Health and Social Care Board

Public Health Agency

Regional Acquired Brain Injury Implementation Group (RABIIG)

Acquired Brain Injury Inpatient Care Pathway: Neurorehabilitation

Contents

1.0 Introduction

The Regional Acquired Brain Injury Implementation Group has been established to take forward the DHPSSPS ABI Action Plan 2009/10-2010/11 (2009). The Action Plan was developed in response to the recommendations outlined in the Independent Review of ABI Services set up by the Minister for Health (2008).

The Action Plan includes specific recommendations in relation to:

- Service Redesign (supporting people to achieve their full potential through enhanced service commissioning and provision)
- Quality Improvement and Performance Management
- Improved support for Individuals, Carers and Families
- Effective Engagement and Partnership Working

The themes and actions are delivered by a series of subgroups as follows:

- Adult Community Services
- Inpatient Rehabilitation
- Children's Services
- Communication and Information
- Performance Management and Quality Improvement

One of the key outcomes of the Inpatient Care Subgroup was to develop a regional standardised ABI Inpatient Care Pathway. This document has been produced by the Inpatient Care Subgroup under the chair of Dr J McCann.

1.1 Definition of Acquired Brain Injury (ABI)

Acquired Brain Injury (ABI) is defined as an injury to the brain caused by an identifiable event such as trauma, hypoxia, metabolic disorders or infection. The term does not include brain injuries that are congenital or induced by birth trauma. It also does not include progressive brain disorders and those that are acquired over time due to alcohol and drug misuse.

Those accessing care through Acquired Brain Injury Services will have an injury as outlined above. However, it is recognised that clinical judgement will be required for a number of people with exceptional, complex presentations of conditions, other than those stated above, to be cared for on a 'case by case' basis in partnership with other services. This will require Trusts, as outlined in Recommendation 2 of the Service Standards and Quality Indicators document, to develop joint care protocols with Stroke, Mental Health, Addictions, Forensic and Core Disability Services. These protocols must include escalation arrangements for when agreement cannot be reached regarding the most appropriate service intervention(s).

While stroke is classified as an acquired brain injury, separate standards/ guidelines and services have been developed for stroke survivors and in general the needs of this population are addressed within the Stroke Strategy. In the case of children with stroke, care will be provided through the Children's ABI Pathway as no children's stroke services are currently available.

1.2 Objectives of the Care Pathway

- To provide a resource that offers service users a summary of the key aspects of inpatient neurorehabilitation for people with ABI.
- To provide a streamlined approach to the management of referrals and to ensure patients and their families receive the most appropriate service/ intervention at the appropriate time.
- To standardise the process of referral and access to the various inpatient rehabilitation units within Northern Ireland.
- To clarify the roles of the individual inpatient units and improve the interfaces between them and onward placement facilities.
- To facilitate the provision of high quality, timely and effective assessment and rehabilitation to meet the needs of the person with acquired brain injury.
- To involve the service user, families and carers in a collaborative approach to rehabilitation.
- To ensure the content of the pathway is grounded in evidence based practice, regarding the use of assessment strategies and the delivery of interventions and treatments.
- To engage in a process of continuous service improvement.

1.3 Guiding Principles – What Service Users and Families Can Expect

- A person centred pathway, which focuses on improving access, timely assessment and individually tailored interventions.
- Individually appropriate tailored information, communication and support for people with brain injuries and their families.
- Specialised ABI interdisciplinary and multi-agency working to deliver a co-ordinated and integrated care pathway, which includes effective transitions from inpatient to community based services.
- Minimum waiting times from referral to assessment and follow on intervention in accordance with the regional access target.
- Equitable service provision through the streamlining of referral access points.
- Access to information about available services.
- Patient and family involvement in goal planning and decision making.
- A written and shared Care Plan, providing clear details of the rehabilitation programme agreed to be available to the individual and family.

1.4 Scope of the Care Pathway

Traumatic Brain Injury (TBI) is the most common presentation of Acquired Brain Injury (ABI) and within this pathway TBI will be used as the paradigm for presentation and initial assessment. Severity of TBI is a well established and recognised classification. In other presentations of ABI the severity is a feature of the underlying condition and becomes evident at a later time. Within the sections on inpatient neurorehabilitation the term ABI is reverted to for merits of completeness. This pathway reflects the inpatient management of adults with ABI. It does not address the specific needs of either children or adolescents.

1.5 The Model

The regional model incorporates local and regional considerations and reflects many of the principles as recommended within the British Society of Rehabilitation Medicine National guidelines for inpatient service provision.

There are four main phases to the inpatient care pathway as follows:

1. Initial presentation, recognition and identification
2. Referral and initial assessment, triage and recommendations
3. Inpatient rehabilitation, admission, assessment, intervention, discharge planning
4. Discharge and follow-up

