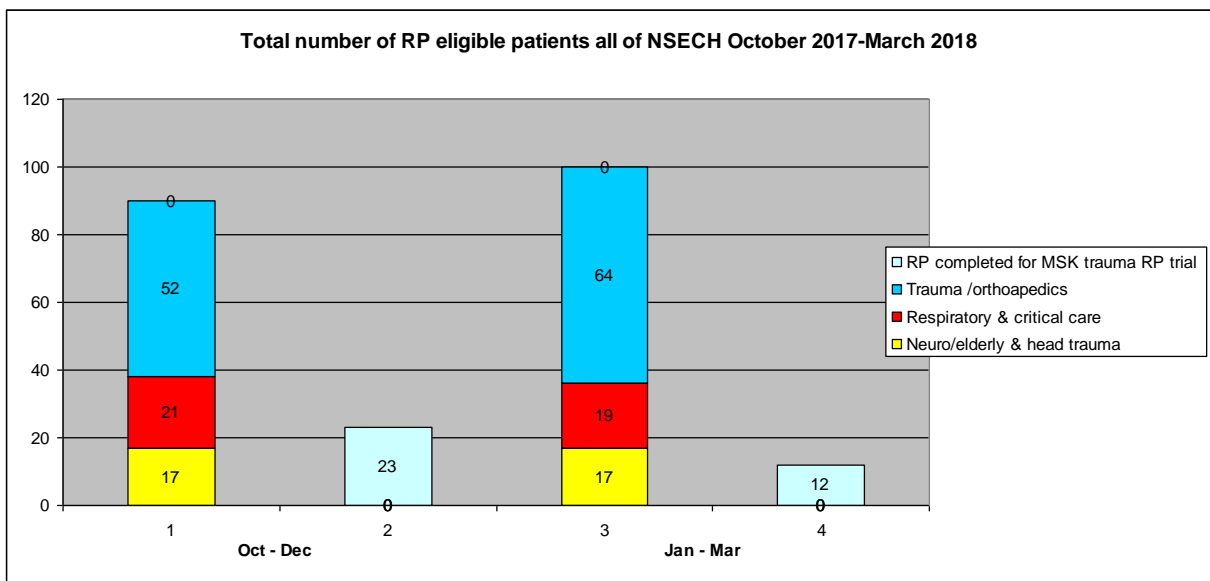
Grade of staff completing rehabilitation prescriptions on ward 1 trauma NSECH October 2017-March 2018



The skill mix of the qualified physiotherapy staff on ward 1 at NSECH ranges from a 0.6 to 0.8 band 8 or a 0.75-1 WTE band 7 Monday to Friday depending on which senior person is on rotation to that ward at that time. There is also a 1 WTE band 6 and a 1WTE band 5. At weekends there is 1 WTE person whose band may range from a 5 to a 8. For TARN and also to achieve BPT in MTC's, an Allied Health Professional (AHP) completing a RP should be a band 7 or above, but for the purpose of the trail period and audit we allowed band 6 and above to complete, otherwise we would not have managed to complete as many as we did as the results show that it was the band 6 staff who were the most prolific completers of RP's. This is because the band 6 staff are the constant on the ward, where more senior staff have other non-clinical commitments to attend to.

The audit findings show that 60% of RP's were completed by a band 6 and so would **not** be eligible for BPT and 40% by band 7 or above which would be BPT eligible.

Total number of rehabilitation prescription eligible patients all of NSECH October 2017-March 2018 by physiotherapy speciality.



The data was gathered from the quarterly TARN report.

The greatest number of RP eligible patients were classed as trauma/orthopaedics and were admitted to ward 1 at NSECH. In quarter 1 (Oct-Dec) there were 52 RP eligible patients and 64 in quarter 2 (Jan-Mar). The second highest was for respiratory trauma where there were 21 patients eligible in quarter 1 and 19 in quarter 2. The smallest number of RP eligible patients were classed as neuro/elderly head trauma and there were 17 patients eligible in both quarters. The total number of patients trust wide who were RP eligible were 190 and just 35 RP were completed during this period (all on ward 1 trauma/orthopaedics) which is 18.4% of patients.

Conclusion

This audit shows that as we do not have a specific dedicated person whose role it is to complete rehabilitation prescriptions, we were able to complete only 35 on trauma orthopaedics (within our existing staffing resources)which was fewer than $\frac{1}{3}$ of those presenting as eligible on that ward. When we consider the patients who were RP eligible on other wards, then we are potentially missing 82%, but need further audit to see what capacity for completing RP's within existing resources the respiratory and neuro elderly physiotherapy teams have.

The majority of RP's (60%) were completed by band 6 staff as they were the constant grade of staff on the trauma ward, but to meet TARN eligibility and BPT, this should be a band 7 or above. Without investment for additional band 7 staff in a rehabilitation coordinator/s role across the whole of NSECH to complete RP's, it is unlikely we would be able to meet the standard that all RP eligible patients have a RP. The patients who had their initial RP completed on the trauma orthopaedic ward had no follow up and no review of their RP. If we had additional resources such as a dedicated coordinator role, patients on base sites and community hospitals could be followed up and on-going audit of patients progress. Training could be given to staff in rehabilitation wards around reviewing the RP's ensuring they meet the needs of the patient at that moment in time.

Traumatic Brain Injuries requiring Neurorehabilitation in the NTN

TARN records patients with AIS3+ traumatic brain injury (Abbreviated Injury Score of Greater than 3, the most severe) which provides information on the distribution and numbers of patients potentially requiring specialist neurorehabilitation. Details of those who remained in each unit, and those additional patients who were transferred out for care are shown in the table below. A high number of patients with significant TBI remain at TUs. Their rehabilitation needs are not being fully assessed using the RP process and their rehabilitation pathways are fragmented as specialist community teams only exist in Northumbria, Gateshead, Sunderland and Cumbria.

Table 11: Number of patients with AIS3+ traumatic brain injury in 2019

Unit	Patients not transferred	Transfers Out
CIC	57	20
DMH	58	7

QE	33	5
STDH	18	2
SRH	57	29
NSECH	41	23
UHND	33	16
UHNT	39	10
JCUH	202	5
RVI	210	23

Both MTCs receive a high number of patients with significant head injuries whose needs are assessed by the RP process, but there are limited resources to meet their needs and there are no specialist rehabilitation beds for head injured patients at the RVI.

Rehabilitation Prescription at the RVI Major Trauma Centre

Local data from the RVI MTC reports an annual completion rate of initial RPs (January – December 2019) of 841 prescriptions, with a monthly average of 70 (range 48-89). The table below shows the main clinical specialty involved and the numbers of patients according to rehabilitation complexity score for trauma as a reflection of rehabilitation needs. (Comparative data from the JCUH MTC not available due to variation in local data collection).

Table 12: Breakdown of clinical specialities involved in patients' initial rehabilitation depending on their complexity score in the RVI

Main acute treating specialty/ ward area	RCSET<14	RCSET>14
Critical care	50	224
Major trauma ward	154	226
Neurosurgery	39	39
Orthopaedics	17	60
Orthospinal ward	26	29
Other	22	34

A third of serious and major trauma patients require critical care stay and have their rehabilitation needs first assessed at this early stage. The majority of patients with significant rehabilitation needs are managed on the major trauma ward. A breakdown of needs according to RCSET banding from 1 April 2018 – 31 March 2019 is shown in the table below.

Table 13: Number of patients within each complex rehabilitation banding in the RVI MTC

Rehab needs according to RCSET	Number	%
Very high > 20	68	7
High 17 – 20	188	20
Medium 12 – 16	531	56
Low < 12	160	17
Total	947	100

More than a quarter of patients have high or very high needs, and over half have medium needs.

Specialist Rehabilitation - BSRM Core Standards in Major Trauma Rehabilitation and NCASRI study.

BSRM core standards for use in the trauma pathway are described in **Appendix 2**, and local mapping to standards shown in the gap analysis and questionnaire responses.

NCASRI (National Clinical Audit of Specialist Rehabilitation following Major Injury) is a prospective national audit from July 2016 to August 2017 of patients over 16 years who required specialist in-patient rehabilitation at the “transfer-ready” point or on discharge from the MTC. TARN data was linked with the UKROC (United Kingdom Rehabilitation Outcomes Collaborative), a specialist rehabilitation outcomes database, identifying 1381 patients nationally on the TARN dataset in the MTCs as having category A or B rehabilitation needs – those that need specialist services. Forty percent of this group (550) were admitted to Level 1 or 2 units for specialist rehabilitation, whilst 60% have did not access to appropriate specialist rehabilitation. It was reported that nationally a minimum of 330 additional specialist beds are required to meet this need. With regard to access to Consultants in Rehabilitation Medicine (CRM), 45% of MTCs across the country had less than 2-3 visits per week from a CRM and 18% had none at all.

