# Post-Acute Inpatient Rehabilitation Service Provision: A National Overview of HSE Funded Services

Full Report

Clinical Design & Innovation
Person-centred, co-ordinated care

# CDI Document Cover Sheet

| Document Type | Report |
|---|---|
| Document Title | **Post-Acute Inpatient Rehabilitation Service Provision: A National Overview of HSE Funded Services: Full Report** |
| Document Owner/Authors | • Dr Emer Ahern, National Clinical Advisor and Group Lead (NCAGL) Older Persons<br>• Dr Paul Carroll, Clinical Lead, National Clinical Programme for Rehabilitation Medicine<br>• Caitriona Begley, Rehabilitation Project Facilitator, National Office for Trauma Services.<br>• Sinéad Coleman, Programme Manager, National Clinical Programme for Stroke<br>• Catherine Devaney, Health & Social Care Professions Clinical Advisor, National Clinical Programme for Older People (NCPOP)<br>• Helen Kavanagh, Programme Manager, National Clinical Programme for Rehabilitation Medicine<br>• Ciara Lynch, Programme Manager, National Neuro-Rehabilitation Strategy<br>• Deirdre Murphy, Programme Manager, National Neuro-Rehabilitation Strategy |
| National Service/Area | • NCAGL Older Persons<br>• National Clinical Programme for Older People<br>• National Clinical Programme for Rehabilitation Medicine<br>• National Clinical Programme for Stroke<br>• National Neuro-Rehabilitation Strategy<br>• National Office for Trauma Services |
| Approved by: | Dr Emer Ahern, NCAGL Older Persons |
| Unique Identifier Number(UID): | CDI/0089/1.0/2024 (Full Report) |
| Version Number: | V1.0 |
| Publication Date: | 06/09/2024 |
| Recommended Revision Date: * | N/A. |
| Electronic Location: | TBC |

* Refer to HSE National Framework for developing Policies, Procedures, Protocols and Guidelines (PPPGs)

## Recommended Citation for this report:

Post-Acute Inpatient Rehabilitation Service Provision: A National Overview of HSE Funded Services. Summary Report (2024). Dublin: Health Service Executive

Or

Begley, C; Ahern, E; Carroll, P; Coleman, S; Devaney, C; Kavanagh, H; Lynch, C; Murphy, D. Post-Acute Inpatient Rehabilitation Service Provision: A National Overview of HSE Funded Services. Summary Report (2024).Dublin: Health Service Executive

## Contributors:

PJ Harnett, General Manager, National Clinical Advisor and Group Lead Office, Older People

Deirdre Lang, Director of Nursing, Office of Nursing & Midwifery Planning and Development Director/ National Clinical Programme for Older People

Martina Vaughan, Assistant Director of Nursing, Nursing & Midwifery Planning and Development Unit

**Interactive Document**
Click here to bring you to the contents page

# Contents

**Interactive Document**
Click here to bring you the relevant section


| | |
|---|---|
| **Sponsor's Foreword** | **7** |
| **Executive Summary** | **8** |
| **Abbreviations** | **10** |
| **Glossary** | **12** |
| **Introduction** | **16** |
| Development of Rehabilitation Services in Ireland | 17 |
| Defining Rehabilitation in Ireland | 18 |
| Challenges with Rehabilitation in Ireland | 18 |
| Previous Mapping of Rehabilitation Services in Ireland | 18 |
| Strategic Importance | 19 |
| Project Aims and Objectives | 19 |
| Establishment of Project Team | 19 |
| **Methodology** | **20** |
| Project Definitions | 21 |
| Scope | 22 |
| Survey Design, Pilot and Launch | 23 |
| Data Protection and Management | 24 |
| Data Analysis: Approach to Clinical Categories of Rehabilitation Beds | 25 |
| Findings from Methodology Process | 26 |
| **Findings, Recommendations and Supporting Evidence** | **27** |
| **1. Availability of and Access to Post-Acute Inpatient Rehabilitation Beds in Ireland** | **28** |
| 1.1 Geographical Distribution of Rehabilitation Beds | 29 |
| 1.2 Operational Governance of Post-Acute Inpatient Rehabilitation | 31 |
| 1.3 Access to Rehabilitation Based on Geography | 32 |
| 1.4 Access to Rehabilitation based on Home Address | 33 |
| 1.5 Availability of Rehabilitation Beds based on Clinical Condition | 34 |
| 1.6 Post-Acute Inpatient Rehabilitation Bed Requirements | 35 |
| 1.7 Access to Rehabilitation Based on Condition | 38 |
| 1.8 Access to Rehabilitation Based on Age | 39 |
| 1.9 Organisational Processes that Support Access to Rehabilitation | 42 |

# Contents


| | |
|---|---|
| **2. Rehabilitation Service Specification** | **44** |
| 2.1 Use of Standardised Assessment Tools | 44 |
| 2.2 Rehabilitation Clinical Complexity | 45 |
| 2.3 Medical Clinical Complexity | 48 |
| 2.4 Rehabilitation Interventions | 49 |
| 2.5 Rehabilitation Environment and Equipment | 51 |
| **3. Rehabilitation Workforce** | **53** |
| 3.1 Validating Workforce Data | 53 |
| 3.2 Clinical Guidelines for Rehabilitation Staffing Levels | 54 |
| 3.3 Rehabilitation Staffing Levels and Team Composition | 55 |
| 3.4 Rehabilitation Workforce Grade Mix and Skill Mix | 59 |
| 3.5 Interdisciplinary Team Working and Clinical Governance | 62 |
| **4. Egress from Post-Acute Inpatient Rehabilitation** | **64** |
| 4.1 Length of Stay | 64 |
| 4.2 Discharge Destinations after Post-Acute Inpatient Rehabilitation | 64 |
| 4.3 Egress Pathways from Post-Acute Inpatient Rehabilitation | 65 |
| 4.4 Delayed Transfer of Care from Post-Acute Inpatient Rehabilitation | 66 |
| **5. Rehabilitation Metrics** | **67** |
| 5.1 Process Metrics: Performance and Quality Data | 67 |
| 5.2 Clinical Metrics: Assessment of Rehabilitation Need and Functional Outcomes | 67 |
| **6. Collated Recommendations from Post-Acute Inpatient Rehabilitation Mapping Project: A National Overview of HSE Funded Services** | **71** |
| **Appendices** | **75** |
| **Appendix 1:** Rehabilitation Workforce Analysis by Clinical Condition | 76 |
| **Appendix 2:** Additional Survey Findings | 80 |
| **Appendix 3:** Post-Acute Inpatient Rehabilitation Mapping Project Survey | 89 |
| **References** | **101** |

# Contents

## List of Figures


Figure 1: Key Rehabilitation Policy Milestones 17

Figure 2: Percentage of Post-Acute Inpatient Rehabilitation Units by Setting 30

Figure 3: Range of Operational Governance Arrangements 31

Figure 4: Level of Patient Complexity per Clinical Domain reported to be Managed by Rehabilitation Units (Non-tertiary) 46

Figure 5: Rehabilitation Nursing, Grade Mix 60

Figure 6: Common Discharge Destinations Identified by Rehabilitation Units 64


## List of Tables


Table 1: HSE Models of Care informing definition of Post-Acute Inpatient Rehabilitation 21

Table 2: Inclusion Criteria 22

Table 3: Exclusion criteria 22

Table 4: Data Quality Statement (Overview of Data Quality Measures) 24

Table 5: Categorisation of Rehabilitation Unit Type based on Clinical Conditions 25

Table 6: Number of Non-Tertiary Rehabilitation Beds per CHO 29

Table 7: Number of Non-Tertiary Rehabilitation Beds per Health Region 30

Table 8: Waiting time for admission to Rehabilitation Units by CHO 32

Table 9: Access criteria based on Geographical Considerations: 33

Table 10: Number and Percentage of Rehabilitation Beds per CHO and by Clinical Condition 34

Table 11: National Availability of Specialist Neuro-Rehabilitation Beds (excluding national tertiary centre) 35

Table 12: The National Availability of Trauma & Orthopaedic and Ortho-Gerontology and Beds 36

Table 13: National Availability of Specialist Gerontology Beds 37

Table 14: National Availability of Mixed Rehabilitation Beds 38

Table 15: Waiting Times to Access Rehabilitation by Rehabilitation Category 38

Table 16: Access to Rehabilitation Units based on Patient's Age 40

Table 17: Waiting Times to Access Rehabilitation by Age 40

Table 18: PCAT Category reporting across 7 domains or more by Rehabilitation Category 46

Table 19: Assessments & Intervention's Most Available: At least 90% of Non-Tertiary Units, Either On-Site or Off-Site 50

Table 20: Assessments & Intervention Least Available: Less than 50% of Non-Tertiary Units, Either On-Site or Off-Site 51

Table 21: Data Management for Rehabilitation Workforce Reporting 53

# Contents


| | |
|---|---|
| **Table 22:** Published HSE Guidelines and Strategies with Rehabilitation Staffing Levels | 54 |
| **Table 23:** Recommended Rehabilitation Staffing Ratio Ranges compared to Approved Survey Staffing Ratios | 55 |
| **Table 24:** Rehabilitation Units in which a HSCP Discipline or Pharmacist is Not a Core Member of the Rehabilitation Team | 56 |
| **Table 25:** Frequency of access to HSCP and Pharmacy services in non-tertiary units | 57 |
| **Table 26:** Minimum to Maximum Range of Rehabilitation Staffing WTE per 10 Non-Tertiary Rehabilitation Beds, Specialist Gerontology and Mixed Rehabilitation Units | 57 |
| **Table 27:** Rehabilitation Units Supporting Approved Medical Training | 59 |
| **Table 28:** HSCP Grade Mix in Post-Acute Inpatient Rehabilitation Units | 60 |
| **Table 29:** Percentage of Clinical Specialist HSCPs as part of Total HSCP Staffing | 61 |
| **Table 30:** HSCP Assistant Staffing in Post-Acute Rehabilitation Units | 61 |
| **Table 31:** Team Processes Supporting Person-Centred Integrated Care | 63 |
| **Table 32:** Patient-Centred Care Planning | 63 |
| **Table 33:** Egress Pathways of Care from Post-Acute Inpatient Rehabilitation to Community Services | 65 |
| **Table 34:** Use of Validated Assessment & Intervention Processes | 68 |
| **Table 35:** Functional Outcome Measures | 69 |


## List of Appendix - Tables


| | |
|---|---|
| **Table 36:** Comparison of Survey findings against Recommended Specialist Geriatric Model of Care 2012 staffing levels | 76 |
| **Table 37:** Comparison of Survey findings against National Clinical Guidelines for Stroke for UK and Ireland. 2023 | 77 |
| **Table 38:** Comparison of Survey findings against Irish Trauma and Orthopaedics Model of Care | 78 |
| **Table 39:** Comparison of Survey findings against National Neuro-Rehabilitation Strategy Implementation Framework 2019 and BSRM Model of Care | 79 |
| **Table 40:** Rehabilitation Service Provision for Older Adults – Summary Findings on Access to Assessment, Care Planning, Interventions and Outcomes | 80 |
| **Table 41:** Availability of Rehabilitation Assessments & Interventions: ICF - Cognition, Communication and Sensorimotor Functions | 81 |
| **Table 42:** Availability of Rehabilitation Assessments & Interventions: ICF – Body Functions and Structures | 82 |
| **Table 43:** Availability of Rehabilitation Assessments & Interventions: ICF - Activity and Participation Functions | 83 |
| **Table 44:** Clinical and Psychosocial Factors (Barriers, Exclusion Criteria) that impact Rehabilitation Provision | 84 |
| **Table 45:** Examples of Clinical Measures and KPIs Provided by Rehabilitation Units | 87 |

# Sponsor's Foreword

We are in the World Health Organisation's (WHO) decade of Rehabilitation. The WHO has launched a 'Call to Action' given the global need for rehabilitation services.

For a health system to be both clinically and cost-effective, there must be a robust knowledge of what services are being provided and funded. This project presents data on inpatient rehabilitation services across Ireland. Rehabilitation services have developed in Ireland and some excellent service provision exists. However, overall services are at a low level of development relative to what they should be, to meet evidence-based practice and population need.

The Assisted Decision-Making (Capacity) Act (2015) confers a legal basis to a person's will and preference. For most people, will and preference translates to recovering as much as possible following illness and getting back home. The United Nations Convention on the Rights of Persons with Disabilities behoves the State to provide rehabilitation services resourced to a sufficient level to meet population need. It follows from this that there needs to be provision of clinical service that brings to life this legislation. Rehabilitation at its heart focusses on enabling people to realise goals of improving and getting home and as such can help the HSE discharge its duty of care in this regard.

To develop the continuum of services required for rehabilitation in Ireland there needs to be a clear picture of what is currently provided. What is present can serve as a foundation on which to build new services. Knowledge of what services provide can enable formation of clinical pathways to facilitate quality of care and optimise resource use.

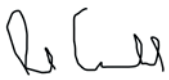
This mapping project was realised through collaboration between several HSE National Clinical Programmes, namely the National Office for Trauma Services, the National Clinical Programme for Rehabilitation Medicine, the National Clinical Programme for Stroke, the National Neuro-Rehabilitation Strategy and the National Clinical Programme for Older People. Key to the success of the collaboration were the collaborators themselves. This work took perseverance, patience and humility to achieve. The work is an exemplar of what can be achieved through high level collaboration.

This report outlines the process of mapping data on the provision of post-acute inpatient rehabilitation and presents a series of recommendations with regard to rehabilitation service provision in Ireland. These recommendations draw on an international evidence-base and directly from the project's findings. Any development of post-acute inpatient rehabilitation must take account of these recommendations.


## Acknowledgements:

This is a substantial piece of work. It is not possible to name everyone involved but it would be remiss to omit crediting a number of people given their level of input. Caitriona Begley, Rehabilitation Project Facilitator National Office of Trauma Services, who first envisaged this project, Helen Kavanagh, Ciara Lynch, Sinéad Coleman, Catherine Devaney and Deirdre Murphy, all of whom worked extensively on the project, PJ Harnett who supported project development and initial drafting, Dr Emer Ahern and Dr Paul Carroll who co-sponsored the project. All the above played a role in the authoring and review of this mapping document. The project team would like to thank all the staff in the different services who participated in the project and the administrative staff who facilitated meetings and necessary steps for the project to be realised. The project team would like to thank Dr Colm Henry for his support in the project. The project team would also like to thank Deirdre Lang, Director of Nursing, Office of the Nursing and Midwifery Services Director/National Clinical Programme for Older People & Martina Vaughan, Assistant Director of Nursing, Office of the Nursing & Midwifery Services Directors for their contribution to the workforce section of the document. All the project members are clinicians and the people who have need of these services have provided us inspiration in completing this task, knowing that the work will lead in due course to better service provision.

**Dr Emer Ahern**
National Clinical Advisor & Group Lead Older Persons



**Dr. Paul Carroll**
Clinical Lead for the National Clinical Program in Rehabilitation Medicine

# Executive Summary


Rehabilitation has been defined as “a set of interventions designed to optimise functioning and reduce disability in individuals with health conditions, in interaction with their environment” (1). Internationally, there is a significant body of evidence to support the benefit and cost-effectiveness of rehabilitation (2). The World Health Organisation’s (WHO) Rehabilitation 2030 Initiative appeals for health systems to strengthen their rehabilitation services to ensure that high-quality, timely rehabilitation is available to all who need it (3).