1.6 Location of ABI Inpatient Units

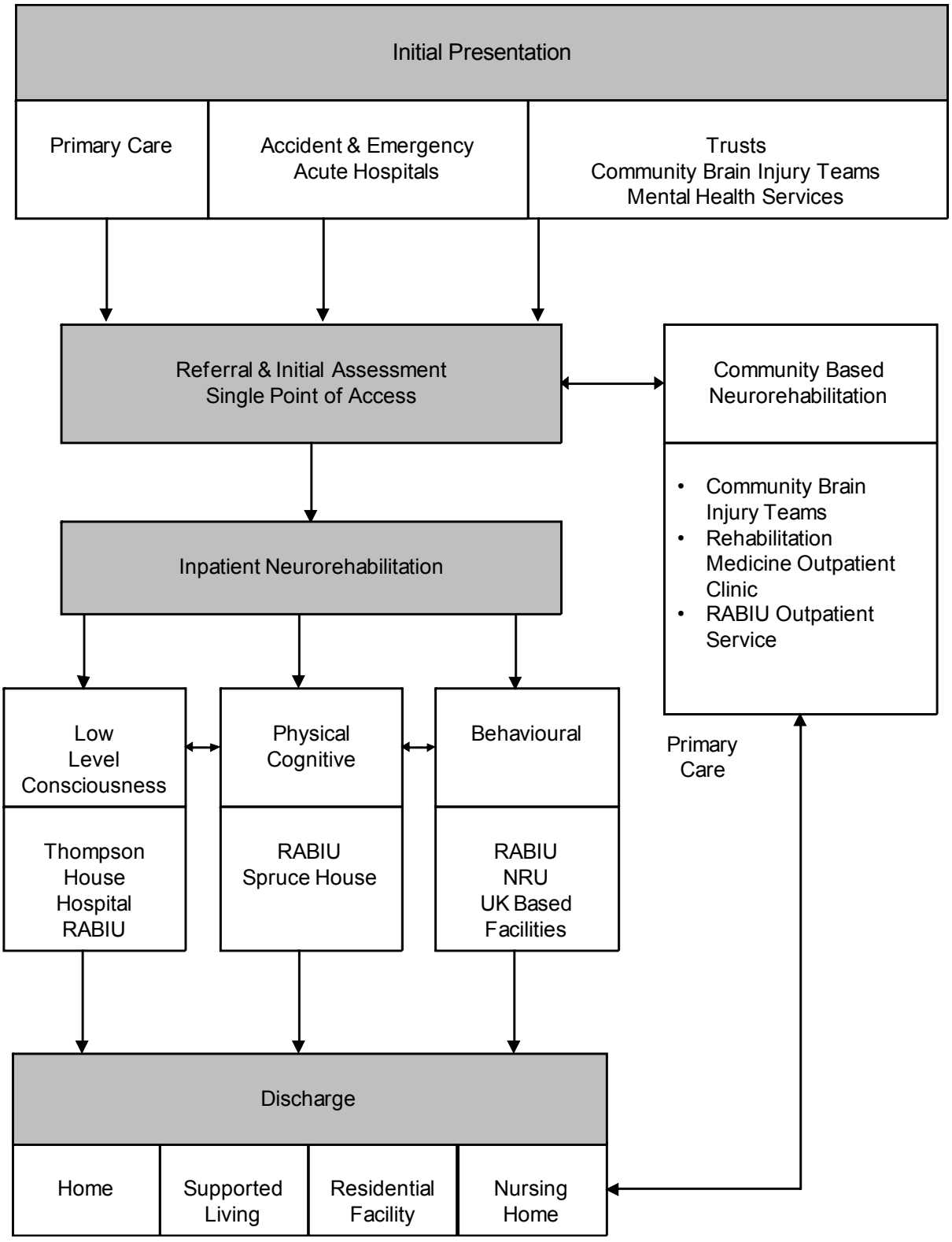
Inpatient rehabilitation is provided at the following locations:

- Regional Acquired Brain Injury Unit, Musgrave Park Hospital, Belfast, Belfast Health and Social Care Trust
- Spruce House, Altnagelvin Hospital, Londonderry, Western Health and Social Care Trust
- Thompson House Hospital, Lisburn, South Eastern Health and Social Care Trust
- Neurobehavioural Unit, Knockbracken Healthcare Park, Belfast, Belfast Health and Social Care Trust

These units provide a network of inpatient rehabilitation services operating on both a regional and locality basis as per their admission criteria and service delivery models.

See Appendix I: Description of Inpatient Units and Functions (including Admission Criteria and Exclusion Criteria).

2.0 The Care Pathway



2.1 Initial Presentation

Patients attending at Accident & Emergency (A&E) with head injury, and potentially TBI, will be either admitted to an acute hospital setting for observation/management or discharged to home.

Those patients discharged to home without being admitted will be provided with verbal and written advice on the high risk symptoms eg. deteriorating level of consciousness, progressive headache and/or vomiting, onset of weakness or loss of speech, which would require the patient to return immediately to hospital. A&E staff are required to provide patients with a factsheet entitled “Minor Head Injury Discharge Advice - Adults”.

For those patients discharged to home from an A&E setting who experience physical and/or cognitive symptoms for more than two weeks post injury, there should be a clear referral pathway to a locality based service for mild TBI. This would normally be an outpatient clinic incorporating Rehabilitation Medicine and/or the local Community Brain Injury Team.

In cases where a patient is admitted for overnight observation and then discharged to home there should be onward referral for outpatient/community assessment in line with the pathway for persons with mild TBI. The recent appointment of the Head Injury Liaison Nurse by Belfast Health and Social Care Trust is one model for ensuring that this onward referral is made.

Persons with moderate or severe head injury/TBI will be admitted for observation and management within an appropriate acute inpatient setting. All such patients should be referred, as inpatients, for assessment and planning of rehabilitation. This referral would normally be made to Rehabilitation Medicine as outlined below.

Dependent upon the outcome of assessment further acute management would fall within the following categories:

- Discharge of patient with direct referral on to Community Brain Injury services and Rehabilitation Medicine follow-up.
- Inpatient rehabilitation within acute setting, directed by Rehabilitation Medicine, with early discharge and referral to Community Brain Injury services and Rehabilitation Medicine follow-up.
- Inpatient rehabilitation within acute setting and subsequent transfer to specialist rehabilitation unit. The needs of the patient will determine to which unit a given patient would be transferred.

This process will include ongoing communication and involvement of the patient and family in all aspects of decision making and planning.

It will also include consultation and liaison between Rehabilitation Medicine and other medical specialties involved in the individual’s care including, when appropriate, services for children and adolescents and older adults.