The rehabilitation needs described in the NCASRI dataset are derived from PCAT (Patient Categorisation Tool) scoring and are shown below:-

- **87%** of major trauma patients had physical needs
- **70%** had complex cognitive or emotional needs
- **51%** had complex psychosocial needs
- **74%** require coordinated interdisciplinary input with **31%** needing involvement of > 4 therapy disciplines
- **25%** require multiagency support for return to work and Specialist vocational assessment is needed in **20%**
- Customised/bespoke personal equipment is needed for **21%**

Details of Rehabilitation Needs

Eighty-seven percent of Category A/B (level requiring specialised services) patients had a physical need. Complex MSK management was required for one third (36%) and complex neurorehabilitation for two thirds (65%). Two thirds (62%) patients with C/D needs requiring RRR

(Recovery Rehabilitation and Reablement) pathway had physical needs, 46% requiring complex MSK management.

Table 14: Percent of patients from NCASRI report and rehabilitation required

	A/B %	C/D %
Complex MSK management	36	46
Complex neurorehabilitation	65	14
Complex amputee needs	3	1
Profound disability/neuro=palliative	13	7
Complex pain	12	5
Reconditioning/ pulmonary rehab	3	0

Complex cognitive/emotional needs were present in 70% of those with A/B needs and 23% of the C/D group. A/B needs in this group reflect predominantly head injured patients requiring Level 1 neurorehabilitation.

Table 15: Percent of patients from NCASRI with cognitive and emotional needs

	A/B %	C/D %
Complex communication support	25	2
Cognitive assessment/management	57	10
Complex mood evaluation/support	31	14
Challenging behaviour	20	4
Evaluation of low awareness state	11	0

Complex psychosocial needs were present in 51% A/B patients and 20% C/D

Table 16: Impact of rehabilitation needs on family and staff from NCASRI

	A/B %	C/D %
Complex discharge planning	39	17
Major family distress/support	21	7
Emotional load on staff	8	0

Table 17: NCASRI data for Northern Trauma Network

	JCUH	RVI
Total TARN episodes requiring RP	741	907
Total no enrolled in TARN & UKROC	51	276
ISS>9	50	237
A/B	41	136
Number actually admitted to specialist rehab	36 (5%)	25 (3%)

At both MTCs a very small percentage of patients with an RP received specialist rehabilitation, despite a higher percentage of the total enrolled in both databases identified as having category A/B specialist needs. This mirrors national figures and is a reflection of the lack of specialist rehabilitation inpatient beds for major trauma rehabilitation patients.

Waiting times for admission to specialist rehabilitation

Both MTCs are above the national average of 54% of patients seen in 10 days for specialist rehabilitation assessment – Middlesbrough at 63%, and Newcastle 78%. Nationally 91% are admitted within 6 weeks of assessment - Newcastle 100% and Middlesbrough 93%. Direct transfer to the rehabilitation service occurred in 42% in Newcastle, 3% in Middlesbrough (figure reflects on site rehabilitation unit with no transfers needed), against 62% as the national average. The lower level for Newcastle MTC reflects the lack of level 2 provision for neurosurgical trauma (and non-trauma) patients for the large urban population base and tertiary neurosurgical service, leading to repatriation to local units prior to specialist rehabilitation level 1 beds being available. This lack of provision leads to secondary complications as patients are cared for in non-specialist units whilst awaiting bed availability, and require a second transfer.

Table 18: Recommendations and actual delivery of specialist rehabilitation

	National %	Middlesbrough %	Newcastle %
Recommendation for Level1 or 2	62	66	62
Level 1 or 2 actually delivered	46	49	52

In line with the national average, approximately half of the patients in whom Level 1 or 2 rehabilitation was recommended, actually received this level of rehabilitation. Up to one third did not receive the level recommended. However this means that there were around 50% of patients who needed specialist rehabilitation who did not receive it.

Summary of Conclusions from data sources

- TARN, NCASRI and local data emphasise the increase in numbers and complexity of trauma patients and their rehabilitation needs in the Network which reflect national trends.

- Gaps in provision are evident in pathways for both specialist rehabilitation and the re-enablement pathway.
- The rehabilitation process is now established in the MTCs and has identified a range of missing resources, in particular for psychological needs and specialist MSK rehabilitation.
- Rehabilitation services need to be developed at TUs including the resources to allow completion of the rehabilitation prescription process.
- There continues to be a deficit of level 1 and 2 neurorehabilitation inpatient beds and Rehabilitation Medicine Consultants to fulfil the needs of those requiring specialist rehabilitation.

Questionnaire Results from TUs and MTCs

The information and data below describe each unit in the NTN, this information was provided in response to semi-structured questionnaires completed by the trauma and rehabilitation leads in each unit (**Appendix 3**)

1. Background Context

Changes in the population of patients with rehabilitation needs

- Increase in serious and major trauma rehabilitation patients with complex rehabilitation needs
- Increase in elderly trauma patients
- Lack of community rehabilitation for trauma patients
- Increased rehabilitation needs identified by more in-depth rehabilitation assessments.

Perception of change in overall number of patients with trauma at each unit

- TUs reduction in major trauma cases
- Increased frailty and c spine fractures
- Increased numbers at both MTCs

Changes to the trauma rehabilitation pathway

Five units – both MTCs and 3 TUs reported changes to their trauma rehabilitation pathways since 2013.

Newcastle MTC reported Implementation of trauma rehab pathway assessment, initial RP and signposting by MTRS team for all trauma patients, a Major Trauma Rehabilitation Inpatient Unit for appropriate patients, outpatient telephone follow up and clinic, key working of major trauma unit patients and a Discharge RP process for all patients. There is linkage and a weekly ward round with medical and nursing staff from level 1 centres for neurorehabilitation patients with level 1 needs.

JCUH MTC has developed 2-3 MSK beds on the neuro-rehabilitation ward to allow access to more extensive rehabilitation and facilities delivered by the specialist MDT. There is a weekly major trauma ward round with appointment of 2 rehab coordinator and a Consultant in trauma RM 0.6WTE for MSK patients. There is access to psychology 0.1WTE accepting referrals from outpatients and paediatrics. There is an MSK follow up clinic and TBI clinic for mild to moderate brain injuries.

Trauma unit changes include the use of RPs for MSK patients, introduction of a rib fracture pathway, restructuring physiotherapy services and the appointment of trauma coordinators. Pathways for frail elderly patients have also been introduced. Achievements units were proud of included improved coordination, commencement of RPs at trauma units, and making improvements, despite a lack of specialist resources.

Biggest ongoing Challenges

- Lack of coordination and identification of trauma patients and their needs across multiple settings in TUs
- No rehabilitation coordinators
- Adequate staffing levels for trauma rehabilitation
- Access to and waiting times for specialist neurorehabilitation services
- The increased pressures of the discharge rehabilitation prescription process at the MTCs which has doubled the workload
- Access to psychology
- Vocational rehabilitation

Change in age distribution and range of injuries

All units reported an increase in frail elderly trauma patients. Decreases in paediatric trauma have occurred at all trauma units.

Changes to range of injuries reported at trauma units were:-

- Head/limb/chest injuries in isolation
- 2 body areas affected
- Less abdominal and significant chest injuries
- Reduced multisystem major trauma Rib fracture and major trauma patients
- More C spine and L fractures

MTCs have received more open fractures, polytrauma, mixed head and MSK injuries

Specific changes for needs of older people

Older peoples' needs have been met by the development of:-

- Changes to skill mix
- Specific 7 day service for frail patients
- Inclusion of orthogeriatric team members in MDT
- Review by orthogeriatrician within 72 hours of admission
- Age related chest pathway changes
- Additional COTE sessions

Missing resources in the trauma rehab pathway

All units reported the need for additional resources.

At TUs:-

- Rehab coordinator
- Rehab clinical lead
- Support from specialist rehab services

- No capacity for RP completion
- Limited OP capacity for MSK/neuro/amputee/respiratory rehab
- Limited community neurorehabilitation
- Lack of commissioning for trauma psychological and physical needs.

MTC Needs:-

- Key working and coordination of patients not in the major trauma rehab unit
- Vocational rehabilitation
- Capacity for repatriation and specialist rehabilitation for neuro patients
- Specialist community MSK teams
- Specialist level 2 neurorehabilitation for Newcastle patients
- Lack of sufficient level 1 beds
- OT and dietetic provision for trauma patients at JCUH

2. Leadership and Consultant Provision for Rehabilitation

No trauma units reported making leadership changes as specific responses to major trauma and none had appointed any Consultants in Rehabilitation, even on a sessional basis. One had restructured to appoint an overarching leadership role in physiotherapy. Both MTCs have Consultants in Rehabilitation Medicine as Clinical Leads. There is a Consultant AHP at the Newcastle MTC. RM Consultants are involved in the patient care pathway from critical care onwards at both MTCs, work with inpatient wards and outpatient clinics. There are now 1.6 FTE RM sessions specifically for trauma rehabilitation in the Network.

Four TUs do not have a named designated lead for major trauma rehabilitation. There has been an increase in Orthogeriatric provision at Sunderland to support patients on the orthopaedic wards.