In Ireland, a key priority for the Health Service Executive’s (HSE) new Health Regions is to provide integrated health and social care services with easier access and improved governance, accountability and performance (4). Projected population growth and longer life spans will result in increased demand for rehabilitation (5). The Urgent and Emergency Care Framework (UEC) has also identified a need to develop post-acute rehabilitation capacity to support timely discharge from acute hospital services (6). The WHO reported the prevalence of people in Ireland, in 2019, with at least one condition that would benefit from rehabilitation services to be 1.9 million people out of a total Irish population of 4.9 million (7).

To date, there has been no clear national picture of the range and scope of existing post-acute inpatient rehabilitation services. There has also been a lack of understanding of what constitutes a rehabilitation service. To facilitate the strategic improvement of rehabilitation in Ireland, it is critical to have an objective understanding of existing post-acute inpatient rehabilitation services.

A uniquely collaborative project team was established, with broad representation from national clinical programmes and oversight from the HSE’s Chief Clinical Officer. The project’s scope explored post-acute adult inpatient services, funded by the HSE and providing dedicated multidisciplinary rehabilitation. Following a process of research and stakeholder engagement, an electronic survey was launched in March 2023. Extensive data validation was undertaken following the submission of surveys.

An important initial finding was that 35% of healthcare facilities initially surveyed were deemed to be outside the scope of the project. This finding highlights the lack of national consensus on what constitutes a rehabilitation service, in the absence of agreed rehabilitation service specifications.

This project has, for the first time, established the number of post-acute rehabilitation beds available in Ireland. A clear shortfall of bed availability was identified nationally, across large patient cohorts (e.g. 58% shortfall in Neuro-Rehabilitation beds).

The project identified large variation in availability and access to rehabilitation services across Ireland. It was also found that access to rehabilitation units varies according to a patient’s age, clinical condition, home address or referral source.

For the majority of rehabilitation units, there was limited evidence of objective processes (e.g. use of validated rehabilitation assessment tools) to determine appropriate patient access to their services, based on need or level of complexity. The project found that the rehabilitation workforce and availability of rehabilitation interventions did not always align with the complexity of patient needs being managed within a rehabilitation unit. Many rehabilitation units did not have the recommended workforce staffing levels or team composition. Although, 82% of units identified that their unit’s clinical governance was consultant-led, 11% of these units had no dedicated consultant hours available to that unit.

Data is key to driving quality improvement. The HSE has no information on patient or service rehabilitation outcomes, for example, metrics such as waiting times and length of stay. Although many units (79%) collect some level of clinical or service data, this data is not available regionally or nationally to monitor, evaluate or benchmark services, due to the absence of a national rehabilitation database. This mapping project supports several key deliverables and actions of the HSE Health Regions Implementation Plan, one of which is to undertake a baseline analysis of resources by Health Region (4).

To strategically build integrated rehabilitation services and achieve equitable and timely access to quality services for all patient populations, including those with multiple and complex rehabilitation needs, the following recommendations should be considered:

1. Rehabilitation leadership and governance structures need to be established at a national and regional level, with broad and inclusive membership.
2. Access to rehabilitation should be available to all those who require it, based on need and irrespective of age, clinical condition or address.
3. Additional designated rehabilitation beds are required. Population modelling should be undertaken, to identify patient epidemiology and the demand for post-acute rehabilitation.
4. Nationally, rehabilitation services should be subject to a formal designation process, with defined levels of care and specialism. National rehabilitation service specifications should be developed for the commissioning, delivery and monitoring of post-acute rehabilitation in line with international best practice. These processes must ensure that a rehabilitation service's workforce and facilities are commensurate with a person's rehabilitation needs.
5. A national rehabilitation database is required to collect metrics on access, interventions and outcome and demonstrate effectiveness. Rehabilitation data should be reported at a national and regional level to support quality improvement and benchmarking.

This project is presented within two reports, a **Summary Report** which provides high-level key findings and recommendations and this **Full Report** which provides a more detailed breakdown of findings and builds on the evidence supporting the project's recommendations.

# Abbreviations

| Abbreviation | Full term |
|---|---|
| ABII | Acquired Brain Injury Ireland |
| ANP | Advanced Nurse Practitioner |
| BSRM | British Society of Rehabilitation Medicine (named as British Society of Physical and Rehabilitation Medicine since 2024) |
| CGA | Comprehensive Geriatric Assessment |
| CHO | Community Health Organisation |
| CNS | Clinical Nurse Specialist |
| CSO | Central Statistics Office |
| DEXA | Dual Energy X Ray Absorptiometry scan |
| DTOC | Delayed Transfer of Care |
| ESRI | Economic and Social Research Institute |
| FIM+FAM | Functional Independence Measure + Functional Assessment Measure |
| GAS | Goal Attainment Scale |
| GP | General Practitioner |
| HCA | Health Care Assistant |
| HIQA | Health Information and Quality Authority |
| HIPE | Hospital In-Patient Enquiry |
| HSCP | Health and Social Care Professional |
| HSE | Health Service Executive |
| ICF | International Classification of Functioning, Disability and Health |
| IDT | Inter-disciplinary Team |
| IHI | Individual Health Identifier |
| KPI | Key Performance Indicator |
| LOS | Length of Stay |
| MDT | Multi-disciplinary team |

# Abbreviations

| Abbreviation | Full term |
|---|---|
| MOC | Model of Care |
| MUST | Malnutrition Universal Screening Tool |
| NCAGL | National Clinical Advisor and Group Lead |
| NCHD | Non-Consultant Hospital Doctor |
| NCPOP | National Clinical Programme for Older People |
| NCPRM | National Clinical Programme for Rehabilitation Medicine |
| NCASRI | National Clinical Audit of Specialist Rehabilitation following Major Injury |
| NHS | National Health Service |
| NOTS | National Office for Trauma Services |
| ONMSD | Office of the Nursing and Midwifery Services Director |
| OT | Occupational Therapist |
| PCAT | Patient Categorisation Tool |
| PIR | Package of Interventions for Rehabilitation |
| PROM | Patient Reported Outcome Measures |
| PT | Physiotherapist |
| RCS-E | Rehabilitation Complexity Scale – Extended |
| RNA | Rehabilitation Needs Assessment |
| SLA | Service Level Agreement |
| SLT | Speech and Language Therapist |
| SPOC | Single Point of Contact |
| SpR | Specialist Registrar |
| STARS | Systematic Assessment of Rehabilitation Situation |
| SW | Social Worker |
| T&O | Trauma and Orthopaedics |
| UK ROC | United Kingdom Rehabilitation Outcomes Collaborative |
| WHO | World Health Organisation |
| WTE | Whole Time Equivalent |

# Glossary

| Term | Definition |
|---|---|
| Australasian Rehabilitation Outcomes Centre | The national rehabilitation medicine integrated outcomes centre of Australia and New Zealand. |
| Basic Specialist Training | Basic Specialist Training is a hospital-based training programme completed in Senior House Officer posts. |
| British Society of Rehabilitation Medicine (BSRM) | BSRM is the UK professional organisation for practitioners in the dynamic and developing specialty of Physical and Rehabilitation Medicine (named as British Society of Physical and Rehabilitation Medicine (BSPRM) since 2024). |
| Canadian Occupational Performance Measure | An evidence-based outcome measure designed to capture a client's self-perception of performance in everyday living over time. |
| Capability | This refers to the capability of a healthcare facility to deliver safe and quality care appropriate to the patient's needs. It is influenced by having a workforce with sufficient expertise and access to essential services and interventions. |
| Capacity | Healthcare capacity refers to the ability of a system to deliver healthcare effectively to those who need it when they need it. This includes having access to infrastructure such as bed numbers, staffing and other resources. Capacity can be measured by process metrics. |
| Clinical condition | For the purpose of this report the term clinical condition has been used to describe both a patient's health condition and specific rehabilitation beds commissioned to treat that condition or similar clinical conditions. |
| Co-located units | This refers to rehabilitation units co-located with non-rehabilitation units, such as short-stay or residential units. |
| Commission on Accreditation of Rehabilitation Facilities | CARF® International is an independent, non-profit accreditor of health and human services. |
| Community Neuro-Rehabilitation Team | Community Neuro-Rehabilitation Teams provide short term intensive rehabilitation input (up to 12 weeks) with access to the following specialist clinical supports; Neuro-psychology, Neuro-psychiatry, Occupational therapy, Speech and language therapy, Physiotherapy, Social work, Dietitian, Rehabilitation Assistants, Case Manager, Medical and managerial supports. |
| Comprehensive Geriatric Assessment (CGA) | CGA is a multidimensional, multidisciplinary process which identifies medical, functional & social needs & the development of a coordinated & integrated care plan to meet those needs. |
| Continuing Care | Extended/continuing care for people who have been assessed as requiring long-term care. |

# Glossary

| Term | Definition |
|---|---|
| Designation | Commissioning of inpatient rehabilitation services in other jurisdictions (NHS England) are dependent on units meeting particular requirements for designation as a rehabilitation unit. Key identifying features of a qualifying unit include criteria such as clinical governance, catchment population, patient caseload based on complexity of need, facilities, staff expertise, staffing ratios, and submission of a rehabilitation dataset. |
| Healthcare Professional (HCP) | HCPs play critical roles in providing healthcare and improving patient outcomes. They include the following professionals: nursing, health and social care professions and pharmacy. |
| Health condition | The World Health Organisation defines health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Health conditions, like illnesses, injuries and impairments, affect our ability to function or enjoy life. |
| Healthcare Facility | For the purpose of this report, a healthcare facility was defined as 'a hospital or other healthcare setting that contains one or more dedicated rehabilitation units'. |
| Higher Specialist Training | Higher Specialist Training is the final crucial step on the path to specialisation in medicine. It is a four- to six-year training programme completed in Specialist Registrar (SpR) posts |
| Individual Health Identifier (IHI) | An IHI is a number that safely identifies a person who has used, is using or may use a health or social care service in Ireland. The IHI number will be used to safely identify the individual and enable the linking of their correct health records in the future from different systems to give a complete medical history. |
| Inter-disciplinary Team (IDT) | IDTs are organised to work on a common set of complex problems. Each discipline contributes their skill set in order to augment and support others in the team whilst taking account of that person's contribution. Members retain specialised roles and functions whilst communicating actively with one another. |
| International Resident Assessment Instrument (InterRAI) | An internationally validated, comprehensive geriatric assessment enabler, based on a multidimensional standardised set of geriatric assessment items or domains. |
| Multi-disciplinary team (MDT) | A MDT consists of a range of professionals from clinical and therapy disciplines and services, who work with the patient to develop and achieve rehabilitation goals. |
| National Standards for Safer Better Healthcare | A quality standards framework developed by Health Information and Quality Authority (HIQA) in 2012. These National Standards apply to all healthcare services (excluding mental health) provided or funded by the HSE. |
| Neuro-Rehabilitation Service | This refers to rehabilitation services provided for patients with rehabilitation needs following a neurological illness or injury. For the purpose of this report, unless specified otherwise, the term Neuro-Rehabilitation covers Stroke Rehabilitation, Brain Injury Rehabilitation, Spinal Cord Injury Rehabilitation and rehabilitation following any other neurological illness or injury. |
| Ortho-Gerontology | Ortho-Gerontology is the subspecialty area in gerontology involved in the care of older people with fragility fractures, including hip fractures. |

# Glossary

| Term | Definition |
|---|---|
| Package of Interventions for Rehabilitation (PIR) | The WHO PIR resource containing evidence-based rehabilitation interventions for 20 health conditions. |
| Patient Categorisation Tool (PCAT) | The PCAT forms part of the mandatory toolset within the UK Rehabilitation Outcomes Collaborative (UK ROC) national clinical database for specialist rehabilitation, where it is used as the principal measure of rehabilitation needs. It is used to support clinical decision-making and to guide referral of individual patients to the appropriate level of rehabilitation service. |
| Patient Reported Outcome Measures (PROMs) and Patient-Reported Experience Measures (PREMs) | PROMs and PREMs are used to assess the quality of healthcare experiences, focusing on patients. These measures help healthcare providers, commissioners and other stakeholders to make informed changes to their services. |
| Post-acute Rehabilitation | This is defined as the clinical process that occurs once the patient has been identified to have ongoing rehabilitation needs and the initial phase of acute specialist care is complete. The inpatient rehabilitation occurs in units specifically allocated as a rehabilitation service, with rehabilitation services delivered by a multidisciplinary team, with health and social care professionals dedicated to that unit. |
| Post-acute Rehabilitation Unit | For the purpose of this report, a rehabilitation unit was defined as 'a dedicated unit or bed/beds in a hospital or other healthcare setting allocated for the rehabilitation of patients with various clinical conditions, once the patient is deemed clinically fit for transfer to that unit'. |
| Rehabilitation Category | For the purpose of this report, 11 identified clinical conditions were grouped into five rehabilitation categories i.e. Mixed, Specialist Gerontology, Neuro-Rehabilitation, Orthopaedics and Trauma. |
| Rehabilitation Complexity Scale – Extended (RCS-E) | The Rehabilitation Complexity Scale-Extended provides a simple measure of care, nursing, therapy, medical and equipment needs. It is designed to provide a measure of the complexity of rehabilitation needs and the resources required to meet those needs. |
| Rehabilitation Needs Assessment*/Rehabilitation Prescription<br><br>*The Rehabilitation Needs Assessment (RNA) is now referred to as the Rehabilitation Prescription. This change in terminology occurred in 2024. | A standardised evidence-informed process for assessing patients' rehabilitation needs. The rehabilitation needs assessment*/prescription generates a holistic, multidisciplinary rehabilitation prescription, tailored to a person's specific needs, that is designed to be used throughout the patient pathway of care. |
| Scope of service | This refers to the "how" and "what" of service delivery provided by a particular healthcare service. It includes information related to specific clinical procedures, treatment protocols, processes of care, daily operations and patient care pathways. |

# Glossary

| Term | Definition |
|---|---|
| Service Specification | Service specifications define the standards of care expected from individual healthcare facilities. |
| Short-Stay beds | Short-stay beds can be classified as respite, convalescence, transitional care, step down, rehabilitation or reablement beds |
| Single Point of Contact (SPOC) | The SPOC role may be standalone or in addition to other duties. The role may include coordinating referrals, waiting list, admissions and discharges (transfer of care) or elements of these processes. They may be a clinical nurse manager / patient flow manager / HSCP coordinator role or an administrator who coordinates communication and processes to support admissions. |
| Specialist Gerontology Beds/ Services | These services are structured and use processes of care designed to maximise quality of care and improve outcomes for older people who are frail or have complex care needs, as referred to in the Specialist Geriatric Model of Care (2012). |
| Strength, assistance with walking, rising from a chair, climbing stairs, and falls questionnaire (SARC-F) | A tool used to screen older people for the presence of sarcopenia. |
| Systematic Assessment of Rehabilitation Situation (STARS) | The WHO STARS tool was developed by WHO to facilitate governments towards effective prioritisation and strategic planning for rehabilitation in their countries. |
| Tertiary centre | A tertiary rehabilitation centre provides specialised rehabilitation for patients whose needs are beyond the scope of the local specialist service and therefore, have a high proportion of patients with very complex rehabilitation needs. They provide a higher level of service in terms of specialist expertise, facilities and programme intensity to meet those needs. |
| Transitional Care | Transitional care beds allow an assessment of long-term need to be made in a setting that is more appropriate and conducive to a considered outcome than can happen in an acute bed, and directly allows more acute beds to be made available to those who really need them |
| United Kingdom Rehabilitation Outcomes Collaborative (UK ROC) | The UK ROC was established in 2008 to develop a national database for collating case episodes for inpatient specialist rehabilitation. The UK ROC dataset incorporates a number of clinical tools designed to measure: complexity, inputs, and outcomes. Submission of data to the UK ROC is mandatory for all specialist (Level 1 and 2) rehabilitation units in England. |

# Introduction


Development of Rehabilitation Services in Ireland 17

Defining Rehabilitation in Ireland 18

Challenges with Rehabilitation in Ireland 18

Previous Mapping of Rehabilitation Services in Ireland 18

Strategic Importance 19

Project Aims and Objectives 19

Establishment of Project Team 19


**Interactive Document**
Click the section you want to read

# Introduction

Rehabilitation has been defined as “a set of interventions designed to optimise functioning and reduce disability in individuals with health conditions, in interaction with their environment” (1). There is a significant and emerging body of international evidence to support the benefit and cost effectiveness of post-acute rehabilitation services. There is clear evidence that shorter waiting times to access post-acute rehabilitation services correlates directly to improved patient outcomes, lessens disability and improves service efficiency (8, 9). The WHO’s Rehabilitation 2030 Initiative recognises that rehabilitation is an essential part of universal health coverage and that it should be embedded in health systems (3).