2.2 Referral and Initial Assessment

Inpatient referrals to Rehabilitation Medicine for assessment will be standardised with a single point of contact within each Trust. For all referrals, except for those within the Western Health and Social Care Trust, this will be RABIU. Within the Western Health and Social Care Trust referrals will be made directly to Spruce House and a copy of the referral will be forwarded to RABIU for the purpose of recording and monitoring activity centrally. Referrals will be made on a standardised referral form providing basic demographic and clinical data to allow for triaging of referrals. All referrals will be screened within one working day, the referring unit notified of the receipt of the referral, and the patient assessed within ten working days of receipt of the referral.

Appropriate administration systems for receipt, recording and processing, and, monitoring of referrals will be established across each unit. Opportunities for an online referral system will be explored.

Please see Appendix II for a copy of the Common Referral Form for ABI Rehabilitation currently in use.

Initial assessment will be carried out by Rehabilitation Medicine and members of the inpatient teams as appropriate. Based upon the outcome of assessment the further management and rehabilitation for the patient will be planned in collaboration with the family.

Where specialist inpatient rehabilitation is not required, the patient will be referred to their local Community Brain Injury Service for community based rehabilitation and further management. Medical follow-up will continue with Rehabilitation Medicine working in collaboration with or as part of the Community Brain Injury Team.

Patients who require specialist inpatient rehabilitation will be placed on the waiting list for the unit that will best serve their needs and the needs of their family. This will depend upon the matching of clinical need to the specific service provided by a given Rehabilitation Unit.

While these patients remain within the acute setting they will continue to receive rehabilitation under guidance from Rehabilitation Medicine. Should it arise within this time that sufficient recovery occurs that the patient no longer needs specialist inpatient rehabilitation, in collaboration with the family and Community Brain Injury Services the patient will be discharged with ongoing input from Community Brain Injury Team and Rehabilitation Medicine.

2.3 Inpatient Neurorehabilitation

The requirement for admission to a specialist inpatient rehabilitation unit is determined by the need for an intensive interdisciplinary rehabilitation programme that cannot be delivered in an outpatient or community setting, along with the need for nursing care and/or medical treatment.

All patients will meet the following criteria for admission to inpatient rehabilitation:

- Non-progressive brain injury
- No pre-morbid progressive cognitive dysfunction
- No acute serious mental illness
- Requiring intensive multidisciplinary rehabilitation
- Demonstrating some level of response
- Medically and surgically stable

Inpatient rehabilitation will be provided by an interdisciplinary team, offering the full range of specialist assessments and interventions.

The skill mix within the team will reflect the specialist function of the individual unit. The team will include the following:

- Clinical Neuropsychology
- Nursing
- Occupational therapy
- Physiotherapy
- Rehabilitation Medicine
- Speech and Language therapy
- Social work
- Dietetics
- Neuropsychiatry
- Administration/secretarial support

Each unit will have access to a full range of clinical specialities and other agencies including:

- Clinical Pharmacy
- Complementary therapies

2.3.1 Admission protocols

Categories

The needs of patients with Acquired Brain Injury fall into three broad categories which will determine the rehabilitation unit that is best suited to their needs.

Each inpatient facility has a description of its admission and exclusion criteria (see Appendix I).

A: Patients with Physical/Cognitive Dysfunction:

Where the primary focus of rehabilitation is on physical and cognitive functioning, patients will require a specialist intensive rehabilitation environment (Wade, 2003; Wilson, 2003).

Patients in this category will be admitted to RABIU or Spruce House. The decision as to which unit a given patient will be admitted to will be based upon:

- Level and intensity of rehabilitation required, as per an appropriate measure eg Northwick Park Rehabilitation Complexity Scale
- Geographical proximity of the service for families
- Bed availability

Any transfer of patients in this category between these units will be made in full consultation with family and in line with the clinical needs of the patient. Units will adhere to the Protocol for Transfers between Units within Inpatient Rehabilitation Network (Appendix III).

B: Patients in Low Level Consciousness States

Patients with very severe or profound brain injury showing limited responsiveness to the environment will require specialist assessment to determine their level of response and ability to communicate, in order to determine prognosis and to plan disability management and establish ongoing care needs (Andrews, 2005; Wilson, Graham & Watson, 2005). The needs of family and carers will also be recognised within and shape this process.

Patients in low level consciousness will be transferred from the acute unit to RABIU or Thompson House Hospital. The assessment processes within these units is comparable and on that basis the decision as to which unit a patient is admitted will be based upon:

- Bed availability
- Geographical proximity of the service for families

An initial period of assessment of three months duration may be necessary for persons in low level consciousness. Subsequent management would depend upon the outcome of this initial assessment. Given the nature of problems for persons in low level consciousness early discharge planning is an essential component of their rehabilitation process and will take place alongside the assessment phase.

For those patients who display a functional and transferable increase in their level of consciousness/response during their assessment period an inpatient

goal directed rehabilitation programme will be devised. The decision as to where this further rehabilitation is provided will be based upon needs of the patient and family, and, the specific service provision within each unit.

For those patients discharged post assessment, and who have not demonstrated an increased level of response, a short re-admission at or about one year post injury/insult may be planned where appropriate for the purpose of formal reassessment.

Beyond that time re-admission would be dependent upon patients displaying an altered level of response as assessed on a community or outpatient basis.

C: Patients with Acute Neurobehavioural Dysfunction

Patients presenting with neurobehavioural problems in the acute setting will be admitted to RABIU for assessment and behavioural management. Where these can be managed effectively, the patient will remain at RABIU for intensive goal oriented rehabilitation, which will include a focus on behavioural functioning (Alderman, 2003; Wilson, Herbert & Shiel, 2003).

Where the level of behavioural dysfunction means that a patient presents a significant risk to himself or to others, the patient will transfer to the Neurobehavioural Rehabilitation Unit, Knockbracken Healthcare Park, or a similar out of region facility if it is considered necessary.