3. Coordination and Communication

Rehabilitation Coordinators

Both MTCs and one trauma unit – North Tees – reported having rehabilitation coordinators. The Newcastle and North Tees post-holders had other roles as well. The North Tees coordinator has no additional time for the role. South Tyneside and Gateshead TUs reported a senior physiotherapist contributed to coordination of trauma patients’ rehabilitation.

Table 19: Repatriation Difficulties

Unit	Main Blocker to Repatriation
ST	bed availability in the trust
Gateshead	No difficulties
NNT	bed availability and transportation issues
N Tees	No difficulties – just communication with base wards to be repatriated to
Cumbria	No difficulties

Durham and Darlington	No difficulties – patients transfer from MTCs direct to rehabilitation/non-acute unit at Bishop Auckland
Newcastle	Repatriation of elderly patients to local units Gateshead difficulties with social care provision requiring repatriation for social needs Equipment/ wheelchairs in some areas
S Tees	Bed and ambulance availability CPE risk

4. Specialist inpatient rehabilitation

There has there been NO additional inpatient provision for trauma rehabilitation out-with the MTCs in the past five years. Northumbria TU reported a reduced capacity for rehabilitation due to extended day working pattern of therapy staff and shift patterns spread over 7 days for acute services. Four TUs (Sunderland, South Tyneside, Gateshead and North Tees) reported no changes working patterns providing rehabilitation to trauma inpatients in the past five years.

A Specialist Rehabilitation MDT for major trauma patients only meets regularly at the MTCs with ad hoc arrangements at 2 TUs. A seven day service exists at only 3 units (Newcastle, Northumbria and North Tees). Specialist psychology is only provided at the MTCs, and a limited service at Gateshead. Amputee specialist provision

There are specialist Disablement Services Centres at JCUH, Cumberland Infirmary Carlisle and the Freeman Hospital in Newcastle. At Northumbria and S Tyneside initial rehabilitation with physiotherapist with an interest in amputee rehab and ongoing rehabilitation at local hospitals after initial prosthetic fitting

Involvement of Voluntary organisations and Independent Sector links

Three units reported involvement of voluntary organisations as described below. None reported official links with independent sector organisations. Patient and carer involvement in the trauma rehabilitation process happens in both MTCs and Northumbria.

- N Tees – supported by local umbrella organisation called catalyst
- S Tees – HATS nurse – withdrawn, citizens advice, back up and aspire for Spinal Cord Injury
- Gateshead – Red cross

Difficulty in sourcing equipment for inpatients

Most units reported difficulties in accessing equipment for trauma patients. In Gateshead provision depends on local GP arrangements. Northumbria and Newcastle reported difficulties accessing specialist wheelchairs and power chairs. South Tees reported difficulty accessing expensive specialist equipment which needs to be purchased out of existing funds. Durham and Darlington units reported difficulty in sourcing and also storing equipment for trauma inpatients.

Table 20: Barriers to Discharge

UNIT	BARRIERS
------	----------

Sunderland	Availability of appropriate rehab beds for complex patients
ST	Support for patients with complex care needs
Northumbria and N Tyneside	Lack of community physiotherapy resources and supported discharge teams
Gateshead	Housing and availability of rehab in the community
N Tees	Availability of intermediate care beds Complexity of patients Limited availability of neurorehab beds
Cumbria	Lack of OP msk and psychology
Durham and Darlington	Referral on to specialist community rehabilitation teams Lack of staffing for rehabilitation
Newcastle	Lack of TU beds to repatriate to. Lack of equipment in certain areas.
S Tees	Lack of community rehab services

Step-down beds are available in all TUs. There are none in Newcastle MTC except via a very limited elderly care pathway.

5. Community Provision

No area has adequate community therapy provision for patients after major trauma. There are no trauma-specific community services and patients need to access general community short term services if available. There is no community psychology specifically for trauma patients and community Integrated Assessment Teams have generic provision only.

There are no specialist MSK community teams for major trauma patients.

Head Injury community provision has reduced with changes to commissioning of services in Sunderland and Gateshead (CABIS), and Northumberland Head Injury Service. There is no provision for other areas apart from the specialist outreach Regional Disability Team based at Walkergate Park which provides input for a small group of patients referred via GPs or A and E teams on an ad hoc basis, rather than a defined pathway.

Community equipment difficulties

Trauma units reported problems accessing specialist wheelchairs and splinting. For MSK patients wheelchairs are only provided from South Tees if needed for long-term use. Similarly in Newcastle wheelchairs are accessed from the Red Cross.

6. Data Collection and Outcome Measures

No standardised measures are collected or recorded for all parts of the trauma rehabilitation pathway. MTCs collect data in keeping with the BPT and peer review processes including PROMs for a proportion of patients. Barthel index and other discipline or condition specific outcomes are used locally. Rehabilitation Prescription data are collected via TARN. Measures used are described in **Appendix 4**.

7. Rehabilitation Prescriptions (RPs)

RPs are being completed at only 4 TUs, and only for acute MSK/orthopaedic patients infrequently. The NTN rehabilitation prescription is used in these units. They are completed early in the pathway but not at a consistent time-point. The lack of BPT for TUs and limited staffing were main reasons for lack of completion.

8. Vocational Rehabilitation

There have been no developments in Specialist VR for major trauma patients. Ad hoc pockets of work-related rehabilitation are being carried out by specialist community brain injury teams in Sunderland and Gateshead (CABIS) Northumbria (NHIS), Cumbria (CCIBT), Middlesbrough and Redcar areas. Momentum UK/Changing Lives no longer provides specialist vocational rehabilitation.

9. Teaching and Training

Current trauma rehabilitation training is limited in the Network to ad hoc sessions or annual training days for discipline specific therapies. Units requested further lecture-based/one day training and webinars or email-linked teaching resources on topics such as rehabilitation needs for major trauma, best practice for specific trauma injuries, knowledge of services and signposting, spinal injuries management

10. Mass Casualty Plans for Rehabilitation

Five units had defined rehabilitation plans as part of mass casualty planning as part of their Trusts' major incident plans. Three reported no plans or commissioned pathways.