## Development of Rehabilitation Services in Ireland

A number of national clinical strategies and models of care for rehabilitation services in Ireland have been developed over the past number of years, as depicted in Figure 1. These documents provide evidence-based guidance on developing rehabilitation services for a range of patient populations. However, implementation has been slow and there is a lack of an integrated and cohesive national rehabilitation plan, which recognises population needs, effective pathways of care and the overlap between patient populations.

***Figure 1:*** *Key Rehabilitation Policy Milestones, adapted from Burke et al (2020) (7)*

## Defining Rehabilitation in Ireland

International health policies illustrate systematic approaches for evaluating the impact and effectiveness of rehabilitation. A standard-driven approach to delivering rehabilitation is aligned with the Health Information and Quality Authority (HIQA) principles where standards "promote practice that is up to date, evidence-based, effective and consistent, and they represent to professionals, the government and the public, the level of quality or attainment of actual practice that can be expected" (10). Services specifications, which define minimum requirements that services must achieve, can also be used to determine the performance of a health system. These quality processes are designed to drive improvement and regulate and monitor health and social care. Internationally, rehabilitation services in the UK and Australia have implemented service specifications informed by defined standards of practice (11, 12).

Recommendations or standards for a number of specific rehabilitation populations have been published in Ireland e.g. A Trauma System for Ireland and the Irish Hip Fracture Database (12-14). This has allowed for the development of national clinical audits to evaluate the quality of services. However, these clinical audits do not follow the patient beyond the acute hospital. Rehabilitation standards have not been established for other patient populations. Furthermore, rehabilitation service specifications have not been developed in Ireland to enable the designation of rehabilitation units.

## Challenges with Rehabilitation in Ireland

There is no integrated national system for measuring rehabilitation access, quality or outcome. However, evidence drawn from a range of sources demonstrates some of the challenges in accessing rehabilitation in Ireland;

- National clinical audits show low volumes of patients gaining direct access to rehabilitation from acute care (12, 14, 15).
- There are protracted waiting times for admission to specialist rehabilitation (16).
- Egress from acute hospitals for those requiring post-acute inpatient rehabilitation is often delayed, as recorded in the National Delayed Transfer of Care (DTOC) Database (17).

In Ireland, post-acute inpatient rehabilitation is delivered across acute and community settings. Within community services, post-acute rehabilitation can occur in short-stay beds, classified under the names of convalescence, transitional care, step down, rehabilitation and reablement.

## Previous Mapping of Rehabilitation Services in Ireland

Previous mapping of the availability of rehabilitation services has been conducted. In 2019, The Neuro-Rehabilitation Strategy gained information predominantly on community and voluntary sector Neuro-Rehabilitation services. In 2022, an Older Persons Change and Innovation project provided high-level data on the availability of Specialist Gerontology beds, which included access to HSCP led services. However, these projects had a limited reach in the context of the wider rehabilitation landscape, as their scope did not include validation of the bed function, the associated rehabilitation services and interventions and the populations accessing them.

## Strategic Importance

In Ireland, projected population growth and longer life spans will result in increased healthcare and rehabilitation demand (5). Ireland has also seen the establishment of six new health regions in 2024. Key priorities for these health regions, and for Sláintecare, are to provide integrated health and social care services. Care must be easier to access and navigate, with strengthened governance, accountability and performance (4).

Rehabilitation service provision should begin as soon as a patient is well enough to participate in or benefit from it and continue until the patient has no further rehabilitation needs. For many, rehabilitation will commence within hours or days of their acute presentation and as their acuity and complexity of needs reduces, patients will access rehabilitation services closer to home. The scope of this report does not include acute or community ambulatory rehabilitation services but maps post-acute inpatient service provision. To date, there has been no clear national picture of the range and scope of existing post-acute inpatient rehabilitation services, or their capability to meet population demands. There is also a lack of understanding on what constitutes a rehabilitation service. This information is key to improving Irish rehabilitation services and delivering on Sláintecare's goal of universal access to timely, quality, integrated pathways of care.

Alongside this, the WHO: Call for Action 2030 calls for national governments to scale and deliver a strategic rehabilitation plan to increase the accessibility, quality and outcomes of rehabilitation (3). To achieve this, a Systematic Assessment of Rehabilitation Situation (STARS) is recommended (2). This approach was used for this project design, aiming to map post-acute inpatient rehabilitation services in Ireland.

## Project Aims and Objectives

This project was commissioned to gain an objective understanding of the capacity and capability of existing post-acute inpatient rehabilitation services in Ireland. This will facilitate the strategic improvement of rehabilitation access, quality and outcome.

Objectives of the project were to identify the configuration and scope of post-acute inpatient rehabilitation services nationally, including clinical and organisation processes, patient populations, workforce, governance and outcomes.

## Establishment of Project Team

The collaborative Project Team was made up of the National Clinical Programme for Rehabilitation Medicine (NCPRM), the National Office for Trauma Services (NOTS), the National Neuro-Rehabilitation Strategy, the National Clinical Programme for Stroke and the National Clinical Programme for Older People (NCPOP). There was engagement with a representative from the Office of the Nursing and Midwifery Services Director (ONMSD) and there was a Health and Social Care Professions representative on the project team. This uniquely collaborative approach facilitated integration across national programmes and strategies within the HSE.

The project was sponsored by Dr Emer Ahern, NCAGL for Older Persons and Dr Paul Carroll, Clinical Lead for the NCPRM. The work was commissioned by the National Clinical Director for Integrated Care and the Chief Clinical Officer for the HSE.

# Methodology


Project Definitions 21

Scope 22

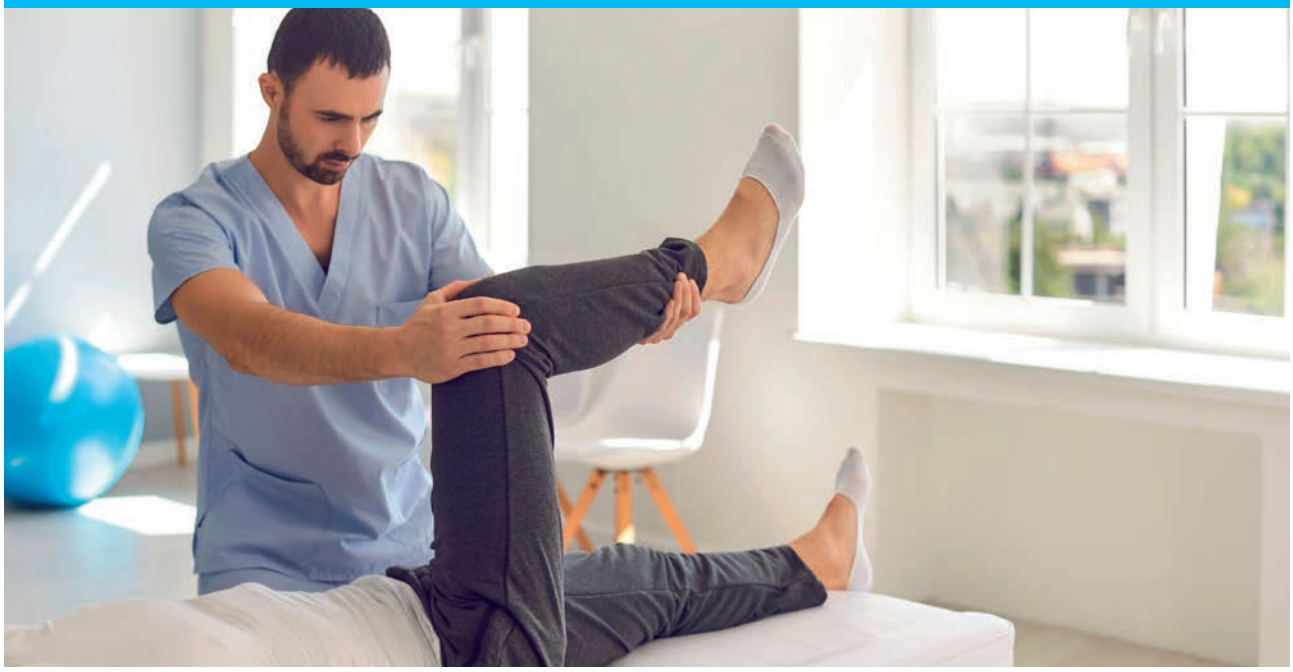
Survey Design, Pilot & Launch 23

Data Protection and Management 24

Data Analysis: Approach to Clinical Categories of Rehabilitation Beds 25

Findings from Methodology Process 26


**Interactive Document**
Click the section you want to read



# Methodology

## Project Definitions

Rehabilitation should begin as soon as a patient is well enough to participate in it. For many, this will be within hours or days of their acute presentation. This can occur in many settings including acute and community. However, this project focused only on post-acute inpatient service provision. In the absence of national rehabilitation designation process or service specifications, the project group had to agree on a common understanding of post-acute inpatient rehabilitation. This was informed by national clinical guidelines, as highlighted in Table 1, which describes rehabilitation service provision. The definition of **post-acute inpatient rehabilitation** agreed upon was: *'the clinical process that occurs once the patient has been identified to have ongoing rehabilitation needs and the initial phase of acute specialist care is complete. The inpatient rehabilitation occurs in units specifically allocated as a rehabilitation service, with rehabilitation services delivered by a multidisciplinary team, with Health and Social Care Professionals dedicated to that unit.'*

For the purpose of this report, a **rehabilitation unit** was defined as *'a dedicated unit or bed/beds in a hospital or other healthcare setting allocated for the rehabilitation of patients with various clinical conditions, once the patient is deemed clinically fit for transfer to that unit'.* A **healthcare facility** was defined as *'a hospital or other healthcare setting comprising of one or more dedicated rehabilitation units.*

***Table 1:*** *HSE Models of Care informing the definition of Post-Acute Inpatient Rehabilitation*

| |
|---|
| • The National Neuro-Rehabilitation Strategy 2011 |
| • Specialist Geriatric Services Model of Care (MOC) 2012 |
| • National MOC for Trauma & Orthopaedic Surgery 2015 |
| • MOC for the Provision of Specialist Rehabilitation Services in Ireland 2018 |
| • A Trauma System for Ireland: Report of the Trauma Steering Group 2018 |
| • National Clinical Guidelines for Stroke for UK and Ireland 2023 |

## Scope

The following inclusion criteria were developed:

***Table 2:*** *Inclusion Criteria*

| Inclusion Criteria |
| --- |
| Inpatient services providing post-acute rehabilitation across all domains including but not limited to Neuro-Rehabilitation, Trauma Rehabilitation, Orthopaedic Rehabilitation, Gerontology Rehabilitation and Stroke Rehabilitation. |
| Services provided to adults. |
| Services providing inpatient rehabilitation with dedicated access to a multi-disciplinary team (MDT).<br>All Clinical Governance models were included. |
| Services funded by the HSE, delivered across any of the following: |
| • Dedicated rehabilitation units in acute hospital settings whose primary function is the delivery of post-acute rehabilitation |
| • Community based units who provide inpatient rehabilitation. |
| • Voluntary sector services (Section 38 & 39) that provide inpatient rehabilitation contracted by the HSE. |
| • Private providers who receive HSE funding to provide rehabilitation to individuals with complex rehabilitation needs. |

To distinguish acute from post-acute rehabilitation, particularly for units located in acute hospitals or governed by acute operations, the following exclusion criteria were identified:

***Table 3:*** *Exclusion criteria*

| Exclusion Criteria |
| --- |
| Acute stroke units were excluded. |
| Acute medical and surgical units were excluded. |

## Survey Design, Pilot & Launch

The survey design was informed by the WHO tool for the STARS (2) and the National Health Service (NHS) England Benchmarking Commissioning Guidance for Rehabilitation (18). As there is no national post-acute inpatient rehabilitation database collating robust metrics, this survey was designed to gather both quantitative and qualitative data.

The survey aimed to identify the scope and function of HSE funded post-acute inpatient rehabilitation services by gathering data on the following areas:

| | |
|---|---|
| **Operational Information** | Operational governance, bed capacity and activity levels etc. |
| **Admission Processes** | Clinical and non-clinical processes & admission criteria. |
| **Workforce** | Whole-time equivalent of each grade within Medical, Nursing, Pharmacy and Health and Social Care Professionals professions and Healthcare Assistants (HCA) and Therapy Assistants. |
| **Clinical Processes & Interventions** | Evidence of multidisciplinary team working, clinical governance, assessment & outcome measurement, rehabilitation interventions, facilities etc. |
| **Casemix** | Clinical profile of patient populations, complexity, availability of services/resources. |
| **Discharge planning** | Evidence of planning patients' transitions of care, pathways of care including communication with health and social care partners, and with the patient and those important to them |
| **Service Outcomes:** | Key performance indicators, length of stay, discharge destination etc. |
| **Potential Barriers** | Challenges with delivering rehabilitation services |

A draft survey underwent consultation with key stakeholders. An amended version was subsequently piloted by two healthcare facilities, to inform the development of the final version.

A list of post-acute inpatient rehabilitation sites was compiled by the project group, by engaging extensively with relevant stakeholders. This list was then validated by all Community Health Organisations (CHO) and Hospital Group managers – only post-acute rehabilitation units validated by CHO and Hospital Group mangers were issued the survey.

The survey was issued in digital format to the list of validated healthcare facilities (n=66) in March 2023. Survey completion was supported through a webinar, and direct engagement with stakeholders throughout the data collection period. All stakeholders were assured that all units would be anonymised and no identifying characteristics would be included in the report.

Submitted surveys underwent a subsequent validation process. This process clarified if there were any missing, incomplete or unclear entries. This part of the validation process was completed by engaging directly with individual units, to assist with completing and correcting data as required. This process, which took several weeks to conclude, was critical to reach a consensus on which units met the criteria for the survey. Agreement was reached within the project team whether the sites were eligible through evaluation of responses against the inclusion/exclusion criteria and discussions were undertaken until consensus was achieved. The survey achieved a 97% response rate.