In some instances, the degree of neurobehavioural dysfunction will preclude direct admission to RABIU and the patient will be admitted to NRU. Dependent upon progress a patient may at a later stage be transferred to RABIU, primarily for management of physical needs that are not met within NRU. This will be an agreed decision between the units and the patient's family. Units will adhere to the Protocol for Transfers between Units within Inpatient Rehabilitation Network (Appendix III).

2.3.2 Intervention

Consistent with BSRM National ABI guidelines (2009), the inpatient rehabilitation process within each unit is:

- Patient and family centred
- Intensive
- Goal directed
- Time framed
- Delivered by a multi-professional team

It involves the following processes:

Assessment

All patients admitted will be assessed by the Interdisciplinary Team (IDT) using a range of standardised assessment tools for measurement of physical and cognitive, social, emotional and behavioural functioning, as appropriate to individual patient needs, including tools for the assessment and management of risk.

The IDT assessment will form the basis for the Rehabilitation Aim and interim goals. Assessment will take place over a two to three week period, with the full involvement of patient and family. Agreed aims for inpatient rehabilitation will be set, a range of interim goals being used to ensure progress and, in discussion with family, a time frame for rehabilitation set.

Goal reviews will take place on a two to three weekly schedule, dependent upon patient's progress. Further meetings will be held with family and community services to co-ordinate discharge planning and ongoing rehabilitation.

The principal aim of inpatient rehabilitation is to assist the patient and their family to reach the stage at which safe discharge to community is possible and appropriate. It is recognised that this is not the end of the rehabilitation process.

Treatment is delivered by an interdisciplinary team, the composition of which is dictated by the needs of the patient and family.

All units have processes in place to facilitate effective communication and decision making within the team, with patients, families, other services and other agencies. These include weekly team meetings, regular family meetings and discharge planning meetings.

Discharge Planning

Discharge planning meetings will involve the patient, the family, Community Brain Injury Teams, and other services and agencies who are likely to be involved in the individuals care and support post-discharge. The frequency of these meetings will depend on the individual's needs and the proximity of discharge.

All units adopt a model of rehabilitation which is collaborative and emphasises engagement of the patient and family in goal planning and review, treatment planning and decision making.

All units will incorporate early and active discharge planning with full involvement of appropriate community services, including Community Brain Injury Teams and Social Work/Care Management, in order to ensure timely discharge and appropriate management post discharge. A dedicated member

of the Inpatient Rehabilitation Team will be responsible for co-ordinating the discharge process.

Withdrawal of active rehabilitation will take place on achievement of goals or where goals are not achieved within the agreed time frame and it is concluded by the rehabilitation team that these goals are no longer attainable. Withdrawal of rehabilitation will also take place where a person is non-compliant with treatment.

All units will measure outcomes for the individual patient and the service as a whole (Herbert, 2003; Turner-Stokes, 1999).

2.4 Discharge and Follow-up Arrangements

Discharge is possible when the patient no longer needs:

- Inpatient medical or surgical management
- Specialist nursing care not available outside the inpatient setting
- Intensive therapy/treatment that can only be provided within an inpatient setting to achieve rehabilitation goals

It will also depend upon:

- The individual's domestic situation
- Availability of required level of care within community
- Availability of an appropriate care facility if needed

Planning for discharge will begin when the patient is admitted. Discharge from inpatient rehabilitation post ABI requires the full involvement of the patient, family, carers, the inpatient team and community services. The local Community Brain Injury Team rehabilitation service will be actively involved in discharge planning and the discharge process.

A Discharge Summary will be given to the patient, family and GP providing information regarding diagnosis, rehabilitation, further needs and plans for community rehabilitation and support.

Follow-up arrangements will be agreed with the Community Brain Injury Team. Further rehabilitation will be provided as required. This will be arranged as part of the discharge plan or following reassessment by the inpatient team, at the request of the Community Brain Injury Team.

All patients will be reviewed either in a community or hospital outpatient setting. The timing of the initial review and the frequency of follow-up reviews will be on the basis of individual need.

2.5 Later Inpatient Management of Acquired Brain Injury

While the above process will or should ensure that all newly diagnosed ABI patients will receive appropriate inpatient and outpatient/community rehabilitation, it is acknowledged that within the community at present there are patients with previous ABI who may require a period of inpatient management.

It is also the case that despite the above arrangements there may be patients who at a later stage re-present with a range of problems requiring possible inpatient management. This is more likely to be due to cognitive and/or neurobehavioural rather than physical dysfunction. Some of these patients may not have previously needed inpatient management and have developed problems over time while others may have had a period of inpatient rehabilitation and regressed for a variety of reasons.

Such persons should be referred, as for referrals in the acute stage, to RABIU/Spruce House for assessment. Subsequent to this assessment being carried out it will be decided if inpatient management was required and, if so, admission would be arranged to the most appropriate unit, which may be RABIU, Spruce House, NRU or in some cases a specialised unit outside Northern Ireland.

This is not intended to replace current arrangements for obtaining neuropsychiatric opinion on an outpatient basis. It is anticipated that this will continue to be a tertiary service with referrals being made through general psychiatry.

3.0 Bibliography

Alderman, N. (2003). Contemporary approaches to the management of irritability and aggression following traumatic brain injury. Neuropsychological Rehabilitation, 13 (1/2), 211-240

Andrews, K. (2005). Rehabilitation practice following profound brain damage. Neuropsychological Rehabilitation, 15 (3/4), 461-472

Bamford, D. (2005): Review of Mental Health & Learning Disability Services (Northern Ireland): A Strategic Framework for Adult Mental Health Services

Bamford, D. (2007): The Reform and Modernisation of Mental Health & Learning Disability Services

Department of Health (2005): National Service Framework for Long Term Conditions

DHSSPS (2009): Review of Services for People with Acquired Traumatic Brain Injury in Northern Ireland.