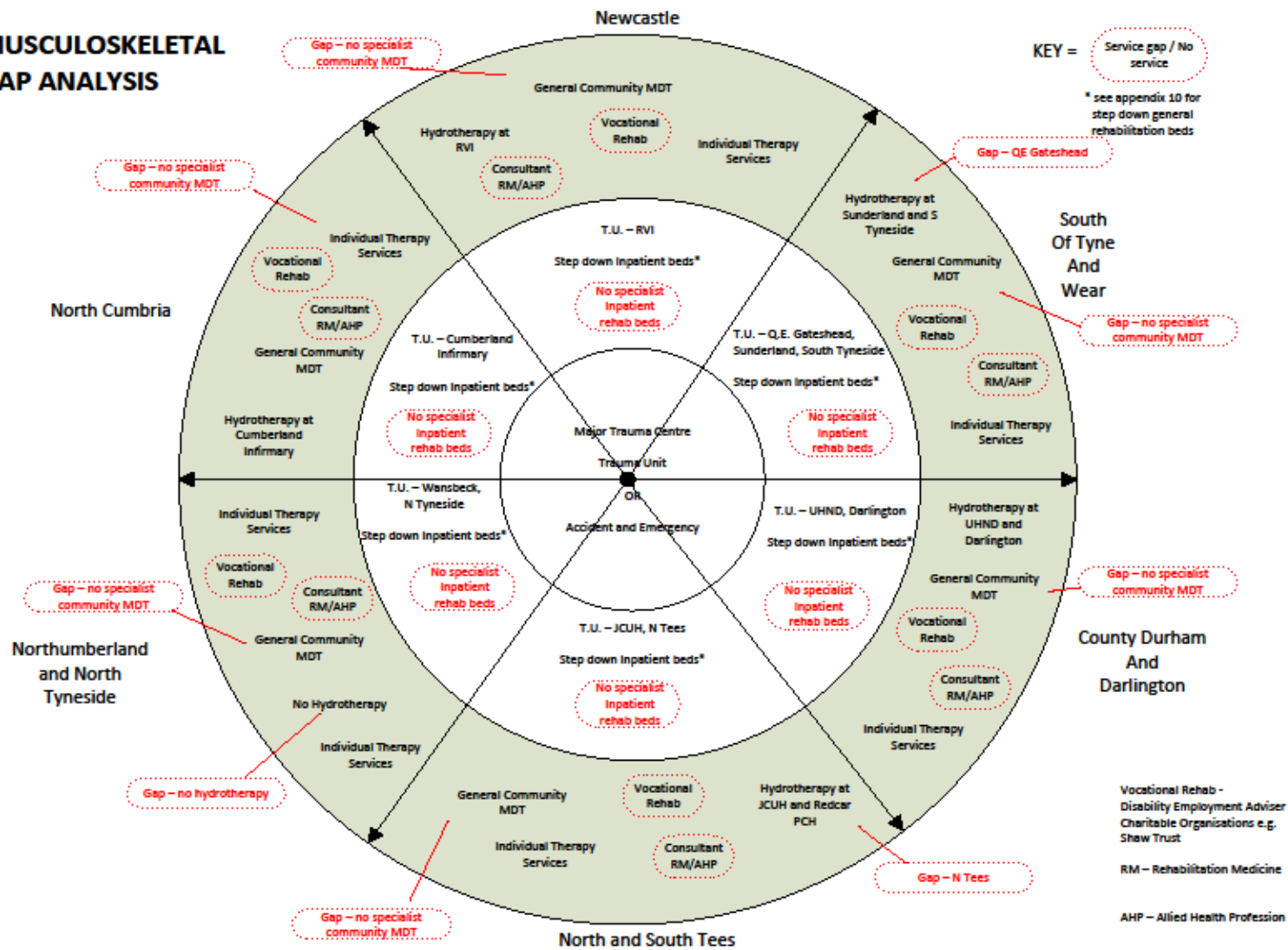
Summary of Outcomes of Questionnaires

- Despite significant progress at MTCs on the basis of BPT requirements, few changes for trauma rehabilitation have occurred on the past five years in the wider Network.
- There is very limited rehabilitation coordination and pathway development despite increased numbers of major trauma survivors
- There is a lack of specialist MDTs for inpatient and outpatient trauma pathways including a lack of rehabilitation medicine consultants, psychology and specialist MSK therapists
- Community and vocational rehabilitation services are sparse
- The rehabilitation prescription process is not functional beyond the MTCs

Update of Gap Analysis data and Performance against BSRM standards from 2013

Regional gap analysis charts are shown overleaf. There is little change overall in the gaps since 2103. In 2013 a regional audit tool was constructed based on the Yorkshire & Humber Major Trauma Network Rehabilitation Service Level Standards, relevant BSRM standards and Department of Health Guidance. The tables below show updated details of performance across all units in 2019, changes highlighted in blue. Further analysis against BSRM standards for chronic neurological conditions regarding patients with brain injury are included in **Appendix 5**, as there are no changes from the 2013 report.

MUSCULOSKELETAL GAP ANALYSIS



NEUROLOGICAL GAP ANALYSIS



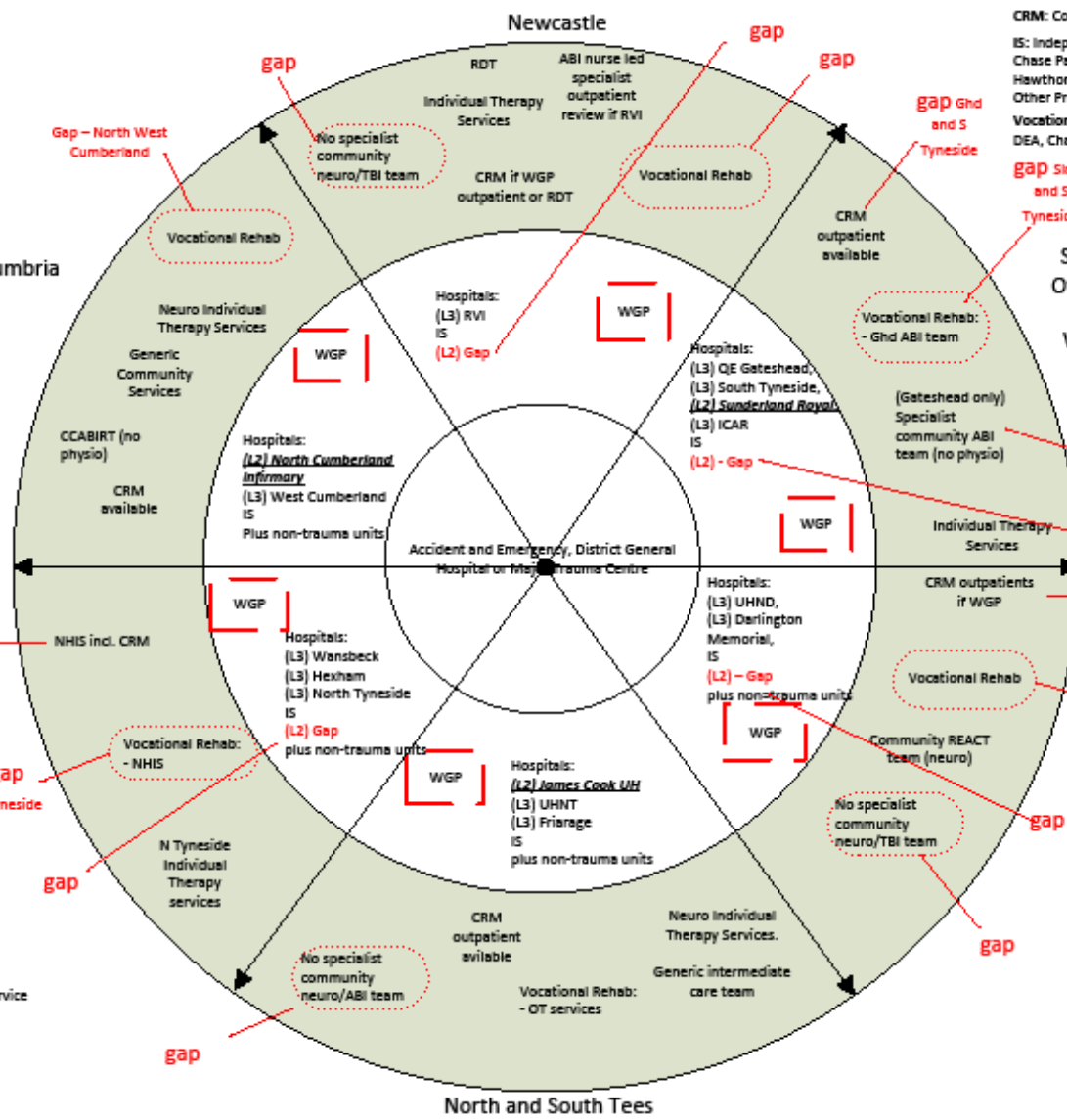
CCABIRT: Cumbria Community acquired Brain Injury Rehabilitation Team

North Cumbria non-trauma units
 (L3) Penrith
 (L3) Keswick
 (L3) Alston
 (L3) Workington
 (L3) Maryport
 (L3) Wigton
 (L3) Reiver House

Northumberland and N Tyneside Non-trauma units
 Hospitals:
 (L3) Berwick
 (L3) Rothbury
 (L3) Alnwick
 (L3) Blyth

NHIS: Northumberland Head Injury Service

RDT: Regional Disability Team



CRM: Consultant in Rehabilitation Medicine

IS: Independent Sector incl:
 Chase Park
 Hawthorns
 Other Providers available

Vocational Rehab: Shaw Trust, Momentum, DEA, Charitable

gap Sland and S Tyneside

ICAR: Houghton le Spring Independent Care Centre

gap Sland and S Tyneside

gap Sland and S Tyneside

gap Ghd and S Tyneside

gap

gap

gap

gap

gap

gap

gap

North and South Tees Non-trauma units
 (L3) Hartlepool
 (L3) Carter Bequest,
 (L3) Redcar PCH,
 (L3) Guisborough PCH,
 (L3) East Cleveland PCH,
 (L3) Friary Richmond CH,
 (L3) Lambert Thirsk

County Durham and Darlington Non-trauma units
 (L3) Bishop Auckland
 (L3) Shotley Bridge

Cross Reference BSRM core standards, Yorks and Humber Standards and Rehab Prescription Guidance – 2019 Update

Audit Tool	Description	RVI	JCUH	Wansbeck	N. T'slide	S. T'slide	Gateshd	Sundland	Durham	Darlington	N. Tees	Carlisle	Link to York and Humb	Link to BSRM	Link to DoH Guidance	No link
Q1	There is a multidisciplinary meeting for major trauma patients.	Y	Y	Y	Y	Y	Y	Y			Y	Y	MDT needs assess	S19	Yes	
Q1	2019	Y	Y	Y	Y	Y	Y	Y		N	Y	Y				
Q2	There is a pathway for major trauma patients	Y	Y	N	P	N	N	N	n/a	N	N	N	No	S19	No	
Q2	2019	Y	Y	N	P	N	N	N		N	N	N				
Q2a	The pathway for major trauma patients is multidisciplinary	P	P	n/a	P	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No	S19	No	
Q2a	2019	Y	P		P	Y										

Q3	There is awareness of the Rehabilitation Prescription	Y	Y	Y	N	N	N	N	Y	N	N	Y	No	No	No	X
Q3	2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y				
Q3a	The Rehabilitation Prescription is completed for all patients with major and serious trauma	Y	Y	N	N	N	N	N	N	N	N	N	No	No	Yes	
Q3a	2019	Y	Y	N	N	N	N	N	N	N	N	N				
Q3b	There is a MDT needs assessment for all major trauma patients	N	N	Y	N	N	N	N	N	N	N	Y	MDT needs assessment	No	Yes	
Q3b	2019	Y	Y	Y	N	N	N	N	N	N	N	y				
Q3c	The MDT assessment leads to a rehabilitation prescription	N	N	N	N	n/a	n/a	n/a	n/a	n/a	n/a	N	MDT needs assessment	No	Yes	
Q3c	2019	Y	Y	N	N	N	N	N	N	N	N	N				