- The three percent of healthcare facilities who declined to participate in the survey were private providers in receipt of HSE funding for the provision of rehabilitation services for patients with complex needs.
- A number of sites reported challenges in reporting the whole time equivalents (WTE) dedicated to a unit. These challenges are discussed further in the Rehabilitation Workforce section.

**Thirty five percent of healthcare facilities initially surveyed did not meet the project's inclusion criteria and therefore were not included in subsequent analysis. Examples of units excluded were**

**1.** Units unable to distinguish rehabilitation beds from short-stay beds with a different function e.g. transitional care beds

**2.** Units with no dedicated Health and Social Care Professional (HSCP) staffing or HSCP staffing inconsistently available.

## Data Protection and Management

HSE Data Protection Office confirmed that a Data Protection Impact Assessment was not required for this project. Following the survey submissions through SmartSurvey, raw data was downloaded onto Microsoft Excel and held on a secure, password protected shared drive. There was no risk to patients' health information as sensitive patient data was not included in the survey. Individual organisations were not identified within the report.

The approach to data quality and validation was informed by the *Guidance on a data quality framework for health and social care* (19). A data quality statement is presented in Table 4 and provides an overview of different measures considered by the project group to ensure as far as possible that the data sought and collected was of high quality.

***Table 4:*** *Data Quality Statement (Overview of Data Quality Measures)*

| Dimensions of data quality | Definition (HIQA, 2018) | Assessment of Data Quality Dimensions for Post-acute Rehabilitation Mapping Project |
|---|---|---|
| **Relevance** | **Data meets the current and potential future needs of users** | Survey development included extensive consultation with HSE National Clinical Programmes. Pilots were carried out before the survey launch to enable clinical and operational stakeholders to test and provide feedback on the survey tool, thereby ensuring its relevance. |
| **Accuracy and Reliability** | **Data correctly and consistently describes what it was designed to measure.** | The project group has expertise in rehabilitation and is represented by professionals working across five national clinical programmes and strategies. Extensive engagement with participating sites was conducted in groups and individually, during the data collection and validation periods. This was done through various methods including webinar, phone contact and email communication. This approach was intended to ensure that the survey coverage was comprehensive and to mitigate the risk of inaccurate data being submitted. Despite this, stakeholders reported that some data was not available to them, was potentially incomplete or was subject to a degree of interpretation. |
| **Timeliness and Punctuality** | **Data is collected within a reasonably agreed time and is delivered on the dates promised.** | The data collection period was limited to 4 weeks. This was designed to capture data within a short period of time to represent the 'As Is Situation' in line with the project design. |
| **Coherence and Comparability** | **Data is consistent over time and across providers and can be easily combined with other sources.** | Data collected was based on national and international rehabilitation frameworks, strategies and models of care. This enabled the data to be compared with indicators such as recommended staffing ratios for specified clinical conditions, use of validated assessment and intervention processes and outcome measures etc. |
| **Accessibility and Clarity** | **Data is easily obtainable and clearly presented in a way that it can be understood.** | Given the breadth and diversity of services in this report, the project was cognisant of the need to present the findings as clearly as possible. This report is intended for as wide an audience as possible. |

## Data Analysis: Approach to Clinical Categories of Rehabilitation Beds

Post-acute inpatient rehabilitation units provide services to patients with either a specific clinical condition (e.g. spinal cord injury units), or to a mixed patient population with different clinical conditions. In order to identify how rehabilitation services are structured in the context of population needs, the following clinical conditions were included in the survey; Specialist Gerontology Rehabilitation, Neuro-Rehabilitation, Brain Injury Rehabilitation, Spinal Cord Injury Rehabilitation, Stroke Rehabilitation, Ortho-Gerontology Rehabilitation, Trauma & Orthopaedic Rehabilitation, Palliative Rehabilitation, Amputee Rehabilitation, Respiratory Rehabilitation, Rheumatology Rehabilitation and Mixed Rehabilitation. An "Other" box was also included, and services were asked to describe the clinical cohort these beds served.

Some of the clinical conditions were amalgamated where relevant in the reporting stage, as presented in Table 5. The use of five overarching categories facilitated clearer reporting of the results. Amputee, Respiratory and Rheumatology rehabilitation accounted in total for 3.6% of the overall bed numbers. The decision was taken by the project group to amalgamate these three categories of bed types and report on them under "other" category. No inpatient palliative rehabilitation beds were identified in this survey.

***Table 5:*** *Categorisation of Rehabilitation Unit Type based on Clinical Conditions*

| Rehabilitation Categories (n=5) | Clinical Conditions (n=11) |
|---|---|
| **A) Mixed Rehabilitation** | Mixed Rehabilitation (addressing various clinical conditions) |
| **B) Specialist Gerontology** | Specialist Gerontology Rehabilitation |
| **C) Neuro-Rehabilitation[1]** | Stroke Rehabilitation<br>Brain Injury Rehabilitation<br>Spinal Cord Injury Rehabilitation<br>Other Neuro-Rehabilitation |
| **D) Orthopaedics & Trauma** | Trauma & Orthopaedic Rehabilitation<br>Ortho-Gerontology Rehabilitation |
| **E) Other** | Amputee Rehabilitation<br>Rheumatology Rehabilitation<br>Respiratory Rehabilitation |

[1] Neuro-Rehabilitation units provide specialist rehabilitation to patients with a range of acquired, progressive and stable neurological conditions. The national tertiary centre does not describe their units as Neuro-Rehabilitation, they are classified as 'Stroke', 'Brain Injury', and 'Spinal Cord Injury' units. Non-tertiary units classify their beds as either 'Neuro-Rehabilitation', 'Brain Injury' or 'Stroke'.

## Findings from Methodology Process

The lack of nationally recognised service designation and definition on what constitutes a rehabilitation unit, required the group to undertake an extensive data quality validation process.

### Learnings from the methodology process:

- Thirty five percent of healthcare facilities initially surveyed did not meet the project's inclusion criteria
- In the absence of post-acute rehabilitation standards or service indicators, there are different interpretations as to what constitutes a rehabilitation unit (service).
- Some units continue to identify beds as 'rehabilitation beds' based on their historical allocation rather than their current function.
- The scope of 'rehabilitation beds' is subject to change based on the availability of HSCP staff in response to competing demands within a wider service.

Services, which initially responded to the survey, but were subsequently excluded from analysis following data validation were typically delivered in the following types of setting:

- Private residential and rehabilitation facilities
- Community-based settings comprised of a few rehabilitation beds within a unit, where beds are co-located with other types of short-stay beds such as convalescence beds.

This latter configuration was distinct from rehabilitation units co-located within a larger healthcare facility e.g. community hospital, see Figure 2.

# Findings, Recommendations and Supporting Evidence


1. Availability of and Access to Post-Acute Inpatient Rehabilitation Beds in Ireland 28

2. Rehabilitation Service Specification 44

3. Rehabilitation Workforce 53

4. Egress from Post-Acute Inpatient Rehabilitation 64

5. Rehabilitation Metrics 67


**Interactive Document**
Click the section you want to read

# Findings, Recommendations and Supporting Evidence

This survey was conducted in 2023 and initial data analysis was undertaken based on Community Healthcare Organisations. To align with recently implemented Health Regions, where possible and most relevant, findings have also been presented per Health Region.

This section presents detailed project finding, together with relevant supporting evidence. This is followed by recommendations within each section informed by the findings and evidence. Collated recommendations can also be seen here.

**Data is presented under the following sub-sections:**

1. Availability and Access to Post-Acute Inpatient Rehabilitation Beds
2. Rehabilitation Service Specification
3. Rehabilitation Workforce
4. Egress from Post-Acute Inpatient Rehabilitation
5. Rehabilitation Metrics

## 1 Availability of and Access to Post-Acute Inpatient Rehabilitation Beds in Ireland

Availability of and access to post-acute inpatient rehabilitation is an integral component of an effective health system (3). Delays in accessing post-acute inpatient rehabilitation result in a risk to patients, with poorer patient outcomes and increased disability, and also present a risk to the health system, in terms of service efficiency (20).

### Key Findings

The survey, conducted in March 2023, identified a total of 43 healthcare facilities, providing post-acute inpatient rehabilitation in 57 distinct units. In total, 1336 beds were identified across a range of acute and community settings. Findings on availability and access from this survey provide important information not previously collected and support the need for further investment in post-acute rehabilitation.

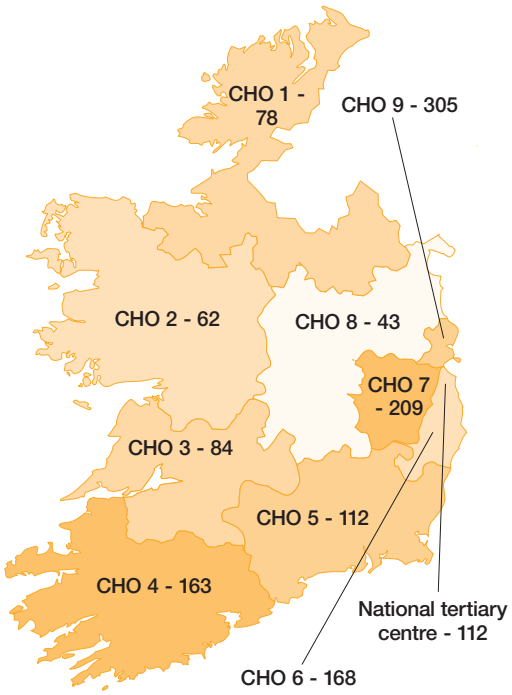
## 1.1 Geographical Distribution of Rehabilitation Beds

Table 6 shows the geographical variation in bed distribution across CHOs with figures ranging from 43 beds in CHO 8 to 305 beds in CHO 9. It also presents the average number of rehabilitation beds across CHOs per 100,000 population, based on most recent numbers from the 2022 census.

National average number of non-tertiary beds per CHO – 136 beds

National average number of non-tertiary beds per CHO per 100,000 population – 23.7 beds

***Table 6:*** *Number of Non-Tertiary Rehabilitation Beds per CHO*



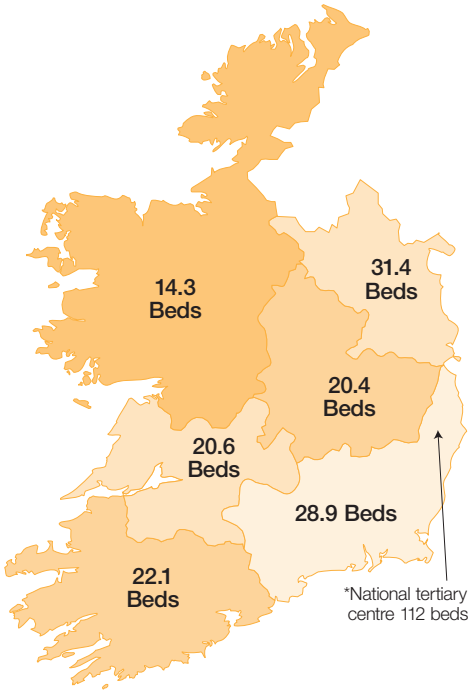

| CHO | Total number of non-tertiary rehabilitation beds per CHO | Average number of non-tertiary rehabilitation beds per 100,000 population |
|---|---|---|
| **National Non-Tertiary Average** | **136** | **23.7** |
| CHO 1 | 78 | 18.8 |
| CHO 2 | 62 | 12.8 |
| CHO 3 | 84 | 20.5 |
| CHO 4 | 163 | 22.1 |
| CHO 5 | 112 | 20.4 |
| CHO 6 | 168 | 40.0 |
| CHO 7 | 209 | 27.6 |
| CHO 8 | 43 | 6.3 |
| CHO 9 | 305 | 45.2 |
| **National Non-Tertiary Total** | **1244** | **-** |
| ***National tertiary centre (112 beds) Although these beds are located in CHO6 they are not included in this analysis as they have national remit** | | |

There is significant disparity in overall rehabilitation bed availability across CHOs. The lowest number and proportion of beds per 100,000 population nationally (excluding the national tertiary centre) was found in CHO 8 (3.5% of total beds / 6.3 beds per 100,000 population) followed by CHO 2 (5.1% of total beds / 12.8 beds per 100,000 population). This compares to the highest number and proportion of beds per 100,000 population nationally (excluding the national tertiary centre) which is in CHO 9 (24.9% of total beds / 45.2 beds per 100,000 population).

The national tertiary centre, which is excluded from the above analysis, is located in CHO 6 however it provides a national remit to the whole country.

Table 7 shows the total bed number per Health Region and the average bed number per Health Region per 100,000 population, based on 2022 census figures. HSE Dublin and Midlands, South West, and Mid West have similar average number of beds per 100,000. HSE Dublin and South East has almost double the average number of beds per population than that of HSE West and Northwest. Per 100,000 population, HSE West and North West has a significantly lower average number of beds than all other Health Regions. Comparing highest to lowest per population, HSE Dublin and North East has 2.2 times the average number of beds than HSE West and North West.

***Table 7:*** *Number of Non-Tertiary Rehabilitation Beds per Health Region*



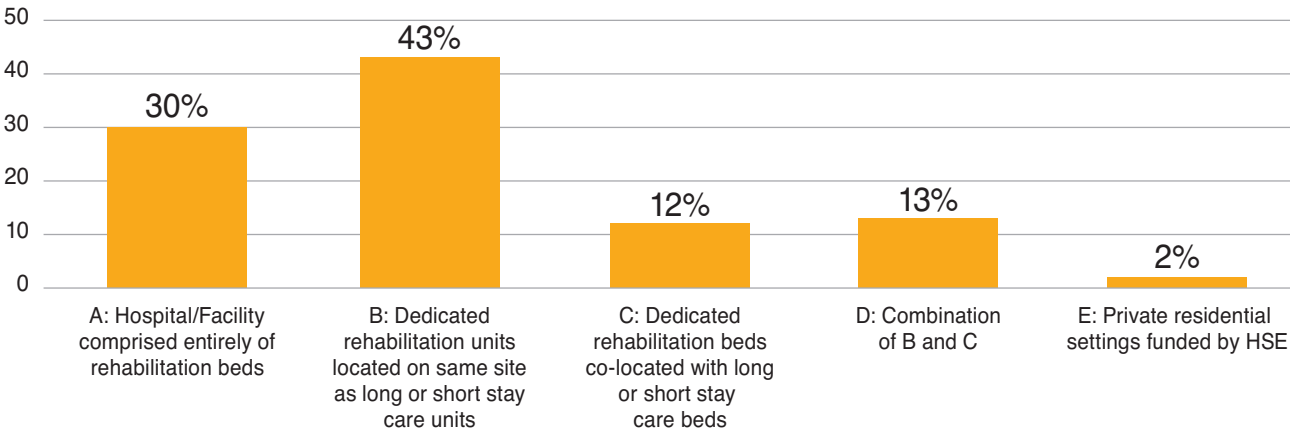

| Health Region | Average number of non-tertiary rehabilitation beds per Health Region | Average number of non-tertiary rehabilitation beds per 100,000 population |
|---|---|---|
| **National Non-Tertiary Average** | **204** | **22.9** |
| HSE Dublin and North East | 370 | 31.4 |
| HSE Dublin and Midlands | 219 | 20.4 |
| HSE Dublin and South East | 280 | 28.9 |
| HSE South West | 163 | 22.1 |
| HSE Mid West | 84 | 20.6 |
| HSE West and North West | 108 | 14.3 |
| **National Non-Tertiary Total** | **1,224** | **-** |

***National tertiary centre (112 beds) Although these beds are located in CHO6 they are not included in this analysis as they have national remit**

Organisations reported on the healthcare setting and the configuration of their rehabilitation beds (Figure 2). These services ranged from a single rehabilitation bed within a residential care facility to hospitals that were specifically commissioned for the provision of rehabilitation.