DHPSS (2009): Acquired Brain Injury Action Plan 2009/10-2010/11

Herbert, C. (2003). Planning, Delivering and Evaluating Services (pp 367-383). In L. H. Goldstein & J. McNeill (eds.). ClinicalNeuropsychology. John Wiley & Sons: Chichester, England

Hospital Advisory Service (1996): Mental Health Services. Heading for Better Care. Commissioning and Providing Mental Health Services for People with Huntington's Disease, Acquired Brain Injury and Early Onset Dementia

House of Commons Health Committee (2001): Head Injury Rehabilitation

Royal College of Physicians & British Society of Rehabilitation Medicine (2003): Rehabilitation After Acquired Brain Injury. National Clinical Guidelines

British Society of Rehabilitation Medicine (2009): BSRM Standards for Rehabilitation Services Mapped on to the National Service Framework for Long-Term Conditions, BSRM, London

Turner-Stokes, L. (1999). Outcome Measures for Inpatient Neurorehabilitation Settings. Neuropsychological Rehabilitation, 9(3/4), 329-343

Turner-Stokes, Williams H, Siegert R J. (2010) The Rehabilitation Complexity Scale version 2: A clinimetric evaluation for persons with severe complex neurodisability. JNNP,81:146-153

Wade, D.T. (2003). Neuropsychological deficits within the World Health Organization's model of illness (ICIDH-2) in P.W. Halligan, U. Kischka & J.C.

Marshall (eds.). Handbook of Clinical Neuropsychology. Oxford University Press: Oxford, England

Wilson, B.A. (2003). Planning, Delivering and Evaluating Service (pp.345-366). In L.H. Goldstein & J. McNeill (eds.). Clinical Neuropsychology. John Wiley & Sons: Chichester, England

Wilson, B.A., Herbert, C.M. & Shiel, A. (2003). Behavioural Approaches in Neuropsychological Rehabilitation. Taylor & Francis: Hove, England

Wilson, F.C., Graham, L. & Watson, T. (2005). Vegetative and minimally conscious states: Serial assessment approaches in diagnosis and management. Neuropsychological Rehabilitation, 15 (3/4), 431-441

4.0 Appendices

Appendix I: Description of Inpatient Units and Functions (including Admission Criteria and Exclusion Criteria)

Appendix II: Common Referral Form for ABI Rehabilitation

Appendix III: Protocol for Transfers between Units within Inpatient Rehabilitation Network

Appendix I: Description of Inpatient Units and Functions (including Admission Criteria and Exclusion Criteria)

Spruce House Acquired Brain Injury Rehabilitation Service

Service Description

Spruce House is an 18 bedded specialist facility situated on the grounds of Altnagelvin Hospital. Within the unit seven beds are available for persons with ABI. These comprise three for assessment/rehabilitation, one for respite care and three for transitional care arrangements.

It is a unique and modern facility, specially designed for people with physical disability. Staff at the unit assess, evaluate the needs, plan and implement rehabilitation programmes of care for patients who have a neurological disability or an acquired brain injury. In addition time-limited respite for those who have complex care needs is provided.

The ward also has an independent living suite to promote patients' rehabilitation and return home.

Each patient's rehabilitation programme of care is tailored toward their individual needs and circumstances. The unit's staff have experience and expertise in identifying and understanding the effects created by brain injury coupled with the resources to assist, educate and facilitate patients in their rehabilitation towards an agreed optimal level of independence.

Staff work within an interdisciplinary and interagency framework, encompassing a holistic approach to treatment across all disciplines and care is available 24 hours a day to all service users. Patients and their carers, as appropriate, are involved and participate in all aspects of their assessment, goal setting, care planning, discharge planning and follow-up.

The unit admits people who:

- reside in the Western Health and Social Care Trust
- require inpatient assessment/rehabilitation
- have sustained a brain injury*
- are male or female
- are aged 16+ years
- are medically/surgically stable
- have capacity to participate in and tolerate the intensity of the rehabilitation programme

Presence of tracheostomy is not a bar to admission to Spruce House; the unit has capacity to facilitate three persons with tracheostomy at any one time.

* While stroke has been excluded from the Standards Document for ABI management it is acknowledged that patients with stroke may be admitted to Spruce House. These may include patients with Locked In Syndrome, those with

highly complex physical needs and those referred from Stroke Services where it is agreed that the needs of the patient would be better served by inpatient management within Spruce House.

Exclusion Criteria

- Patients who have not achieved medical/surgical stability.
- If challenging behaviour is present this will be assessed against the capacity of the facilities, expertise and staffing levels in Spruce House to manage this. If this behaviour falls outside that capacity the person cannot be managed in Spruce House.
- If needs could be met more appropriately by an alternative service.
- Severe active mental health disorder.
- Active illicit drug abuse.

The unit provides:

- An intensive interdisciplinary team input to assessment, treatment and care.
- Individualised goal driven, time-limited rehabilitation programmes involving both multidisciplinary team members eg. nursing, Rehabilitation Medicine, occupational therapy, physiotherapy, social work and other professional inputs as required eg. clinical neuropsychology, dietetics, education, speech and language therapy.

Operational Process

Referral Method

- Referrals will be accepted from a member of the patient's medical team.
- Referrals should be made using common referral form for persons with ABI (see Appendix II).
- Referrals should clearly state a request for inpatient rehabilitation.
- Patients will normally be seen within ten working days of receipt of referral.

Inpatient Stay

Patients admitted to Spruce House undergo a period of assessment, on completion of which their Rehabilitation Aim is determined and a range of interim rehabilitation goals set in conjunction with the patient and family are established.

The duration of a given patient's inpatient rehabilitation is determined by the Rehabilitation Aim and their progress within the rehabilitation process. All goals are reviewed on a two to three weekly basis.

A central part of the rehabilitation process is early and active discharge planning, involving family and carers from an early stage in the patient's admission.
Formal meetings are held with family on a six to eight weekly basis, depending upon progress to formally review matters and to actively plan discharge. These meetings

will also involve staff from community services including Community Brain Injury services.