Q3d	The Rehabilitation Prescription leads to rehabilitation goals and a treatment plan.	Y	N	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No	No	No	X
Q3D	2019	Y	Y	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
Q3e	The Rehabilitation Prescription is reviewed during the rehabilitation process	N	N	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No	No	Yes	
Q3e	2019	Y	Y	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a				
Q3f	Trauma Units only: A copy of the Rehabilitation Prescription is received when a major trauma patient is transferred from an MTC	n/a	n/a	N	N	N	N	N	Y	N	N	Y	N	No	No	Yes	
Q3f	2019	n/a	n/a	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y				
Q3g	The patient receives a copy of the Rehabilitation Prescription	N	N	N	N	N	N	N	N	N	N	N	N				
Q3g	2019	Y	Y	N	N	N	N	N	N	N	N	N	N	No	No	Yes	

Q4	Trauma Units only: A discharge summary is received from the MTC	n/a	n/a	N	N	N	N	N	Y	Y	N	N	No	S21	No	
Q4	2019	n/a	n/a	Y	Y	Y	Y	Y	Y	Y	Y	Y				
Q5	There is a mechanism in place to identify major trauma patients	Y	Y	N	N	N	N	N	N	N	N	N	No	No	No	X
Q5	2019	Y	Y	N	N	N	N	N	N	N	N	N				
Q6	Screening is done for mood and cognition	Y	N	Y	Y	N	N	N	P	N	Y	N	Mood & cognition screen	S1, S7, S27	Yes	
Q6	2019	Y	N	Y	Y	Y	N	N	P	N	Y	N				
Q6a	Patients with identified mood/cognitive disorders are referred for psychology assessment/intervention	P	P	P	P	P	P	P	P	P	P	P	Mood & cognition interven	S1, S7, S27	No	
Q6a	2019	Y	P	P	P	Y	P	P	P	P	P	P				
Q7	There is access to a Consultant in Rehabilitation Medicine for musculoskeletal major trauma patients	N	N	N	N	N	N	N	N	N	N	N	Access to Rehab Consultant	S1, S6, and S26	No	

Q7	2019	Y	Y	N	N	N	N	N	N	N	N	N				
Q8	There is access to a rehabilitation co-ordinator	N	N	N	N	N	N	N	N	N	N	N	Access to Rehab Coordinator	S19, S27	No	
Q8	2019	Y	Y	N	N	N	N	N	N	N	N	N				
Q9	There is specialist staff in post for major trauma patients	Y	Y	N	N	N	P	P	N	P	P	N	No	No	No	x
Q9	2019	Y	Y	N	N	N	P	P	N	P	P	N				
Q10	There is a regularly updated directory of care and rehabilitation services	N	N	N	N	N	P	N	N	P	P	N	Directory of Services	No	No	x
Q10	2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y				
Q10a	A directory of care and rehabilitation services would be useful	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Directory of Services	No	No	

Q10a	2019	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y				
Q11	A discharge communication summary is completed when the patient is transferred or discharged	Y	Y	Y	Y	Y	N	P	Y	Y	Y	Y	No	S21	Yes	
Q11	2019	Y	Y	Y	Y	Y	N	P	Y	Y	Y	Y				
Q12	The rehabilitation prescription does follow the patient to the next stage of rehabilitation	Y	P	N	N	N	N	N	P	N	N	N	No	No	Yes	
Q12	2019	Y	Y	N	N	N	N	N	P	N	N	N				
Q13	There is co-ordinated follow up of the patient along the pathway	N	N	N	N	N	N	N	N	N	N	N	Access to Rehab Coordinator	S2, S7, S19, S22, S27, S30	No	
Q13	2019	Y	N	N	N	Y	N	N	N	N	N	N				

Q14	There are specialist rehabilitation facilities for major trauma MSK patients.	N	N	N	N	N	N	N	N	N	N	N	No	S1	No	
Q14	2019	Y	Y	N	N	N	N	N	N	Y	Y	N				
Q15	Outcome measures are used for major trauma MSK patients	Y	N	N	N	N	N	N	N	Y	Y	N	No	S19	Yes	
Q15	2019	Y	Y	N	N	N	N	N	N	Y	Y	N				
Q16	Trauma Units only: There is access to outreach sessions by a Consultant in Rehabilitation Medicine linked to a MTC	n/a	n/a	N	N	N	N	N	N	N	N	N	Access to Rehab Consultant	S6, table 1, S26	No	
Q16	2019	N/A	N/A	N	N	N	N	N	N	N	N	N				

Summary of Gap Analysis against standards

- There has been progress at both MTCs with regard to most measures supported by BPT and peer review process
- Multidisciplinary pathways have gaps in all areas beyond the MTCs
- There is an awareness of the rehabilitation prescription at all units, but implementation is limited – rehabilitation assessment, prescription, implementation and goal setting are not completed in the TUs
- The majority of trauma units still do not have a pathway for serious trauma patients (ISS 8-15) apart from for fractured neck of femur patients over 65 years
- The rehabilitation prescription process is now embedded at both MTCs and TUs receive RPs for all transferred patients.
- Identification and treatment of mood and cognitive disorders and provision of psychology services for trauma patients are limited to the MTCs
- There is a lack of availability of sessional RM Consultant time for the TUs
- There is no use of consistent outcome measures throughout the pathway and across the Network

Gap Analysis Findings:

Specialist Rehabilitation Inpatient Beds in Northern Region (March 2019)

Level 2 Services

The BSRM standards recommend 60 specialist beds per million population i.e. level 2 rehabilitation for long term neurological conditions. The total regional population is approximately 3 million (ONS 2010) which translates to a need for 180 beds.

Table 20: Current level 2 rehabilitation beds

Unit	Number of beds
Sunderland Royal Hospital	19
Carlisle Infirmary	10
James Cook University Hospital	18
Total	47

Based on a comparison of the available resource (n = 47) and the BRSM standard (n = 180) there was a shortfall of **133** specialist rehabilitation beds in the Northern Region in 2013. Considering additional numbers of trauma survivors, MTC developments for MSK patients and NCASRI data, this number should still be considered a minimum provision.

Evidence indicates the cost savings that can be made through reduction in length of stay and ongoing care needs due to early intensive coordinated rehabilitation (RCP, 2010). As there is limited level 2 rehabilitation across the region, there is a large gap in appropriate onward transfer of MTC neurotrauma patients and this results in the blocking of acute beds.

Level 1 Rehabilitation

Level 1 rehabilitation services are required for the most complex patients and are defined as services managing patients with >85% category A needs. These services should be provided to serve a population of 1-3 million in addition to level 2 services and are subject to specialized commissioning arrangements.

Currently in Northern region services are based at the 35 bedded neurorehabilitation unit at Walkergate Park Centre for Neurorehabilitation and Neuropsychiatry. This is based in the north of the region in Newcastle.

The limited number of level 1 beds along with the lack of level 2 beds results in long waiting times for both physical and psychiatric services and great distances for patients in the far south and west of the region to travel, again highlighting a gap in service provision.

Current Provision of Consultants in Rehabilitation Medicine in Northern Region 2019

Level 1 Services (including specialist community) – 5.0 WTE (3.8 in 2013)

Level 2 Services (including specialist community) – 3.9WTE (3 in 2013) - 2 RM Consultants at Sunderland and South Tees

The Trauma standards also introduce the new concept of “Hyper acute” rehabilitation. Currently there are no designated beds in the region. To allow such new developments, in addition to input and leadership for the rehabilitation prescription process, will require extra CRM specialist staffing

The Trauma standards and major trauma CAG document recommend Consultants in RM should be an integral part of the Major Trauma Centre’s Team. For patients with on-going needs the RMC or an appointed deputy, including Consultant AHP, are required to complete the “Specialist Rehabilitation Prescription” (i.e. patients requiring level 1 or 2 rehabilitation). Also each trauma unit should have expertise in rehabilitation medicine available. This is currently not the case in the Northern Region – RM consultants see neurorehabilitation patients potentially suitable for specialist rehabilitation on an ad hoc basis in response to referral processes and no standardized pathways exist. A summary of the provision of specialist neurorehabilitation outpatient provision is shown below. Provision of stepdown beds is shown in **Appendix 6**.