- The majority of beds (43%) were located within services specifically commissioned as rehabilitation units located on the same site as long or short-stay care units.
- Almost one third of beds (30%) were in a hospital or facility entirely dedicated to rehabilitation.
- Other rehabilitation beds were reported as being co-located on the same unit as long-stay or short-stay care beds or in private residential services.

***Figure 2:*** *Percentage of Post-Acute Inpatient Rehabilitation Units by Setting*



## Summary of Key Findings on Geographical Distribution of Rehabilitation Beds:

The survey identified a total of 1,336 beds in Ireland providing post-acute inpatient rehabilitation across acute and community settings.

Most rehabilitation units were co-located on the same site as long or short-stay care units.

**Regional Distribution of Beds**
There is geographical variation in the overall bed numbers available per 100,000 population across Ireland. There is a particularly low volume of beds in HSE West and Northwest relative to the rest of the country i.e. HSE West and Northwest has less than half the average no of beds per 100,000 than other Health Regions.

## Recommendation:

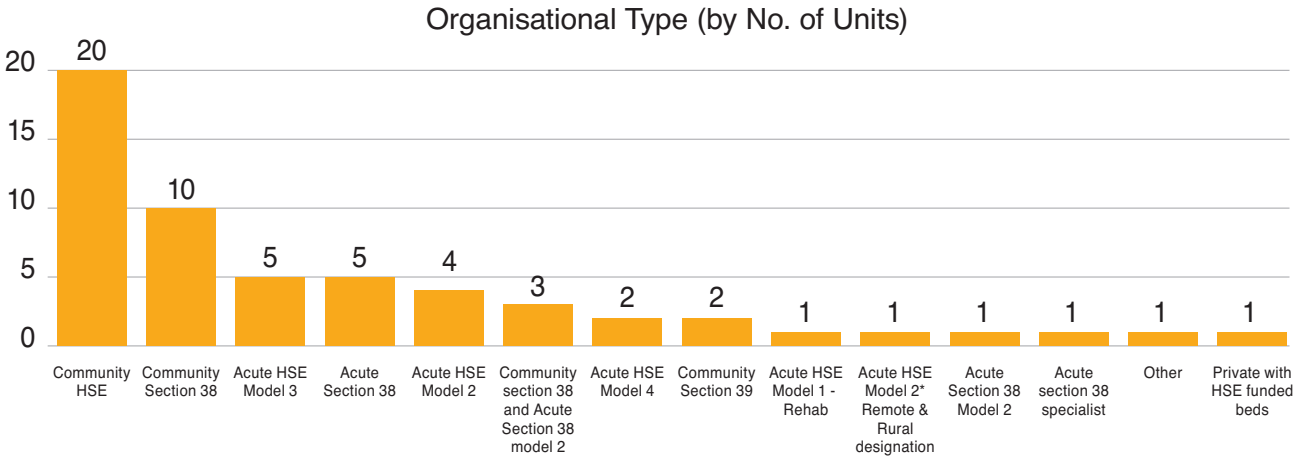
Health Regions should identify and evaluate rehabilitation beds co-located with non-rehabilitation short-stay beds such as transitional care beds and determine their effectiveness in delivering rehabilitation.

In line with the Health Regions implementation plan (4) all rehabilitation services, including HSE funded private providers of rehabilitation services for patients with complex needs, should be subject to service evaluation by the HSE.

## 1.2 Operational Governance of Post-Acute Inpatient Rehabilitation

**Findings**
Post-acute inpatient rehabilitation in Ireland is provided across a wide range of HSE funded healthcare settings in all acute operations (six Hospital Groups) and community operations (nine CHOs). The survey demonstrated that post-acute inpatient rehabilitation services were delivered under 14 different operational governance arrangements, with organisational services comprised of statutory and voluntary bodies within various public and private healthcare model configurations (Figure 3). The largest proportion of units (35%) were under the operational governance of community HSE services. Other units reported their operational governance to be within acute services, section 38 and 39 and private services, across all models of service type. The diversity of governance arrangements in conjunction with the wide range of settings and configuration of rehabilitation beds, adds further complexity to the standardisation of rehabilitation services at a national level.

***Figure 3:*** *Range of Operational Governance Arrangements*



This survey demonstrates current challenges to integrated care as existing rehabilitation structures are delivered under a myriad of operational governance arrangements. This challenges effective pathways of care across settings with the risk that patients may experience fragmented care. The implementation of the Health Regions will provide the opportunity to integrate acute and community services to enhance service provision (4).

Plans are underway to finalise the model of health and social care for each of the six Health Regions. Integrated Service Delivery (ISD) model design principles and appraisal criteria will be underpinned by an agreed model of healthcare governance which includes both clinical and corporate governance. The responsibilities and boundaries of HGs and CHOs must be brought in line with the new Health Region structures (4). This includes the objective to establish a governance approach and partnership arrangements for non-HSE providers (4).

The WHO highlights that strong leadership and governance structures, regulatory mechanisms and accountability processes that address rehabilitation are an essential building block for understanding and strengthening rehabilitation in health systems (2).

## 1.3 Access to Rehabilitation Based on Geography

Waiting times to access rehabilitation by CHO (excludes national tertiary centre) are presented in Table 8. In terms of geographical access, patients in CHO 2 (HSE West and Northwest) and CHO 6 (HSE Dublin Southeast) have a longer waiting time for admission with the majority of patients waiting more than one month for admission to post-acute inpatient rehabilitation (67% and 60% respectively). Most CHOs report that 100% of admissions occur within 2 months. A smaller proportion of patients in 3 CHOs (CHO 1, CHO 5 and CHO 7) wait between 3-6 months for admission. The national tertiary centre has waiting times of between 3-6 months.

***Table 8:*** *Waiting time for admission to Non-tertiary Rehabilitation Units by CHO*

| Percentage of Patients Admitted to Rehabilitation Units by CHO Within Timeframes | | | | |
|---|---|---|---|---|
| | **Less than 1 week** | **2-4 weeks** | **4-8 weeks** | **3-6 months** |
| **CHO 1** | 28% | 43% | 14% | 14% |
| **CHO 2** | 33% | - | 67% | - |
| **CHO 3** | - | 80% | 20% | |
| **CHO 4** | 60% | 40% | - | - |
| **CHO 5** | - | 88% | - | 12% |
| **CHO 6** | - | 40% | 60% | - |
| **CHO 7** | 17% | 66% | - | 17% |
| **CHO 8** | 80% | 20% | - | - |
| **CHO 9** | 71% | 14% | 14% | - |
| Two units did not provide waiting times | | | | |

## Recommendation:

The spread of rehabilitation beds per Health Region and population should be addressed in planning rehabilitation services as a means of ensuring equity of access. This should initially prioritise regions experiencing the lowest rehabilitation resources per head of population (4).

Economies of scale need to be considered in developing rehabilitation units regionally, to ensure the delivery of effective rehabilitation.

## 1.4 Access to Rehabilitation based on Home Address

One of the admission criteria used to determine if a person was eligible for the unit was either the geographical location of the referring hospital, or the patient's home address (i.e. catchment area for the rehabilitation unit). The criteria used to determine eligibility differ between rehabilitation facilities. These criteria are shown in Table 9, based on rehabilitation category. A unit's catchment area was defined differently among organisations e.g. geographical proximity to the acute hospital, patients home address to be within the same CHO or county as the rehabilitation unit etc. The national tertiary centre has a national remit and therefore has no geographical limitation for accessing services. Seventy-five percent of all units use a patient's home address as an admission criterion. All rehabilitation units, except for non-tertiary brain injury services, determine their scope of admission based on either the source of referral, where a service level agreement was in place with an acute hospital(s), or the patient's home address.

***Table 9:*** *Access criteria based on Geographical Considerations*

| Access criteria based on Geographical Considerations | | | | |
|---|---|---|---|---|
| **Rehabilitation Category** | **Acute hospital[1]** | **CHO[2]** | **County[3]** | **N/A** |
| **Specialist Gerontology** | 37% | 27% | 3% | 33% |
| **Ortho-Gerontology** | - | 100% | - | - |
| **Mixed Rehabilitation** | 27% | 20% | 30% | 23% |
| **Neuro-Rehabilitation[4]** | 39% | 61% | - | - |
| **Brain Injury Rehabilitation[4]** | - | - | - | 100% |
| **Trauma & Orthopaedics** | - | 28% | - | 72% |
| | [1] Admission criteria based on referral from affiliated acute hospital(s)<br>[2] Admission criteria require patient to live within the same CHO as the rehabilitation unit.<br>[3] Admission criteria require patient to live within the same county as the rehabilitation unit.<br>[4] Excludes national tertiary centre which has a national remit for admission. | | | |

## Key Findings on Access based on Home Address

75% of all units used a patient's home address as an admission criterion.

Catchment areas were defined differently among healthcare facilities e.g. geographical proximity to the acute hospital, patients home address to be within the same CHO or county as the rehabilitation unit etc.

The new approach to planning, funding and delivery of health and social care services will support a population-based and productivity-focused approach to the planning and resourcing of the geographic delivery of rehabilitation services to improve health outcomes people in Ireland. International standards support a broadly defined catchment area, but state that boundaries should be sufficiently flexible to cater for unusual cases and allow access to the most appropriate service based on a person's rehabilitation needs (21).

## Recommendation:

If a patient's rehabilitation needs cannot be met within the patients' home address, alternative pathways should be facilitated to ensure equity of access to rehabilitation. For example, patients should be supported to gain access to rehabilitation in a different Health Region, as appropriate, ensuring that the patients' needs can be met in an alternative setting.

## 1.5 Availability of Rehabilitation Beds based on Clinical Condition

Table 10 shows the national distribution of rehabilitation beds according to clinical condition. Most beds were described as providing Mixed Rehabilitation (36.4%), with a further 32.8% providing Specialist Gerontology rehabilitation.

***Table 10:*** *Number and Percentage of Rehabilitation Beds per CHO and by Clinical Condition*

| Total number & percentage of beds per CHO and per Clinical Condition | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total[1] | % | CHO1 | CHO2 | CHO3 | CHO4 | CHO5 | CHO6[2] | CHO7 | CHO8 | CHO9 | National tertiary centre |
| **Mixed Population** | 486 | 36% | 65 | 60 | 55 | 108 | 76 | 25 | 37 | 20 | 40 | - |
| **Specialist Gerontology** | 438 | 32% | 0 | 2 | 23 | 12 | 36 | 99 | 97 | 10 | 159 | - |
| **Trauma & Orthopaedics** | 113 | 8% | - | - | - | 33 | - | - | - | - | 80 | - |
| **Stroke** | 95 | 7% | 9 | - | 6 | 10 | - | 20 | 12 | 8 | 10 | 20 |
| **Brain Injury** | 61 | 4% | - | - | - | - | - | - | 13 | - | 8 | 40 |
| **Spinal Cord Injury** | 44 | 3% | - | - | - | - | - | - | - | - | 4 | 40 |
| **Neuro-Rehabilitation** | 31 | 2% | 4 | - | - | - | - | 12 | 15 | - | - | - |
| **Respiratory** | 25 | 1.8% | - | - | - | - | - | - | 25 | - | - | - |
| **Ortho-Gerontology** | 17 | 1.2% | - | - | - | - | - | 12 | - | 5 | - | - |
| **Amputee** | 16 | 1.1% | - | - | - | - | - | - | - | - | 4 | 12 |
| **Rheumatology** | 10 | 0.7% | - | - | - | - | - | - | 10 | - | - | - |

1. National total includes national tertiary centre
2. CHO6 excludes national tertiary centre

## 1.6 Post-Acute Inpatient Rehabilitation Bed Requirements

Nationally there are clear recommendations published on bed requirements for a number of specific patient cohorts, including older people who require Specialist Gerontology rehabilitation, those with Neuro-Rehabilitative needs and those requiring rehabilitation following major trauma; The National Neuro-Rehabilitation Strategy (22), the Specialist Geriatric Model of Care, 2012 (23), and the UK National Clinical Audit on Specialist Rehabilitation following Major Injury (24). This survey demonstrates a significant shortfall of post-acute rehabilitation beds available nationally across large patient cohorts when referencing these recommendations.

### 1.6.1 Neuro-Rehabilitation Bed Requirements based on Population

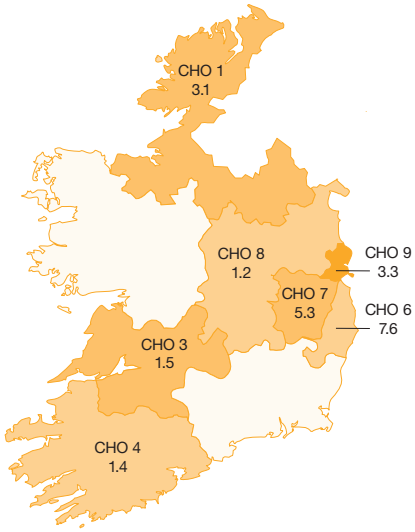
The National Neuro-Rehabilitation Strategy includes Neuro-Rehabilitation, Stroke, Spinal Cord Injury and Brain Injury services. The National Neuro-Rehabilitation Strategy recommends 6 regional specialist Neuro-Rehabilitation beds per 100,000 population. This recommendation is in addition to national specialist complex Neuro-Rehabilitation beds such as the services provided in the national tertiary centre (22). Based on 2022 census figures, this equates to a recommended requirement of 306 regional specialist Neuro-Rehabilitation beds nationally.

This survey identified a total of 131 non-tertiary Neuro-Rehabilitation beds (including stroke rehabilitation). CHO 2 and CHO 5 reported no dedicated Neuro-Rehabilitation beds. Per 100,000 population 2.5 non-tertiary Neuro-Rehabilitation beds were identified (range across CHOs 0.0-7.6). This represents a 58% shortfall in the requirement for regional specialist Neuro-Rehabilitation beds to meet population needs.

Table 11 presents data for combined figures of Neuro-Rehabilitation, Spinal Cord Injury, Stroke, and Brain Injury which are all within the remit of the National Neuro-Rehabilitation Strategy. These figures exclude the national tertiary centre.