Key Worker/Care Co-ordination

On admission each patient has an inpatient key worker allocated to their care. The pre-admission assessment will determine which member of the multidisciplinary team would be the most appropriate person to act as key worker. This key worker will be responsible for co-ordinating the discharge process and will take responsibility for making and maintaining links for the patient with the relevant community services

Named Nurse

On admission all patients will be allocated a named nurse and an associated nurse. The named nurse will be responsible for the patient's nursing care co-ordination. The associate nurse will act in the named nurse's absence. On a day to day basis if the named nurse/associate nurse is not on duty a registered nurse will act for them in their absence.

Transfers from the Unit

On occasion patients will require transfer out of Spruce House for continuing management or monitoring. This may be because of illness or change in condition which requires another setting. Acutely unwell patients are transferred to Altnagelvin Area Hospital following consultation with the on call acute staff.

Transfers to the other units within the rehabilitation network (RABIU, NRU, THH) are facilitated by Consultant to Consultant referral (see Appendix III). There is regular liaison and communication between the above units, including one day each week when the Consultant in Rehabilitation Medicine from the Western Trust is located in RABIU.

Aftercare

Following the inpatient period patients will be referred on to appropriate services for continuing rehabilitation. They will be reviewed at outpatient clinic by a Rehabilitation Medicine Consultant.

Regional Acquired Brain Injury Unit (RABIU), Musgrave Park Hospital

Service Description

The Regional Acquired Brain Injury Unit (RABIU) is a 25 bedded, purpose built, specialist rehabilitation unit situated within the grounds of Musgrave Park Hospital, Belfast. Within RABIU there are up to six beds designated for persons in low level consciousness, and up to six beds for persons who are mobile and confused and in need of one-to-one supervision. Up to four patients with tracheostomy can be accommodated within RABIU at any given time.

RABIU functions both as a tertiary referral centre for highly complex cases post ABI and at the same time provides a secondary referral role for persons post ABI who do not have access to inpatient rehabilitation within their health and social care trust area.

RABIU provides assessment and rehabilitation for persons with all levels of ABI from low level consciousness through to those persons who are mobile and confused and presenting with challenging behaviours. Staff provide interdisciplinary rehabilitation, under the direction of Consultants in Rehabilitation Medicine, on an inpatient basis and, where required or appropriate, an outpatient basis.

Each patient's rehabilitation programme or disability management programme is devised in order to maximise their level of independence/minimise carer burden. All staff work within an interdisciplinary framework to provide a holistic approach. Patients and their families/carers, as appropriate, are involved and participate in all aspects of assessment, goal setting, care planning, discharge planning and follow-up.

The unit admits people who:

- have sustained an acquired brain injury*
- require inpatient assessment/rehabilitation
- are male or female
- are aged 16+ years
- have some assessed capacity to participate in, and, tolerate the intensity of the rehabilitation programme
- patients may be admitted with a tracheostomy, however the unit has the capacity to manage up to four such persons at any one time

* While stroke has been excluded from the Standards Document for ABI management it is acknowledged that patients with stroke may be admitted to RABIU. These are generally patients with cognitive/neurobehavioural dysfunction, complex posterior circulation strokes, Locked In Syndrome, or people who following stroke have needed neurosurgical intervention. Referrals would also be accepted from inpatient stroke services where the needs of the patient would be better met by services provided within RABIU.

Exclusion Criteria

- Persons who are not medically/surgically stable
- Persons exhibiting levels of challenging behaviour which cannot be safely managed within the unit
- Persons with active severe mental health disorder
- Persons with active illicit drug abuse
- Following assessment, if patient needs could be met more appropriately by an alternative service

The unit provides:

- An intensive interdisciplinary team input to assessment, treatment and care.
- Individualised goal directed, time-limited rehabilitation programmes involving appropriate members of the interdisciplinary team.
- Individualised disability management programmes.

Operational Process

Referral Method

- Referrals will be accepted in writing from a member of the medical team.
- Referrals should be made on the common referral form for patients with ABI (see Appendix II).
- Referrals should clearly state a request for inpatient or outpatient rehabilitation or assessment.
- Inpatients referred for assessment will normally be seen within ten working days of receipt of referral.

Inpatient Stay

Patients admitted to RABIU undergo a period of assessment, on completion of which their Rehabilitation Aim is determined and a range of time-limited rehabilitation goals will be set.

The duration of a given patient's inpatient rehabilitation is determined by their progress with regard to their rehabilitation goals and objectives. All goals are reviewed on a two to three weekly basis. Formal meetings are held with family on a six to eight weekly basis, depending upon progress, to formally review matters and to plan for discharge. These meetings will also involve staff from community services including Community Brain Injury services.

Patients admitted for assessment may not require rehabilitation goals and, in such situations, an individualised disability management programme will be drawn up in conjunction with family and carers, as appropriate.

Key Worker/Care Co-ordination

On admission each patient is allocated a key worker. The pre-admission assessment will determine which member of the multidisciplinary team would be the most appropriate person to act as key worker. The key worker, in conjunction with the medical social worker, will be responsible for co-ordinating family meetings, liaising with family and carers as well as establishing and maintaining links with the relevant community services

Named Nurse

On admission all patients will be allocated a named nurse and an associated nurse. The named nurse will be responsible for the patients nursing care co-ordination whilst an inpatient. The associate nurse will act in the named nurse's absence. On

a day to day basis if neither the named nurse nor associate nurse are on duty, a registered nurse will act on their behalf.

Transfers from the Unit

On occasion patients may need to be transferred out of RABIU due to a change in their clinical condition which requires another health setting. Acutely unwell patients will be transferred to an acute hospital following consultation. Transfers to the other units within the rehabilitation network are facilitated by Consultant to Consultant referral (see Appendix III).