Summary of Neurological Rehabilitation Services 2019

Region	Specialist Community Brain Injury Team	Rehab Consultant in Team	Outpatient Therapy Services	Community Teams
Northumberland	OT, PT, Neuropsychologist, SALT,, CRM and RA	Yes	Neuro PT	Area specific generic teams, Central, North, West and Berwick. PT, OT and RA
Newcastle	No	Yes-RDT	RDT:Neuro specific PT, OT, RA, Orthotics and RCM	Area specific generic teams. PT, OT, RA
			Neuro PT: RVI	
Gateshead	Psych, OT, PT and SW	No	Neuro PT	Generic PT Team
North Tyneside	No	N/A	Neuro Rehab Services: PT, OT, RA	
South Tyneside	No	N/A	Neuro PT	Generic Intermediate care Team
Sunderland	No	N/A	Neuro PT: CRM Clinic	Generic PT and Intermediate Care Team 6/52 involvement. PT, OT, RA, SW
Easington	No	N/A	East React Team Neuro: PT, OT, Nurse, Support worker, Care manager.	
North Durham	No	N/A	North React Team Neuro: PT, OT, Nurse, Support worker, Care manager.	
Darlington	No	N/A	Darlington React Team Neuro: PT, OT, Nurse, Support worker, Care manager.	

Durham Dales	No	N/A	South React Team Neuro: PT, OT, Nurse, Support worker, Care manager.	
Darlington	No	N/A	React Team Neuro: PT, OT, Nurse, Support worker, Care manager.	
Sedgefield	No	N/A	South React Team Neuro: PT, OT, Nurse, Support worker, Care manager.	
North Tees	No	N/A	Neuro PT, OT Pilot CRM Clinic	
South Tees	No	N/A	Neuro PT, OT, SALT CRM Clinic	
Cumbria	Neuropsychologist, OT, RA, Nurse, SW	No	Neuro PT CRM Clinic	Generic Rehab Teams

Key: PT – Physiotherapist; OT - Occupational Therapist; RA – Rehabilitation Assistant; SW – Social Worker; CRM – Consultant in Rehabilitation Medicine;

SALT – Speech & language Specialist

Colours: Specific Brain Injury Teams

Neuro - Neurology specific therapy's

Generic – Non neurology specific teams

Conclusions

Changes in rehabilitation provision for trauma patients in the Northern Region since the inception of the Northern Trauma Network in 2013 have taken place in response to national drivers with financial incentives such as the best practice tariff payment and peer review process. As a result changes are in large part confined to the 2 MTCs, where the rehabilitation prescription process has become embedded, and increased inpatient provision for MSK patients is now being provided. Rehabilitation Medicine Consultants are now working at both MTCs, but a coordinated pathway of rehabilitation for all sub-groups of trauma patients, including those with specialist neurological rehabilitation needs does not yet exist. There are significant gaps in services and resources in all trauma units, specialist and non-specialist out-patient services and vocational rehabilitation, with a lack of funding and resources across the Network to meet patient needs. Efforts now need to focus on cross organisational working and commissioning to progress care for trauma patients in these areas.

<p>Hyperacute Rehabilitation</p>	<p>BOTH MTCs now have some provision of early acute beds for MSK patients. There are NO UKROC compatible hyperacute rehabilitation beds in the region. There has been NO increase in provision of neurorehabilitation at the MTCs</p>
<p>Specialist in-patient rehabilitation Multidisciplinary rehab Consultant in RM</p>	<p>The RVI MTC has new MSK specialist inpatient service. JCUH has MSK beds integrated with neurorehabilitation. There is increased but insufficient provision of specialist Multidisciplinary teams and Consultants in RM.</p>
<p>Specialist Community rehabilitation Multidisciplinary rehab Specialist Vocational Rehabilitation</p>	<p>NO increased specialist community rehabilitation. Limited services in three parts of the region for traumatic brain injury. NO specialist community services for MSK trauma</p> <p>NO specialist Vocational Rehabilitation and a REDUCTION in available voluntary and independent sector services</p>
<p>Post- acute care Ward-based</p>	<p>NO increase in provision for ward-based trauma rehabilitation out-with the MTCs</p> <p>Challenges in rehabilitation staffing and equipment</p>
<p>Rehabilitation Level 3 Inpatient Services</p>	<p>NO specialist pathways or inpatient beds for trauma rehabilitation in level 3 units</p> <p>NO provision in for neurorehabilitation in many units</p>
<p>Supported discharge</p>	<p>NO provision for trauma patients</p>
<p>Community Re-integration</p>	<p>NO provision for trauma patients</p> <p>REDUCTION in services</p>
<p>Integrated care planning</p>	<p>NO provision for trauma patients</p>

Appendix 1: Best practice tariff standards for Rehabilitation Prescription 2019

Major Trauma Rehabilitation Prescription 2019 Adult patients

A first rehabilitation assessment should take place within 48-72 hours of the patient's admission and the Rehabilitation Prescription (2019) will have to be completed for all major trauma patients who need rehabilitation at discharge. All major trauma patients will require an evaluation of their rehabilitation needs and this process must be recorded on TARN. If the patient is found to have no rehabilitation needs, the full rehabilitation prescription outlined below does not need to be completed and the patient is still eligible for best practice tariff. For adult* patients found to need rehabilitation, the following six actions must be taken:

1. The Rehabilitation Prescription must be developed with the involvement of the patient and/or their family/carers
2. Administered by specialist health care professional in rehabilitation**
3. The Rehabilitation Plan must contain 8 core items ***
4. The Rehabilitation Plan must be discussed with the patient, where possible, and copies provided for them, their General Practitioner and the next care provider
5. Completion of minimum rehabilitation data set that should reflect the patient's needs at the time of discharge****
6. All the above recorded by TARN

* For best practice tariff, the adult rehabilitation prescription should be used for all patients who are aged 18 years or older on the day of their accident. It is recognized that some patients aged 16 or 17 years may choose to be, or be more appropriately managed by children's services. For this group of patients it is at the discretion of the clinical team to use either the children's or adult rehabilitation prescription. Patients injured before their 16th birthday should have the children's rehabilitation prescription.

**Rehabilitation Prescription- should be completed by Health Care Professionals after a multidisciplinary team (MDT) assessment and signed off by senior staff members, at a minimum:

- Consultant or Specialist trainee in Rehabilitation Medicine or
- Band-7 specialist rehabilitation clinician or Major Trauma Coordinator

*** The RP may be provided as a single document for both the patient and professionals or as two separate documents to be given on the point of discharge. Both digital and printed formats are acceptable. The RP must contain, as a minimum standard, the following 8 core items:

1. Patient demographics
2. Actions for the GP and patient
3. A list of relevant injuries
4. A management list for each of these injuries
5. Ongoing rehabilitation needs
6. Services the patients has been referred to
7. A contact number for advice
8. A section where the patient can record their comments

Appendix 2: Summary of BSRM core standards for Major trauma Rehabilitation

BSRM Core standards for Specialist Rehabilitation following Major Trauma

1. BSRM standards for specialist rehabilitation within Major Trauma networks:

1.1 Consultants in RM should be closely involved both at a clinical level and in the planning and delivery of all Major Trauma Networks to support and direct rehabilitation for patients with complex needs.

- Within each Major Trauma Centre (MTC) an identified RM Consultant (or consultants) should be an integral part of the Major Trauma Centre (MTC) Team.
- Within each TU, an identified RM Consultant (or consultants) should be an integral part of the trauma service both for patients transferred out of MTCs and for patients who receive all of their trauma care within the TU.

1.2 The above roles will normally involve a Consultant in RM attending the MTC or TU at least 2-3 times per week, which should be written into their job plan.

1.3 The Consultant in RM should be involved from an early stage in the patient's trauma pathway (within 3 calendar days) to:

- assess patients with complex rehabilitation needs
- participate in the planning and execution of their interim care and rehabilitation
- expedite referral and transfer for on-going rehabilitation as soon as they are fit enough.

1.4 At an operational level, key roles for the Consultant should include:

- Overseeing the triage and identification of patients with complex rehabilitation needs, including training of MTC staff in the use of assessment tools.
- Multidisciplinary wards rounds and team-based planning meetings.
- Specific clinical interventions (eg spasticity management, assessing patients with prolonged disorders of consciousness etc.)
- Case conferences and negotiation with third parties, including commissioners and rehabilitation service providers.
- Providing information and support for patients' families.

2. Specialist Rehabilitation Prescription

2.1 Patients who have (or are likely to have) on-going complex physical, cognitive, communicative or psychosocial disability (category A or B needs) should be assessed by a Consultant in RM (or their designated deputy) prior to discharge from the MTC.

(The designated deputy can be an individual who has specialist knowledge and training in rehabilitation to a consultant level, eg AHP Consultant in Rehabilitation who works within the specialist rehabilitation team and is authorised by the RM Consultant to sign off a specialist RP on their behalf)

(A simple tool has been developed to help MTC teams identify those patients likely to have category A or B needs and so refer them appropriately for specialist review – see Appendix 3)

2.2 The Consultant in RM (or their designated deputy) should complete a Specialist Rehabilitation Prescription (SpRP) at discharge from the MTC.

2.3 The Specialist Rehabilitation Prescription for patients with complex rehabilitation needs should provide a comprehensive record of the patient's injuries, psychosocial background, risks and treatment to date as well as a statement of their rehabilitation needs / recommendations in sufficient detail to inform planning and delivery of on-going rehabilitation / care.