***Table 11:*** *National Availability of Specialist Neuro-Rehabilitation Beds (excluding national tertiary centre)*

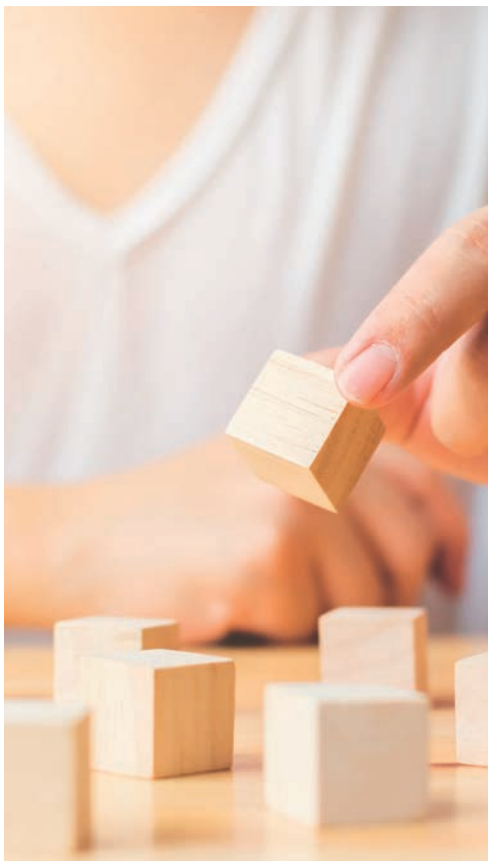
| CHO | No. of Beds | Average Beds per Unit | CHO Populations | CHO Average Beds per 100,000 |
|---|---|---|---|---|
| CHO 1 | 13 | 6.5 | 413,980 | 3.1 |
| CHO 2 | 0 | - | 483,677 | - |
| CHO 3 | 6 | 6.0 | 408,310 | 1.5 |
| CHO 4 | 10 | 10.0 | 736,489 | 1.4 |
| CHO 5 | 0 | - | 548,442 | - |
| CHO 6 | 32 | 10.7 | 420,485 | 7.6 |
| CHO 7 | 40 | 13.3 | 757,216 | 5.3 |
| CHO 8 | 8 | 8.0 | 679,475 | 1.2 |
| CHO 9 | 22 | 7.3 | 675,462 | 3.3 |
| **Total** | **131** | **9.4** | **5,123,536** | **2.6** |




The integrated care pathway for the management of spinal cord injury states that this cohort of patients require access to complex specialist rehabilitation services, with transfer to the national tertiary centre as soon as the patient is deemed to be 'ready' to engage in rehabilitation" (25). The survey identified 4 non-tertiary spinal cord injury beds.

There are no published stroke-specific post-acute rehabilitation bed requirements. However, the National Clinical Programme for Stroke endorses the recommendations on required bed numbers of both the Specialist Geriatric Model of Care and the National Neuro-Rehabilitation Strategy to deliver post-acute rehabilitation. Stroke rehabilitation is currently delivered in several ways: in an Acute Stroke Unit, with Early Supported Discharge (ESD) teams and in post-acute rehabilitation beds. In 2022, 6,263 patients presented to hospital with a new stroke. One third of these patients were discharged from acute services with a Modified Rankin Score of 3-5, indicating moderate to severe disability. This would indicate that at least 2,000 patients were likely to have required post-acute rehabilitation in 2022. Many patients with milder strokes would also have required inpatient rehabilitation or ESD. Nationally, this survey identified 95 post-acute rehabilitation beds dedicated to Stroke rehabilitation. It can be assumed that a large volume of patients are accessing rehabilitation in Acute Stroke Units, as well as in 'Mixed Rehabilitation' beds and Specialist Gerontology beds in the post-acute setting. This impacts the length of stay in Acute Stroke Units and would also indicate that there is a gap in the availability of speciality Stroke Rehabilitation beds nationally.

## 1.6.2 Orthopaedic & Trauma: Bed Requirements based on Population



There are a range of patient populations' eligible for Orthopaedic and Trauma rehabilitation including those who sustain hip fractures, major trauma, fragility fractures and elective orthopaedic surgery. This survey identified post-acute Orthopaedic and Trauma rehabilitation beds under two clinical conditions, 'Trauma and Orthopaedic' (T&O) and 'Ortho-Gerontology'. There were 113 T&O beds available (2.2 T&O beds per 100,000 population) and 17 Ortho-Gerontology beds available. There are no recommendations in HSE publications for the number of beds required for trauma / orthopaedic patients, however rehabilitation bed ratios for major trauma have been established in the UK based on an audit completed in 2019. Major trauma patients who require post-acute inpatient rehabilitation experience a range of injuries including musculoskeletal, vascular, neurological and non-neurological conditions including amputation. The National Clinical Audit of Specialist Rehabilitation following Major Injury (NCASRI) recommends 8 specialist post-acute inpatient beds per million population, to provide capacity for major trauma patients (24).

The above NCASRI recommendation does not apply to patients over 65 years who sustain an isolated hip fracture. In Ireland over 3000 patients sustained an isolated hip fracture in 2022 the majority of whom require post-acute inpatient rehabilitation (14). In 2021, the Irish Major Trauma Audit found that 7% of major trauma patients (n=567) gained direct access to post-acute inpatient rehabilitation (12). A further 14% (n=851) who potentially sustained serious injuries transferred to another acute hospital who are likely to require ongoing inpatient rehabilitation.

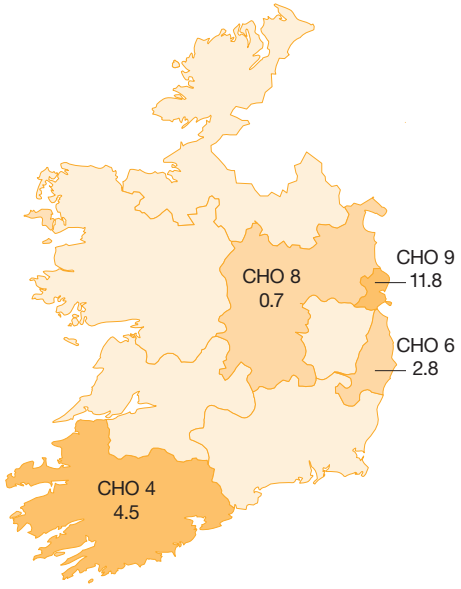
The above figures cannot be used to derive the demand for post-acute inpatient rehabilitation beds. As with other conditions, orthopaedic and trauma patients may have their rehabilitation needs met in other healthcare settings such as acute hospital wards, and post-acute Specialist Gerontology, Mixed Rehabilitation and Neuro-Rehabilitation units. Therefore, it is difficult to determine if there are sufficient rehabilitation beds available to meet orthopaedic and trauma population needs.

***Table 12:*** *The National Availability of Trauma & Orthopaedic and Ortho-Gerontology Beds*

| CHO | No. of Beds | Average Bed per Unit | CHO populations | CHO Average Beds per 100,000 |
|---|---|---|---|---|
| CHO 1 | - | - | 413,980 | - |
| CHO 2 | - | - | 483,677 | - |
| CHO 3 | - | - | 408,310 | - |
| CHO 4[1] | 33 | 33 | 736,489 | 4.5 |
| CHO 5 | - | - | 548,442 | - |
| CHO 6[2] | 12 | 12 | 420,485 | 2.8 |
| CHO 7 | - | - | 757,216 | - |
| CHO 8[2] | 5 | 5 | 679,475 | 0.7 |
| CHO 9[1] | 80 | 40 | 675,462 | 11.8 |
| **Total** | **130** | **26** | **5,123,536** | **2.5** |

[1] Represents Trauma & Orthopaedic Beds (n=113)

[2] Represents Ortho-Gerontology Beds (n=17)



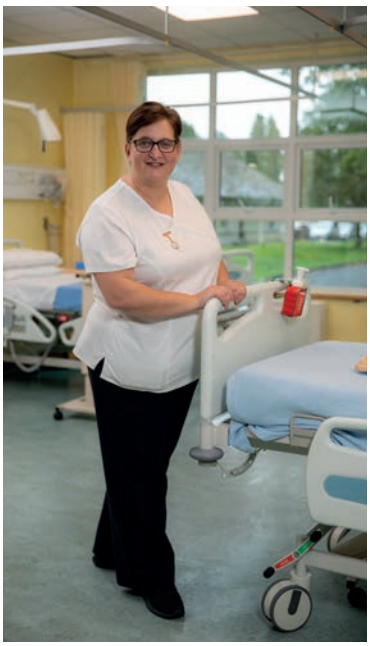
## 1.6.3 Specialist Gerontology Bed Requirements based on Population

There was substantial regional diversity in the number of beds categorised as Specialist Gerontology rehabilitation. As illustrated in Table 13 the range varied from no designated Specialist Gerontology beds in CHO 1 to 159 beds in CHO 9. In total the survey reported the availability of 438 Specialist Gerontology beds, which accounts for 33% of all post-acute rehabilitation beds. Eighteen percent of all Specialist Gerontology beds were located within an acute hospital with the remainder located within community HSE hospitals and community section 38 hospitals.

***Table 13:*** *National Availability of Specialist Gerontology Rehabilitation Beds**

| CHO | Number of Beds |
|---|---|
| CHO 1 | 0 |
| CHO 2 | 2 |
| CHO 3 | 23 |
| CHO 4 | 12 |
| CHO 5 | 36 |
| CHO 6 | 99 |
| CHO 7 | 97 |
| CHO 8 | 10 |
| CHO 9 | 159 |
| **Total** | **438** |

** The average number of beds per 100,000 are not reported in table 13 or 14 as these findings predominately represent the over age 65 population.*



The Specialist Geriatric Model of Care (23) published in 2012 recommends 3 Specialist Gerontology beds per 1,000 population of people aged over 65. These beds are for older people experiencing frailty and/or a significant reduction in functioning due to illness or injury requiring inpatient input from a Specialist Gerontology team. This survey found that there are 0.54 Specialist Gerontology beds available per 1,000 adults aged over 65 years of age. Ninety-six percent of these beds are clinically governed by a Gerontologist. The 2022 census reported a population of 806,300 people aged 65 years and older in Ireland (26). Based on the Specialist Geriatric Model of Care recommendation of 3 Specialist Gerontology beds per 1,000 over 65 population, there should be 2,419 specialist geriatric beds available, which is a shortfall of 1,981 beds. The recommended bed number for this patient population equates to 5 times the current availability of beds.

It is important to note that this figure does not include Mixed Rehabilitation beds, 72% of which were reported as being dedicated to patients aged 65 and above, and 69% of mixed beds are clinically governed by a Gerontologist It is also acknowledged that Specialist Gerontology rehabilitation occurs in acute hospital beds.

## 1.6.4 Mixed Rehabilitation Beds:

Mixed Rehabilitation Beds, which are understood to provide rehabilitation to patients with various clinical conditions within the same unit, accounted for the largest proportion (36%, n=486) of all available post-acute rehabilitation beds. The clinical conditions treated in Mixed Rehabilitation beds was not captured in the survey, however these beds most likely have a wide commission providing rehabilitation to people with diverse conditions, for example neurological, stroke or orthopaedic conditions, or they may provide care to older people experiencing frailty and/or recent injury or illness.

There is substantial variation nationally between regions in the availability of Mixed Rehabilitation beds, as shown in Table 14. The scope of these mixed rehabilitation beds appeared to be tailored predominantly for older adults; 72% of these beds were available exclusively for those aged 65 years and older, 25% were not age specific and only 3% were available for those aged under 65 years. Forty-eight percent of mixed rehabilitation beds were located within an acute hospital, with the remainder located in an HSE community, section 38 or 39 hospital. There are no nationally available guidelines on recommended numbers of mixed rehabilitation beds required.

***Table 14:*** *National Availability of Mixed Rehabilitation Beds*

| CHO | Number of Beds |
|---|---|
| CHO 1 | 65 |
| CHO 2 | 60 |
| CHO 3 | 55 |
| CHO 4 | 108 |
| CHO 5 | 76 |
| CHO 6 | 25 |
| CHO 7 | 37 |
| CHO 8 | 20 |
| CHO 9 | 40 |
| **Total** | **486** |

## 1.7 Access to Rehabilitation Based on Condition

The survey shows that waiting times for access to rehabilitation units varies depending on the clinical condition. Table 15 shows that the longest waiting time for admission was reported for Neuro-Rehabilitation, 47% of whom wait between 1-6 months for admission. The shortest waiting time for admission was found for orthopaedics (80% of patients admitted within one week) followed by Specialist Gerontology (50% of patients admitted within one week).

***Table 15:*** *Waiting Times to Access Rehabilitation by Rehabilitation Category*

| Waiting times to access rehabilitation | Less than 1 week | 2-4 weeks | 4-8 weeks | 8-12 weeks | 3-6 months |
|---|---|---|---|---|---|
| **All Units** | 33% | 45% | 9% | - | 13% |
| **A: Mixed Rehabilitation** | 22% | 59% | 11% | - | 7% |
| **B: Specialist Gerontology** | 42% | 50% | 7% | - | - |
| **C: Neuro-Rehabilitation*** | 17% | 50% | 25% | - | 8% |
| **National tertiary centre** | - | - | - | - | 100% |
| **D: Orthopaedics and Trauma** | 80% | 20% | - | - | - |
| **E: Other** | 33% | 67% | - | - | - |
| *Excludes national tertiary centre | | | | | |

### Key Findings on Access and Availability based on Condition

When referencing national recommendations on bed requirements, the survey confirms a shortfall in rehabilitation beds for Specialist Gerontology and Neuro-Rehabilitation and an estimated shortfall for large patient cohorts including people living with orthopaedic, trauma, stroke and other conditions.

The longest waiting time for admission was reported for patients awaiting access to Neuro-Rehabilitation.

## Recommendation:

Additional designated rehabilitation beds are required to meet population needs. Based on recommended bed ratios, an additional 175 non-tertiary Neuro-Rehabilitation beds, plus an additional 1,981 Specialist Gerontology beds* are required.

* Calculation is based on beds specifically identified as Specialist Gerontology, does not include Mixed Rehabilitation beds for those aged over age 65.

## 1.8 Access to Rehabilitation Based on Age

The WHO Rehabilitation 2030 Call for Action seeks for rehabilitation to be available "for all the population and through all stages of the life course (27). Post-acute inpatient rehabilitation units in Ireland were traditionally established and funded based on a patient's age, broadly defined for those over and under 65 years. The project methodology examined admission criteria based on age by identifying three age categories; 18-65 years, over 65 years, or all adults aged over 18 years i.e. 'All Ages'.

All 57 units identified age as a criterion for admission to rehabilitation.

### 1.8.1 National Availability of Beds based on Age

Of the 1,336 post-acute inpatient rehabilitation beds available nationally:

- 2% of beds were available exclusively for patients under 65 years of age
- 33% of beds were available for adult patients of all ages
- 65% of beds were available for adults aged over 65 years of age.

As the majority of all beds (65%) are available to patients over age 65, further analysis was completed to understand service provision for these beds on issues including access to assessment, care planning, interventions and outcomes, see **appendix 2A**.

One third of all post-acute inpatient beds (n=444) were reportedly available to adults of all ages (≥ age 18). Eighteen percent of 'All Ages' beds are dedicated to Trauma & Orthopaedic rehabilitation in acute hospital settings under the clinical governance of either Orthopaedic Surgery or Ortho-Gerontology. Twenty seven percent of 'All Ages' beds were described as Mixed Rehabilitation (and the remaining Mixed Rehabilitation beds (n=367) were all dedicated to patients over age 65).

All four national tertiary centre units are accessible to adults of all ages. Aside from the national tertiary centre, nationally there are only 27 dedicated Stroke Rehabilitation beds (2%), 15 Neuro-Rehabilitation beds (1%) and 8 Brain Injury beds (0.6%) available to patients of all ages.

Two non-tertiary Stroke Rehabilitation units that are available to All Ages, are governed by Gerontologists. The third is a national tertiary centre unit.