Aftercare

Following the inpatient period patients will be referred on as appropriate for continuing rehabilitation. They will be reviewed at the Outpatient Clinic by a Rehabilitation Medicine Consultant either within RABIU or at a locality based service.

Neurobehavioural Unit (NRU)

Service Description

The Neurobehavioural Rehabilitation Unit is a specialist 12 bedded facility for males, providing rehabilitation treatment, care and support to people who present with significant neurobehavioural problems as a consequence of brain injury and who may, in addition have a mix of sensory, physical and cognitive impairments. The NRU provides interdisciplinary rehabilitation. Patients are under the care of a Consultant Psychiatrist.

The unit targets those who, as a result of brain injury or brain disease, present with challenging behaviours particularly where these are at a level which mean that their needs cannot be met in other settings due to risk to self or others.

The NRU is one component in the range of mental health services required to address the mental health needs of people with acquired brain injury. The unit adopts a psychosocial model of rehabilitation, working with the patient and their family to maximise independence and social functioning.

The unit targets the needs of those people with brain injury and complex needs, who present with behaviours that challenge.

The unit admits people who:

- require inpatient assessment
- have sustained a brain injury
- are male
- aged 18+ years
- are difficult to manage in another setting due to behavioural problems
- are a risk to self and/or others

- need a rehabilitation programme in a specialist setting focusing on social, emotional and behavioural functioning
- require neuropsychiatric assessment/intervention

Exclusion Criteria

- The unit does not provide care for patients who require secure provision.
- The unit does not provide acute medical care services. People with unstable medical conditions that require acute services are referred on to an appropriate acute hospital setting.
- People with a high level of physical dependency and physical frailty will be referred on to an appropriate setting.
- The unit is part of a mental health service. People with primarily acute mental health needs are referred on to an appropriate acute mental health unit.

The Neurobehavioural Unit provides:

- An intensive interdisciplinary team input to assessment, treatment and care.
- Individual treatment. Intervention programmes involving both multidisciplinary team members eg. nursing, medicine, clinical neuropsychology, occupational therapy, social work and other professional inputs as required eg. education, physiotherapy, speech and language therapy.
- A specialist environment with staff trained in the management of challenging behaviours and in skills training.
- High level of supervision when required.

Operational Process

Referral Method

- Referrals will be accepted from a member of the patient's medical team.
- Referrals should be made on the common referral form for patients with ABI (see Appendix II).
- Referrals should indicate request for assessment for inpatient rehabilitation.
- Patients referred wil normally be assessed within ten days of receipt of referral.

Inpatient Stay

Patients admitted to NRU undergo a period of assessment. This includes psychiatric assessment and analysis of behavioural patterns to identify factors that may be contributing to or may be antecedents of dysfunctional behaviours. A behavioural management strategy and plan is developed and implemented. Rehabilitation Aims are determined. A range of rehabilitation goals are set in conjunction with the patient.

Progress is reviewed on a one to two weekly basis and review meetings are held on a three monthly basis for a comprehensive review and to actively plan discharge. When appropriate these meetings will involve staff from community services including Community Brain Injury services and care managers.

Transfers from NRU

On occasions patients may need to be transferred from NRU due to a change in their clinical condition. Patients who are acutely unwell will be transferred to an acute setting after consultation. Transfers to another unit within the rehabilitation network will be facilitated by Consultant to Consultant referral (see Appendix III).

Aftercare

Following discharge from NRU patients will be followed up within ABI services by Community Brain Injury teams, Rehabilitation Medicine , Neuropsychiatry as appropriate. Onward referral to and follow-up by General Psychiatry will also be required for some patients.

Thompson House Hospital (THH) Acquired Brain Injury Rehabilitation Service

Service Description

Thompson House Hospital (THH) is a regional specialist 35 bedded unit that provides services to meet the needs of people with complex neurodisability (inclusive of neurological conditions and acquired brain injury) for assessment and rehabilitation, therapeutic respite and continuing care services. Nine beds are currently dedicated to brain injury rehabilitation. Up to three patients with tracheostomy can be managed within THH at any one time. There are seven respite beds in Thompson House that are available for people with neurological conditions or acquired brain injury. The hospital has been recently refurbished and provides a specially adapted environment for people with complex neurological disability.

Staff assess, evaluate the needs, plan and implement rehabilitation programmes of care for patients who have a progressive neurological illness as well as those with acquired brain injury. In addition time-limited respite is provided for those who have complex care needs.

Each patient's rehabilitation programme is formulated in order to maximise their level of independence. All staff work within an interdisciplinary framework to provide a person centred holistic approach to care. Patients and their carers, as appropriate, are involved and participate in all aspects of assessment, goal setting, care planning, discharge planning and follow-up.

In the context of ABI, the unit admits people who:

- have sustained an acquired brain injury*
- require inpatient assessment/rehabilitation
- are male or female

- are aged 16+ years
- are medically/surgically stable
- have some assessed ability to participate in and tolerate the intensity of the rehabilitation programme
- Presence of tracheostomy; the unit has capacity to manage only three persons with tracheostomy at any one time.

* While stroke has been excluded from the Standards Document for ABI management it is acknowledged that people with stroke may be admitted to Thompson House. These are generally patients with Low Level Consciousness states following stroke. Referrals will also be accepted from inpatient stroke services where the needs of the patient would be better met by services provided within Thompson House Hospital.

Exclusion Criteria

- Patients who are not medically/surgically stable.
- Patients exhibiting levels of challenging behaviour that cannot be managed safely within the unit.
- Following assessment, if the patient's needs could be met more appropriately by an alternative service.

The unit provides:

- An intensive interdisciplinary team input to assessment, treatment, management and care.
- Individualised goal directed time-limited rehabilitation programmes involving appropriate members of the interdisciplinary team.