2.4 The Specialist Rehabilitation Prescription for patients with complex rehabilitation needs should include as minimum the following data which should be entered into the TARN database:

1. The Rehabilitation Complexity Scale (RCS-E v13 or RCS-ET)
2. The Complex Needs Checklist (CNC) or the Patient Categorisation Tool (PCAT) to confirm category A or B needs.

These should be included as part of the mandated dataset for the best practice tariff in MTCs for any patient though to have category A or B needs requiring further specialist in-patient rehabilitation on discharge from the MTCs.

The following may also be collected on an optional basis:

3. The Northwick Park nursing Dependency Scale (NPDS) (also translates to a

Barthel Index and NPCNA for estimating care costs)
4. The Trauma Impairment Set.

2.5 As recommended for the standard Rehabilitation Prescription, the specialist Rehabilitation Prescription should travel with the patient and should be reviewed and updated at appropriate intervals (at least every 4-6 weeks), to record actions undertaken to implement the recommendations

Appendix 3: Contributors to Questionnaire Completion

Cumbria –Cumberland Infirmary, Carlisle and West Cumberland Infirmary, Whitehaven

Dr Yogen Jagatsinh Consultant in Rehabilitation Medicine Cumberland Infirmary

Durham and Darlington –University Hospital North Durham, Darlington Memorial Hospital, Darlington, Bishop Auckland District Hospital, Bishop Auckland

Janette Hewitson, Therapies Lead, CDDFT

North Tees - North Tees General Hospital, Stockton

Dr Katherine Williamson, Trauma Lead

Beverley Woodard Rehabilitation Trauma Rehabilitation Coordinator

Gateshead – Queen Elizabeth Hospital, Gateshead

Dawn Duncan Senior Therapy Lead, Queen Elizabeth Hospital

Sunderland and South Tyneside – Sunderland Royal District Hospital Sunderland, South Tyneside District Hospital South Shields

Dr Naweed Sattar Consultant in Rehabilitation Medicine

Dr Sanjay Kumar, Trauma Lead

Northumbria – Northumbria Specialist Emergency Care Centre Cramlington (NSECC), Wansbeck Hospital Ashington, North Tyneside General Hospital, North Shields

Diane Williams, Lead Physiotherapist for Major Trauma, NSECC

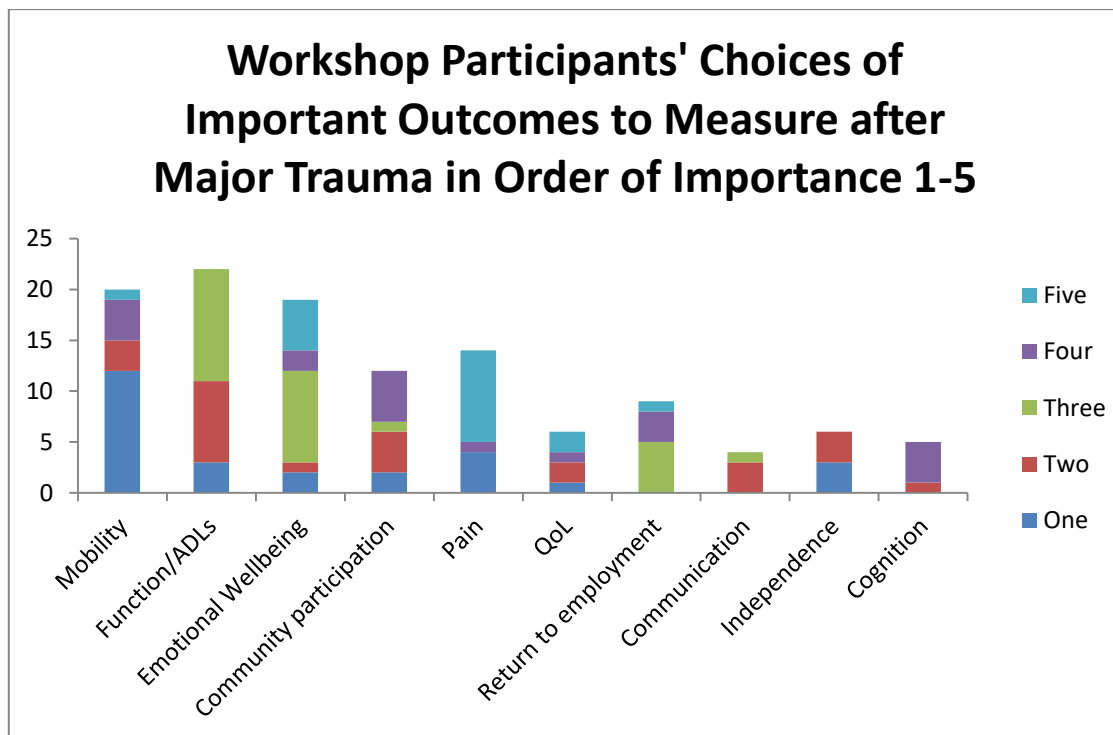
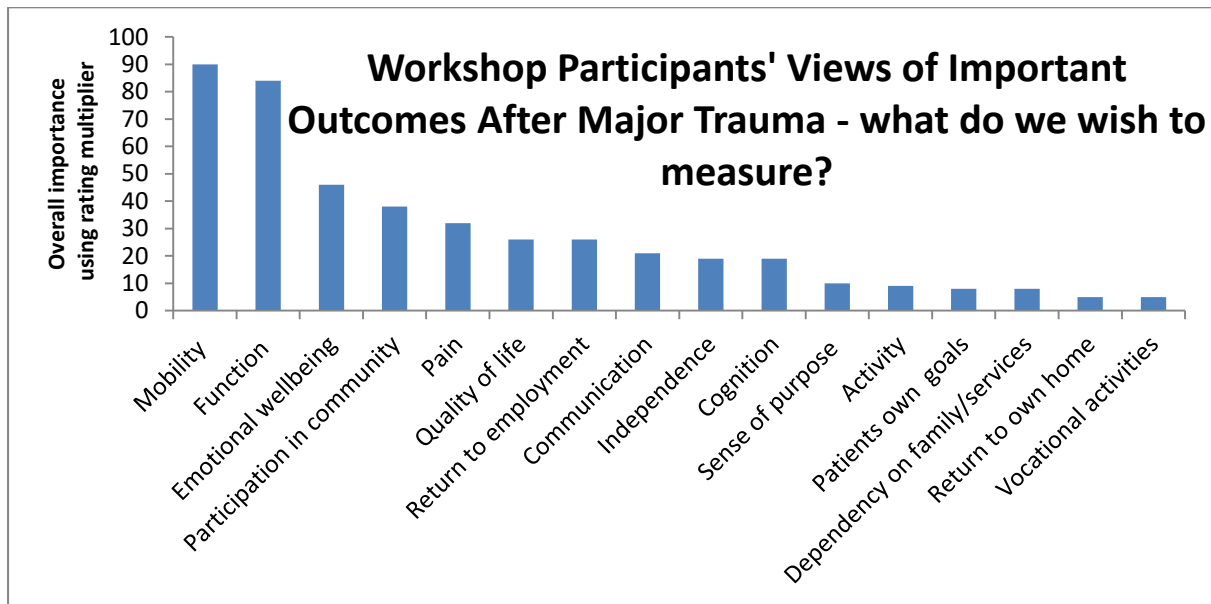
South Tees – James Cook University Hospital Major Trauma Centre, Middlesbrough

Alison Carter, Major Trauma Rehabilitation Lead, James Cook University Hospital

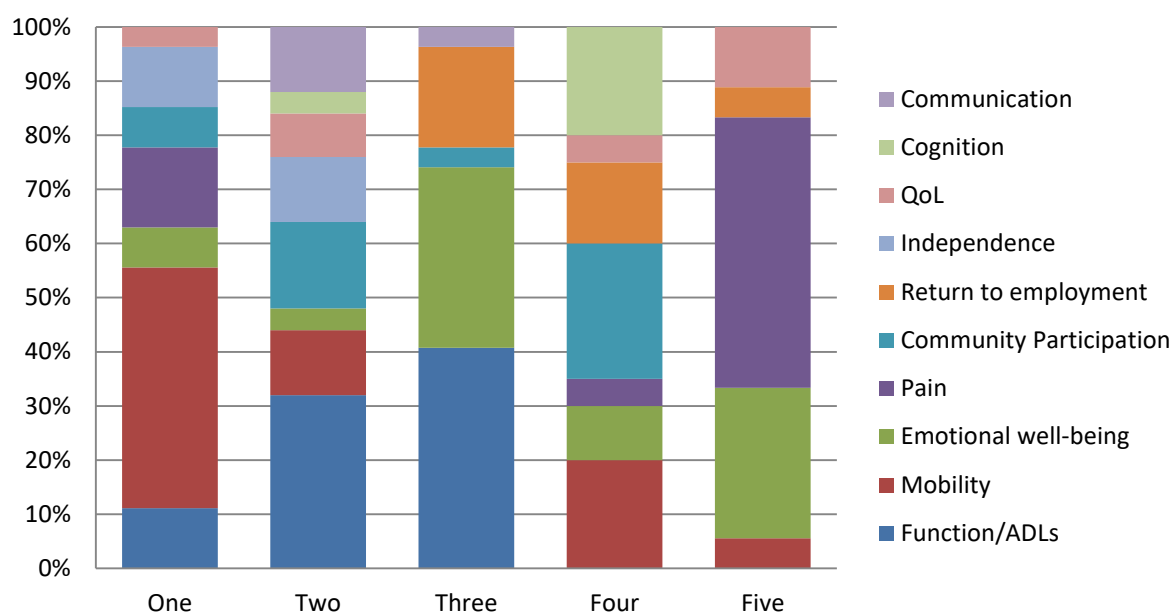
Newcastle upon Tyne – Royal Victoria Infirmary Major Trauma Centre, Newcastle upon Tyne

Dr Laura Graham Consultant in Rehabilitation Medicine, Lynne Wilkinson Major Trauma Rehabilitation Lead, Sinead Savory Major Trauma Rehabilitation Lead, Royal Victoria Infirmary.