Of the younger patient cohort, 2% of all beds (n=16) are dedicated to adults aged 64 years and younger. These are comprised of Neuro-Rehabilitation (n=16 beds) and Mixed Rehabilitation (n=12 beds). Two of these 3 units are voluntary sector services.

### 1.8.2 Regional Availability of Beds based on Age

- All CHOs, except for CHO 3, have beds available for patients of all ages
- CHO 3 has no beds available for those aged under 65
- CHO 1, 5 & 6 have beds dedicated to those aged under 65 years of age.

## 1.8.3 Access to Rehabilitation based on Age, by Clinical Condition

Table 16 shows the proportion of beds accessible for patients by age, based on rehabilitation clinical condition. Seventy-two percent of Mixed Rehabilitation beds were reported as being only available to patients aged ≥ 65.

***Table 16:*** *Access to Rehabilitation Units based on Patient's Age*

| Clinical Condition | Number of all rehabilitation beds available to patients aged 18-65 only (Under age 65) | Number of all rehabilitation beds available to patients aged ≥65 only (Over age 65) | Number of all rehabilitation beds available to (adult) patients of All Ages |
|---|---|---|---|
| **Number (and proportion) of total beds available per age category** | 31 (2%) | 861 (65%) | 444 (33%) |
| **Mixed Rehabilitation** | 15 | 352 | 119 |
| **Specialist Gerontology** | - | 411 | 27 |
| **Neuro-Rehabilitation** | 16 | - | 15 |
| **Brain Injury*** | - | 13 | 48 |
| **Stroke*** | - | 48 | 47 |
| **Spinal Cord injury*** | - | - | 44 |
| **Ortho-Gerontology** | - | 5 | 12 |
| **Trauma & Orthopaedics** | - | 32 | 81 |
| **Amputee Rehabilitation*** | - | - | 16 |
| **Other (Respiratory, Rheumatology)** | - | - | 35 |

* Includes national tertiary centre

## 1.8.4 Waiting Times for Access based on Age:

Waiting times for access have been collated into two groups, over and under 65 years, which is a broadly acknowledged criteria for many health and social care services including rehabilitation. Findings presented as 2 age groups, over and under age 65, identifies the 'all ages' group as over 65. Table 17 shows the proportion of patients admitted to units within defined timeframes, based on age group.

***Table 17:*** *Waiting Times to Access Rehabilitation by Age*

| Waiting times to access rehabilitation | < 1 week | 2-4 weeks | 4-8 weeks | 8-12 weeks | 3-6 months |
|---|---|---|---|---|---|
| **Units accessible to those under 65** | - | 50% | - | - | 50% |
| **Units accessible to those over 65** | 38% | 49% | 11% | - | 2% |

* Excludes national tertiary centre who have a 3-6 month waiting time for admission for all patients

Younger patients (those under 65 years) are more disadvantaged in terms of access to post-acute inpatient rehabilitation.

- 87% of patients aged 65 and above are admitted within 4 weeks
- 50% of patients under 65 years are admitted within 4 weeks

Younger patients have the longest waiting time for admission with 50% of those under age 65 waiting more than 3 months (Table 17). Of note, these findings exclude the national tertiary centre who have a 3-6 month waiting time for admission for all adult inpatients.

Of note, only 2% of all beds (n=31) are dedicated to adults aged 64 years and younger. These are comprised of Neuro-Rehabilitation (n=16 beds) and Mixed Rehabilitation (n=15 beds). Two of these 3 units are voluntary sector services.

### 1.8.5 Qualitative Data regarding Age Criteria

Forty-two per cent of units identified that patients not meeting their units' age criteria was a barrier to admission. Qualitatively, 31% of units who admit patients aged ≥65 reported that they will accept patients under 65 years in certain circumstances. The survey findings suggest that there may be an emerging flexibility in the scope of services regarding a patient's age as a criterion for admission to rehabilitation units, as illustrated by the following examples:

*"Younger [patients] will be accommodated if their needs can be met"*

*"Exceptions can be made to accommodate these patients"*

*"When older person service makes an exception and admits patients under 65, this often results in a delayed transfer of care as their needs are typically more complex"*

## Key Findings on Access to Rehabilitation based on Age and Condition

- All rehabilitation units use age as a criterion for admission.
- Younger patients wait longer for access to rehabilitation.
- Including tertiary and non-tertiary facilities, only two condition specific rehabilitation units, spinal cord injury and amputee rehabilitation, have no age restrictions for access.

## Recommendations:

Access to rehabilitation must support population needs and should be available to all those who require it, based on need and irrespective of age, condition or home address.

The total national requirements for post-acute inpatient rehabilitation across all patient cohorts must be established with collaboration form key stakeholders. The projected need over the next number of years, must be determined to plan and deliver post-acute rehabilitation bed capacity. Capacity planning needs to consider bed requirements for patients following trauma, stroke, amputation etc., and those appropriate for Mixed Rehabilitation services.

## 1.9 Organisational Processes that Support Access to Rehabilitation

The WHO report that the development of integrated rehabilitative services requires appropriate governance structures, with an agreed shared vision for improvement of services (2). Meaningful integration of rehabilitation across all services in a health system is required to ensure equity, effectiveness and efficiency (2). Coordinated rehabilitation planning and implementation will help to address health inequalities between different population groups (28). The health system must recognise the rehabilitation needs of the entire population and engagement must be sought from patients, their carer's and relatives to ensure service design meets their needs (2, 29). Integration also requires collaborative rehabilitation pathways across organisations and services, including both statutory and voluntary (18, 30). For integrated person-centred working of services, processes need to be in place spanning in-patient and community contexts across geographic regions and nationally to ensure that clinical pathways can be designed and implemented.

An example of such a model in Ireland is the developing Managed Clinical Rehabilitation Networks (9, 22). The critical point of this networked model is that, although service users may need to access different services as they progress, the transition between services is facilitated by appropriate communication and sharing of information between services so that they progress in a seamless continuum of care through the different stages.

Direct and timely access to post-acute rehabilitation is fundamental to person-centred care and effective rehabilitation outcomes (9, 31). Admitting patients directly from acute hospital facilitates earlier discharge from hospital, maintaining capacity in acute hospitals by facilitating patient flow while optimising patients' recovery.

A proportion of the community-dwelling population will also have inpatient rehabilitation needs. This could include those living in the community recovering from a sudden onset clinical event, an acute exacerbation of a pre-existing condition or those who require rehabilitation for a chronic or progressive condition. Other patients will be discharged home from acute services with ongoing rehabilitation needs, while awaiting access to post-acute inpatient rehabilitation.

A system which supports post-acute inpatient access both from acute and community referral sources, will support an integrated continuum of care, as close to the person's home as possible, preventing unnecessary acute admissions.

Survey findings on organisational processes known to support efficient access to post-acute inpatient rehabilitation are reported below:

### Key Findings

72% of units had a documented scope of service.

The majority of units (86%) reported an identified single point of contact (SPOC) for admissions, with this being nurse led in 46% of cases, while other units identified a HSCP or designated rehabilitation coordinator.

36.8% of units report having a service level agreement (SLA) in place. Examples of SLAs cited included agreements between CHOs and HGs.

The main referral source for 86% of post-acute units was acute hospitals.

All units accepted referrals from acute hospitals, whereas 67% of units accepted referrals from the community. The survey analysis did not reconcile potential overlap or distinction between community referrals (67%) and GP referrals (44%). The national tertiary centre accepts referrals from all referrers and did not require a consultant for this.

Most units accepted referrals from a range of Healthcare Professionals, however 30% of units only accepted referrals from consultants.

Referral from a consultant was required for the following unit types:

- 22% of Mixed Rehabilitation units
- 43% of Specialist Gerontology units
- 60% of Orthopaedic and Trauma units

## Recommendations on Admission Process

- All rehabilitation units must have a clearly documented scope of service that describes the nature of the services provided, patients who will access the services, principles, values or local /national guidance that underpin the services, information about partnerships working in the area etc.
    - The scope should be used to match patient needs with available services.
    - The scope should be available to all relevant stakeholders including healthcare professionals across Health Regions.

Protocols for admission should be documented and entail a standardised process that is applied consistently and not subject to change based on a determination by an individual healthcare professional.

A clearly identified SPOC should be available in all units. This individual(s) should have a central role in coordinating services within a rehabilitation region or network. Contact details of the SPOC should be made available to stakeholders involved in the referral process.

Referrals to units should be accepted from medical, nursing and health and social care professionals once the referral meets the service inclusion criteria.

A standardised approach for communicating patients' rehabilitation needs and ongoing management plan is recommended by completing the Rehabilitation Prescription or Comprehensive Geriatric Assessment (CGA) for those aged over 65 years of age. This information will ensure that the rehabilitation unit can match the patients' needs with the rehabilitation unit's capacity and capability and prepare for their transfer. Rehabilitation Prescriptions and CGAs should be updated and shared with the service accepting the patient, that is, from the acute hospital to post-acute inpatient rehabilitation and again from in-patient rehabilitation to the next receiving service be it ambulatory or community-based rehabilitation services etc.

Access to post-acute inpatient rehabilitation services for those who need it, living in the community, must be addressed in the development of all referral pathways.

Service Level Agreements should be reviewed and optimised to support the patient's transition of care and equity of access

# 2 Rehabilitation Service Specification

A service specification describes the standard of care expected from an organisation (18). As previously outlined in the report, a system has not yet been developed in Ireland for the 'designation' of rehabilitation units based on standards of care. Admitting units should be able to meet patients' rehabilitation needs, i.e. the scope of the service should meet the patient population's needs based on specialism and level of clinical need (complexity). This project sought to understand what informal standards of care or service provision are in place in non-tertiary units and what degree of patient complexity could be managed in those units. The survey asked what process, if any, was being used to assess patients' rehabilitation needs and as a general overview, which patients can have their rehabilitation needs met in that unit based on their degree of complexity. The method used to ascertain units' capability to meet patients' biopsychosocial needs (complexity) was the Patient Categorisation Tool (PCAT).

## 2.1. Use of Standardised Assessment Tools

Measuring individual rehabilitation needs is essential in determining which patients require specialist rehabilitation services. Early and ongoing assessment is a key underlying principle of good rehabilitation to identify rehabilitation needs in order to support timely planning and interventions to improve outcomes and ensure seamless transition (32). Standardised assessments are important to objectively determine:

- Which service a patient is most likely to benefit from
- Enable case mix management
- Enable standardised data collection on rehabilitation need (demand) regionally and nationally
- Monitor change in patient status
- Allow for benchmarking

The Rehabilitation Complexity Scale-Extended (RCS-E) and PCAT are validated tools for measuring individual needs for rehabilitation and are included in the UK's Rehabilitation Outcomes Collaborative database (UK ROC) (8). The UK ROC database is a national clinical dataset for specialist rehabilitation that collates data on needs, inputs and outcomes for all patients admitted to inpatient specialist rehabilitation services in England (30). The RCS-E was designed to provide a simple measure of the complexity of rehabilitation needs and/or interventions i.e. resource requirements (33). This validated tool is used to determine patient's rehabilitation needs and service requirements and to support case mix management.

The CGA is a validated tool recommended for identifying the needs of an individual with/at risk of frailty and developing an integrated plan to meet those needs (34).

The survey indicates that 40% of units were not using objective processes (i.e. RCS-E or CGA) to determine what patients are appropriate for access to their services based on their need or level of complexity. Consequently, there is a risk that clinicians are subjectively determining what patients may access their services.

## 2.2. Rehabilitation Clinical Complexity

A services' capability to meet the rehabilitation needs of patients depend on the available workforce, access to essential services and rehabilitation interventions. Patients' individual rehabilitation needs will range from low to highly complex based on their clinical condition and their baseline health, acuity and psychosocial status.

To explore complexity of patient needs across different rehabilitation services, the PCAT was modified for the Irish context within the methodology of this project. The PCAT is a validated tool used to assess rehabilitation needs, initially developed to identify patients with the highest complexity of rehabilitation need (Category A) requiring complex specialist rehabilitation (35). It describes four categorisations of patient complexity, Category A-D, with Category A relating to patients with most complex needs, and Category D having the least complex needs.

In the UK, the NHS Standard Contract for specialised rehabilitation for patients with highly complex needs applies these four categories of rehabilitation need (Category A, B, C & D) and three levels of inpatient rehabilitation services (36):

- Level 1 units providing specialised rehabilitation services for patients with Category A needs
- Level 2 units providing local specialist rehabilitation services to patients with Category B needs (but may also accept patients with Category A needs where the unit has appropriate facilities, expertise and staffing ratios)
- Level 3 services providing general rehabilitation to patients with Category C or D needs

Adapted PCAT available in Appendix 3. Further detail of PCAT categories are as follows:

**Category A: (provided by Level 1 service)**
Highly complex unstable severe rehabilitation needs
Requiring the expertise of specialist rehabilitation unit with appropriate staffing/facilities

**Category B: (provided by Level 2 specialist rehabilitation service)**
Moderately complex rehabilitation needs
Requiring expertise of a specialist rehabilitation unit with appropriate staffing/facilities

**Category C/D: (Provided by a Level 3 rehabilitation service)**
Standard Needs
Likely to progress within the normal time scale with the skills and facilities of a general rehabilitation team

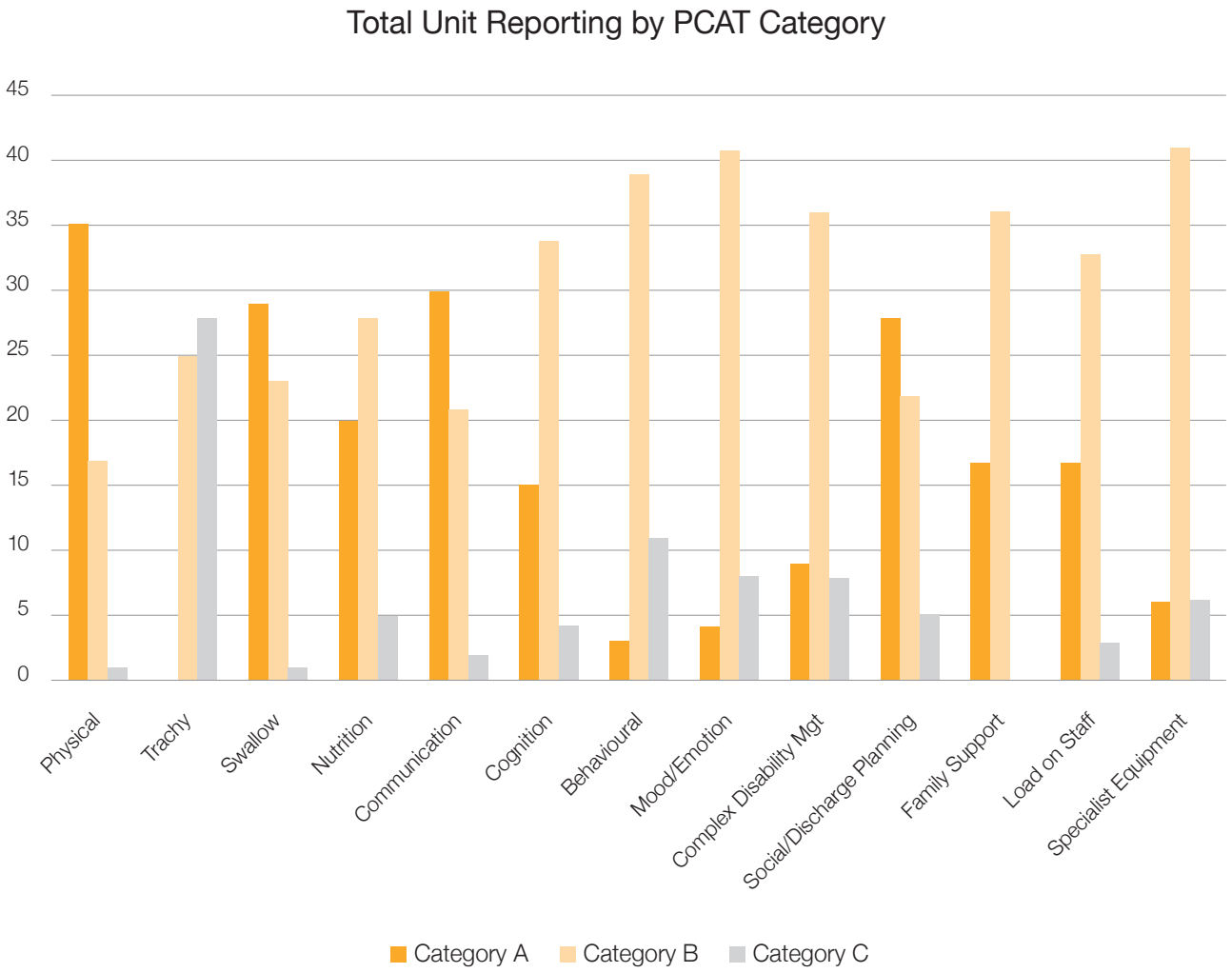
The standard PCAT tool is considered across 17 biopsychosocial domains. The PCAT has been modified for the survey and is considered across 14 domains. Respondents were asked to select the highest level of clinical need that their rehabilitation unit could provide for in each PCAT category. Reliable total PCAT scores cannot be derived from the data as the tool has been modified. The PCAT is a self-reporting tool, and it is acknowledged that respondents may not have been familiar with the tool which could have impacted on reporting. However, descriptive data by domain and service category indicates patient complexity being managed in the units surveyed.