Operational Process

Referral Method

- Referrals will be accepted from a member of the patient's medical or multidisciplinary team.
- Referrals should be made on the common referral form for patients with ABI (see Appendix II).
- Referrals should clearly state a request for inpatient rehabilitation or respite/continuing care.
- Referrals for inpatient rehabilitation will normally be assessed within ten working days of receipt.
- On receipt and following initial assessment the THH admission form will be completed where it is agreed that the patient would be appropriate for management within Thompson House.

Inpatient Stay

All patients admitted to Thompson House Hospital undergo a period of assessment, on completion of which their Rehabilitation Aim is determined and a range of time-limited rehabilitation goals will be set.

The duration of patient's inpatient rehabilitation is determined by their progress with regard to their rehabilitation goals and objectives. All goals are reviewed on a regular basis.

Formal meetings are held with family and carers depending upon progress to formally review matters and to plan for discharge. Discharge planning is a central part of the inpatient rehabilitation process and will commence at an early stage within THH, and will fully involve family and carers. These meetings will also involve staff from community services including Community Brain Injury services.

Named Nurse

On admission all patients will be allocated a named nurse. The named nurse will be responsible for the patients nursing care co-ordination. On a day to day basis if the named nurse is not on duty a registered nurse will act on his/her behalf.

Key Worker/Care Co-ordination

On admission each patient will have access to a dedicated social worker. The pre-admission assessment will determine the level and type of care co-ordination that is necessary and this will be reviewed regularly throughout the inpatient stay.

The social worker will be responsible for co-ordinating family meetings and liaising with family and carers, as well as establishing and maintaining links with the relevant community services.

Transfers from the Unit

On occasion patients may need to be transferred from Thompson House due to a change in their clinical condition which requires another health care setting. Acutely unwell patients will be transferred to an acute hospital following consultation. Transfers to the other units within the inpatient rehabilitation network are facilitated by Consultant to Consultant referral (see Appendix III).

Aftercare

After discharge patients will be reviewed by their Community Team and/or Rehabilitation Medicine as appropriate.

Appendix II: Common Referral Form for ABI Rehabilitation

Referral date: __/__/____
Date of injury: __/__/____

PLEASE AFFIX PATIENT LABEL

Hospital:
Ward:
Consultant:

History:

Initial GCS: /15
Current GCS: /15
Time in ICU:

CT/MRI Brain Report:

Current Status:

Mobility:

Cognition/Behaviour:

Supervision Need:

Tracheostomy:

Nutrition/Feeding:

Signature:

Name:

GMC No:

Appendix III: Protocol for Transfers between Units within Inpatient Rehabilitation Network

The National Definition Set for Specialised Services in Brain Injury and Complex Rehabilitation, defines three levels of service in neurological rehabilitation:

- Local General (LG) rehabilitation services which are non specialist services mainly provided at primary care or community team level.
- District Specialist (DS) services which are usually consultant-led services covering a population of 300,000-500,000.
- Complex Specialised (CS) services which are tertiary or regional services providing for people with more complex rehabilitation needs usually serving a population of 1-3 million.

The Regional Acquired Brain Injury Unit (RABIU) has a dual role operating at Complex Specialised service level for Northern Ireland as a region but also at the District Specialist service level for people primarily from within Belfast Trust and where such a service does not exist within the patient's local Trust area.

Thompson House Hospital provides Complex Specialised services, for persons in Low level consciousness states and District Specialist service for respite and continuing care patients.

Neurorehabilitation Unit (NRU) operates at the level of Complex Specialised service for people with challenging behaviour.

Spruce House operates at the level of a District Specialist service.

Individuals from the Western Trust who, following ABI have complex disability evidenced by higher scores on the Rehabilitation Complexity Scale, may require all or part of their rehabilitation to be carried out in the Complex Specialised service (eg. RABIU/THH/NRU). Pathways are in place to facilitate appropriate and timely transfer between all of these services.

Examples of individuals who will require the services of a Complex Specialised Service are patients:

- requiring assessment of low awareness/persistent vegetative states
- with moderate/severely disruptive behaviour
- with severe complex disability requiring high levels of supervision
- needing high frequency and intensity of multi-therapy intervention and those who need highly specialist equipment

These individuals may be treated in the District Specialist service at some time during their pathway through inpatient rehabilitation.

Individuals who have less complex needs can be managed in a District Specialist unit and will include:

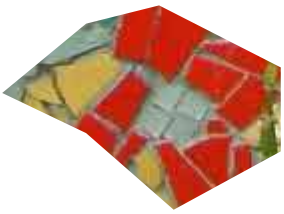
- those with moderate physical and cognitive disability
- those not requiring close supervision
- and those in the above group whose needs change depending on their stage in the rehabilitation process

Within the Complex Specialised services there may be a need for transfer of patients from one unit to another dependent upon their needs. Such transfers will be made as per attached protocol and in full discussion with family and carers of the patient involved.

Department of Health. Specialised Services National Definition Set No 7: Complex specialized rehabilitation for brain injury and complex disability (adult). London: DH, 2002.

RCS Version 8. Prof Lynne Turner-Stokes 15.11.08 [BSRM.co.uk accessed 10/02/2011]







This Service Standards and Quality Indicators and Pathways pack was produced by the Health and Social Care Board's Regional Acquired Brain Injury Implementation Group in partnership with parents and carers.

The Regional Acquired Brain Injury Implementation Group would like to extend their thanks for the artwork produced by clients from the Child Brain Injury Trust, Headway Belfast, Headway Newry and Reconnect. Their excellent contributions are much admired and appreciated by everyone involved in producing this resource.

Please ask if you need this information in alternative formats: Large print, computer disk, Braille, audio tape or translation. Please contact the Health and Social Care Board on 028 2532 1206.

HSC Health and Social Care Board

HSC Public Health Agency

Regional Acquired Brain Injury Implementation Group (RABIIG)

Acquired Brain Injury Inpatient Care Pathway: Neurorehabilitation