Most Meaningful Outcomes Following Major Trauma



Ranking of Outcomes in Order of Importance to Workshop Participants



Requirements for Measurement Tools

- Before and after displayed – Splat
- Responsive to short length of stay
- Repeatable daily
- Internet based and able to share in the Network
- Relevant to patients

Specific Measures Suggested by Workshop Participants

- FIM/FAM
- RCS
- MayoPortland
- Rivermead,
- EQ5DL
- Tinetti
- Berg
- Outcome Star
- Visual analogue scales
- HAD
- COPM

Appendix 5: Mapping of BSRM standards for TBI patients 2013

Early and specialist rehabilitation services: Quality Requirement 4	Northumberland and North Tyneside		Newcastle	South of Tyne and Wear		County Durham and Darlington	North and South Tees	Cumbria
S1. Provision of rehabilitation services for people with neurological conditions should be available including:								
Specialist in-patient neurorehabilitation services led by a consultant trained and accredited in Rehabilitation Medicine (RM) (Level 3 competencies in neurological rehabilitation).	None		None	None	*All	None	All	All
Out-patient and day rehabilitation services, supported by adequate transport systems	Some		Some	Some		Some	Some	Some
Home-based /domiciliary rehabilitation services for people who require them	All	some	Some	*Most	Some	Some	Some	Some
S2 Co-ordinated service planning and delivery should ensure that:								
Suitable services are available within a reasonable traveling distance,	Most		Most	Most		Some	Some	Some
Rehabilitation services work together through planned network arrangements, where specialist neurorehabilitation services support local teams in the management of more complex patients, for example through the establishment of in-reach/out-reach, satellite services or peripatetic teams	All	None	Some	*Most	None	None	Some	Most

Early and specialist rehabilitation services: Quality Requirement 4	Northumberland and North Tyneside	Newcastle	South of Tyne and Wear	County Durham and Darlington	North and South Tees	Cumbria	
S5 Current BSRM recommendations for Specialist rehabilitation service provision recommendations should be followed covering:							
A minimum of 60 beds per million population for specialist in-patient rehabilitation medicine. (This figure assumes other services are locally available for stroke rehabilitation and for rehabilitation of older people),	None	None	None	*Most	None	Most	Most
The minimum size of an inpatient specialist rehabilitation unit should normally be around 20 beds to achieve critical mass	None	None	None	*Most	None	Most	Most
The beds must be co-located, together with therapy facilities (see S10), to provide a rehabilitative environment and to support co-ordinated inter-disciplinary team-working between nursing therapy and medical teams	None	None	None	*All	None	All	All
In addition, complex specialised rehabilitation (tertiary) services should be provided for patients with complex rehabilitation needs e.g. severe brain or spinal cord injury, low awareness states, challenging behaviour or concurrent complex medical needs.	Some	Some	Some	Some	Some	Some	
•These should:							
be provided in co-ordinated service networks over a population of 1-3 million							
be expected to have special facilities and to take a demonstrably more complex case-load, for which higher staffing levels will be require do be subject to specialised commissioning arrangements (see Warner Report)							

Early and specialist rehabilitation services: Quality Requirement 4	Northumberland and North Tyneside	Newcastle	South of Tyne and Wear		County Durham and Darlington	North and South Tees	Cumbria		
S6 All specialist rehabilitation services should be supported by dedicated sessions from a consultant specialist in rehabilitation medicine									
A minimum of 6 WTE consultant specialists in rehabilitation medicine (RM) per million population including:	Some		Some		None	Some	Some		
3.6 WTE for district specialist inpatient rehabilitation services and their associated out-reach activities	None		None	None	*Some	None	None		
2.4 WTE for specialist community rehabilitation services (These figures assume additional contributions from other specialties to support local rehab in the context of Stroke Medicine and Care of the Elderly settings)	Most	None	Some		None		None	None	
S7/8/9 Specialist rehab should cover all relevant clinical disciplines, with an inter-disciplinary team with access to specialist advice with an establishment to meet patient needs.	Some		Some		Some	*Most	Some	Most	Most
S10 In-patient specialist rehabilitation services should provide an appropriately adapted environment, which facilitates rehabilitation and includes the relevant special facilities to suit the needs of the patient group. These may include: • Exercise equip, e.g. hydrotherapy, harness-treadmill • Wheelchairs, Facilities to assess activities of daily living, etc.	Some		Some		Some	*Most	Some	Most	Most
3. Referral assessment and transfer to specialist rehabilitation should be timely as inpatient, after discharge, complex needs assessment. Written summary provided to referrer and response times audited.									
4. The rehabilitation process in specialist rehabilitation services should be 24 hour, involve the family, co-ordinated and longer term outcomes followed up.									

Person centred care and integrated care planning: Quality Requirement 1 & Community rehabilitation and support: Quality Requirement 5								
1. Joined-up working between healthcare and social services should be established, including partnership working, explicit responsibilities and established funding arrangements.	All	None	None	None	None	Some	Some	Some
2. Provision of specialist community rehabilitation services for people with LTNC should be supported by dedicated sessions from a consultant in Rehab Medicine, be interdisciplinary and adequately staffed.	All	None	Some	None	None	None	None	None
3. Community rehabilitation and support should be provided in a timely manner by named individual or team with adequate skills. Family and carers should be involved and joint health and social care needs assessed at least annually.	All	some	Some	*Most	Some	Some	Some	Most
Vocational rehabilitation: Quality Requirement 6								
1. Vocational rehabilitation services for people with LTNC should be considered as routine part of rehabilitation and should have access to local or specialist vocational rehabilitation services.	All	some	Some	Some	Some	Some	Some	Some
2. The vocational rehabilitation process should include assessment, work with Disability Employment Advisors and/or employer and also support those unable to return to work.	All	some	Some	*Most	Some	Some	Some	Some

Appendix 6: Step down inpatient beds for general rehabilitation 2019

<p>Newcastle</p> <p>Harehills</p> <p>Connie Lewcock (older persons unit)</p>	<p>South of Tyne & Wear</p> <p>Houghton le Spring Primary Care Centre.</p> <p>Farmborough Court Intermediate Care Centre.</p> <p>Eastwood Promoting Independence Unit (Gateshead)</p>	<p>County Durham & Darlington</p> <p>Grampian house</p> <p>Sedgefield Community Hospital</p> <p>Bishop Auckland Hospital</p> <p>Shotley Bridge Hospital</p> <p>Additional intermediate care beds located in residential homes</p>
<p>North & South Tees (inc part of North Yorkshire)</p> <p>Rosedale Intermediate Care Centre, Stockton</p> <p>Hartlepool General Hospital</p> <p>Additional Intermediate Care beds located in Residential homes (Hartlepool)</p> <p>Carter Bequest Hospital</p> <p>Redcar Primary Care Hospital</p> <p>Guisborough General Hospital</p> <p>East Cleveland Hospital</p> <p>Middlesbrough Intermediate Care Centre (incorporating Redcar Intermediate care beds)</p> <p>Friarage Hospital</p> <p>Lambert hospital</p> <p>Friary Hospital</p>	<p>Northumberland & North Tyneside</p> <p>Hexham Hospital</p> <p>Berwick Infirmary</p> <p>Rothbury Community Hospital - closed</p> <p>Alnwick infirmary</p> <p>Morpeth cottage Hospital – closed</p> <p>Walton Unit</p> <p>Blyth Community Hospital</p> <p>Tom Haddaway Unit – Intermediate Care North Tyneside – closed</p> <p>Royal Quays – Intermediate care</p>	<p>North Cumbria</p> <p>West Cumberland Hospital (including Copeland Unit)</p> <p>Penrith Hospital</p> <p>Keswick Community Hospital</p> <p>Maryport Community Hospital</p> <p>Ruth Lancaster James Hospital, Alston</p> <p>Wigton hospital</p> <p>Brampton Hospitals</p> <p>Reiver House</p> <p>Workington Community Hospital</p>

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