**Findings from (modified) PCAT**

The UK's NHS England service specification requires that at least 85% of patients in a Level 1 service have category A needs (36). Based on modified PCAT scores, this survey found that the national tertiary centre, managed the highest proportion of patients with the most complex needs (PCAT Category A) across all domains surveyed. This aligns with staffing levels reported in the national tertiary centre which are in line with British Standards of Rehabilitation Medicine (BSRM) Level 1a- 1b staffing levels (30).

Tertiary services and non-tertiary services were analysed separately given the clear service specification for category A needs within a Level 1 service (complex specialist rehabilitation). Non-tertiary units accounted for 53 units in total and the reporting of PCAT complexity managed in these units is reflected in Figure 4.

***Figure 4:*** *Level of Patient Complexity per Clinical Domain reported to be Managed by Rehabilitation Units (Non-tertiary)*




Overall, there was a higher incidence of units reporting managing category A needs across the following domains: Physical (66%), Swallowing (58%), Nutrition (40%), Communication (70%) and Social Discharge Planning (43%). Eighty percent of all units reported managing patients with Category B needs across 7 domains or more. Table 18 illustrates units reporting of their ability to manage patients with category A and B needs across 7 domains or more.

***Table 18:*** *PCAT Category reporting across 7 domains or more by Rehabilitation Category*

| Rehabilitation Categories | PCAT Category A 7 domains or more | PCAT Category B 7 domains or more |
|---|---|---|
| **A: Mixed Rehabilitation (28 units)** | 18% | 75% |
| **B: Specialist Gerontology (14 units)** | 28% | 64% |
| **C: Neuro-Rehabilitation (13 units)** | 38% | 62% |
| **D: Orthopaedic and Trauma (5 units)** | 0% | 80% |

The highest category A reporting was from Neuro-Rehabilitation and Specialist Gerontology units. Furthermore, there was a higher incidence of category A reporting across those units under acute governance or those that identified as dedicated rehabilitation units.

## 2.2.1 Patient Complexity: Examples of Findings

Despite the high incidence of units reporting being able to manage Category A patients, this did not correlate with access to essential service provision necessary to be able to provide rehabilitation for this patient complexity as demonstrated in the following PCAT domain examples:

**Social and complex discharges:**

Over one third of units (34%) had no access to social work. 67% of units with no social work are Mixed Rehabilitation units. Of those beds with no access to social work, almost half (48%) report that they can manage the highest complexity (category A) for social discharge planning and 23% report managing category A patient complexity for family support. Additionally, when analysing reasons for delayed transfer of care, 32% of units report issues with complex social issues and 28% units report discharge planning issues and awaiting approval of funding for ongoing care.

**Mood/Emotion:**

7.5% of units reported managing category A patients requiring specialist evaluation or active management with regard to mood and emotional needs. All these units were on an acute hospital site. However, 50% of these units had no access to psychology and neuropsychology and 75% had no access to neuro-psychiatry.

77% of units reported managing patients with category B needs requiring active management with a planned programme. Of those units reporting they can manage Category B needs, 56% units report having no access to psychology and 34% of those units with no psychology input also did not have access to neuropsychology.

**Swallowing:**

55% of non-tertiary units reported managing a category A patient with complex swallowing needs. The PCAT highlights that to manage a patient with category A swallowing needs, a service needs access to instrumental swallow evaluation. 57% of total units (30% off site; 27% units on site) had access to instrumental swallowing evaluation. This incidence of access to instrumental swallowing evaluation may have impacted on the data reporting for this domain. However, despite having adequate access to essential service provision to meet a patient's complex swallowing needs, the Speech and Language Therapy (SLT) staffing resource did not adequately reflect these unit's ability to manage patients with swallowing needs of this complexity as illustrated in the following examples:

- 18% of units reported they did not have any access to SLT, yet 10% of these reported managing patients with category A needs. The remaining 8% of units reported managing patients with category B needs with no access to SLT.
- Of those units reporting no access to SLT, 64% of those were Mixed Rehabilitation beds. Furthermore, the SLT staffing levels in these non-tertiary services do not align with the recommended guidelines to meet the swallowing needs of those patients with category A or B needs. For example, 62% of Neuro-Rehabilitation services and 64% of Specialist Gerontology services reported managing patients with category A needs however as the data shows in Appendix 1, the SLT staffing levels for these services falls below those recommendations

**Specialist Service Provision:**

47% of units reported being able to manage patients with Category B tracheostomy needs and 57% of units reported having access to tracheostomy services (30% off site, 26% on site). Of those units reporting managing Category B patients with tracheostomy needs, 7.5% did not have access to tracheostomy services.

The above findings show strong evidence of over-reporting on unit's capabilities to provide a rehabilitation service to patients with complex needs. However, if a service is to take patients with complex needs, it must be able to demonstrate that it provides a level of rehabilitation inputs and facilities commensurate with those needs (30). Evaluation of patient's level of complexity using a clinical tool (PCAT) did not align with the unit's workforce, access to essential services (e.g. instrumental swallow evaluation for those with complex swallowing needs as evidenced above) or rehabilitation interventions in being able to provide an appropriate level of rehabilitation. This may indicate that patients with complex needs were being *'cared for'* in units rather than receiving the appropriate level of specialist rehabilitation.

## 2.3 Medical Clinical Complexity

The requirement for medical care and intervention is a defining factor in determining the complexity of rehabilitation need (30). Services need to ensure prior to admitting patients that they have the capacity to care for that person safely. Being able to meet health need is an essential factor to address when designing, commissioning and running in-patient rehabilitation services. Safety needs to be provided across the 24 hours of each day seven days per week. The medical input into a rehabilitation unit has a direct impact on the complexity of patient profile that can be managed by that unit. Details on clinical governance and medical workforce are provided in sections 3.4.1 and 3.5.

With regard to out-of-hours medical cover, the survey shows that 31% of all units receive their on-call cover from a GP. Specifically looking at service category examples, 46% of Mixed Rehabilitation units received their on-call service from a GP and 21% of specialist geriatric rehabilitation units. Twenty-six percent of units reported that their on-call service was provided by both a non-consultant hospital doctor (NCHD) and a consultant; 38% of units were covered by an NCHD only; 6% of units by a consultant only and 4% reported not having any on-call service.

Of the community units, 47% had a GP providing on-call service; 14% reported that their on-call service was provided by both an NCHD and a consultant; 31% sites were covered by an NCHD only; 6% of sites by a consultant only and 6% reported not having any on-call service.

All the acute units reported having an on-call service. Five per cent of units reported a GP providing on-call service; 48% units reported that their on-call service was provided by both an NCHD and a consultant; 43% units were covered by an NCHD only; 5% of units by a consultant only.

Of the 55 units that have an on-call service, 45% reported having an on-call service 24/7; 42% of units reported having an out of hours on-call service; 11% of units reported having an in-hours on-call service; 49% of units reported that their on-call service was provided from an off-site location and 47% on-site. The variance in clinical governance, dedicated medical input and on-call arrangements markedly impacts the complexity of patient profile that can be managed by these units and further highlights that patients may be “cared for” in these units versus receiving rehabilitation to meet their needs. These findings support the need for provision of complex specialist rehabilitation.

### Key Findings

There was limited evidence of objective processes being used for assessing patients’ needs to determine what patients are appropriate for access to rehabilitation services based on their need or level of complexity.

There was significant over reporting on unit’s capabilities to provide rehabilitation services to patients with complex needs. Evaluation of patient’s level of complexity did not align with the unit’s workforce.

There is a risk that patient’s rehabilitation needs are not being met in non-tertiary units, due to inadequate access to rehabilitation interventions and workforce.

## 2.4 Rehabilitation Interventions

Rehabilitation provides sets of interventions designed to optimise functioning and reduce disability in individuals with health conditions, in interaction with their environment. Interventions for rehabilitation comprise those that target specific aspects of functioning (body functions, body structures, activities and participation) and aspects that have an impact of an individual's functioning (environmental functions and personal factors). These are referred to as functioning interventions. Functioning interventions optimise aspects of functioning that are impaired (in the context of an individual's body functions and body structures); limited (in the context of activities); or restricted (in the context of participation).

The WHO have developed an evidence-based resource called the 'Package of Interventions for Rehabilitation' 2023 (PIR) (37). The PIR provides information on the most essential interventions for people with health conditions with the greatest rehabilitation needs. The health conditions included in the PIR correspond to those in the International Classification of Diseases; the functioning domains to the International Classification of Functioning Disability and Health (ICF); and the interventions to the International Classification of Health Interventions.

The purpose of the PIR is to assist with planning for and budgeting the integration of rehabilitation services into health systems. As such, it complements WHO's Rehabilitation in Health Systems – Guide for Action and the Rehabilitation Competency Framework (2, 38). Musculoskeletal (including fractures of the extremities and amputations) and Neurological conditions are recognised as the two (of seven) disease areas that have the highest need for rehabilitation due to having the highest prevalence and/or are associated with the highest levels of disability (37).

## 2.4.1 WHO Package of Interventions for Musculoskeletal and Neurological Rehabilitation

Table 19 and Table 20 present a summary of key WHO PIR target functions, assessments and interventions for Musculoskeletal and Neurological Conditions (37). The last four columns of the table displays the survey findings on access to these rehabilitation interventions in non-tertiary units, either on-site or off-site. It should be noted that not all interventions would be indicated for all rehabilitation services (e.g. vocational assessment may not be required for a Specialist Gerontology service). Most rehabilitation interventions were found to be available in the national tertiary centre, therefore it was not included in this analysis.

***Table 19:*** *Assessments & Intervention's* ***Most Available****: At least 90% of Non-Tertiary Units, Either On-Site or Off-Site*

| Target Functions | WHO PIR Assessment / Interventions for: | Intervention (Survey) | On-site | Off-site | No access |
|---|---|---|---|---|---|
| **ICF: Cognition, Communication and Sensorimotor Functions** | | | | | |
| **Cognitive Function** | Memory, attention, orientation, intellectual functioning. | Cognitive assessment + rehabilitation | 74% | 18% | 8% |
| **Motor functions & mobility** | **Assessment & interventions for** Muscle function, joint mobility, balance, gait, sensation, upper limb use. Falls risk | Falls Risk & Management | 96% | | 4% |
| | **Material Resources** Orthoses, Splinting / Casting equipment | Customised equipment | 56% | 35% | 9% |
| **ICF: Body Functions and Structures** | | | | | |
| **Skin / wound care** | Skin care, oedema | Tissue Viability | 67% | 26% | 7% |
| **Bone Health** | Assessment & interventions for bone health<br>Screening for osteoporosis | X-Ray | 60% | 31% | 9% |
| **Prevention & Treatment of Secondary Conditions** | Assessment & interventions for Deep venous thrombo-embolism etc. | Routine Blood Analysis | 26% | 69% | 5% |
| **ICF: Activity and Participation** | | | | | |
| **Activities of Daily Living** | ADLS.<br>Modifications of home/work environment | Home environmental / access assessment | 89% | 7% | 4% |
| **Self-management** | Education, advice and support for self-management of the health condition | Education & Training | Routinely:<br>Case-dependent:<br>No: | | 79%<br>19%<br>2% |
| **Carer & Family Support** | Carer & family training & support and information | Safeguarding | 74% | 23% | 3% |

***Table 20:*** *Assessments & Intervention* ***Least Available****: Less than 50% of Non-Tertiary Units, Either On-Site or Off-Site*

| Target Functions | WHO PIR Assessment / Interventions for: | Intervention (Survey) | On-site | Off-site | No access |
|---|---|---|---|---|---|
| **ICF: Cognition, Communication and Sensorimotor Functions** | | | | | |
| **Cognitive Function** | Memory, attention, orientation, intellectual functioning.<br>Energy & Drive: Fatigue Sleep functions<br>Behavioural support<br>Consciousness; Assessment of Awareness | Neuropsychiatry | 6% | 40% | 54% |
| | | Neuropsychology | 26% | 28% | 54% |
| **Motor functions & mobility** | **Assessment & interventions** for Muscle function, joint mobility, balance, gait, sensation, upper limb use.<br>Falls risk, Spasticity, Contracture and Postural Management<br>Constraint induced movement therapy | Intrathecal Baclofen | 11% | 28% | 61% |
| | | Aquatic / Hydro Therapy | 14% | 25% | 61% |
| **ICF: Body Functions and Structures** | | | | | |
| **Respiratory Function** | Airway clearance, respiratory muscle strengthening exercises | Ventilatory Support | 14% | 23% | 63% |
| **ICF: Activity and Participation** | | | | | |
| **Education, vocation & participation** | Vocational assessment and training Interventions focused on participation in community & social life. | Vocational Assessment | 18% | 25% | 27% |
| | | Vocational Rehabilitation | 20% | 17% | 63% |
| | | Driving Assess | 29% | 49% | 22% |

## 2.5. Rehabilitation Environment and Equipment

Guidance from NHS Standard Contract for Specialised Rehabilitation for Patients with Highly Complex Needs (All Ages) (36), and New South Wales Health Guide to the Role Delineation of Clinical Services (39) state that patients require rehabilitation from expert staff in a dedicated rehabilitation unit with appropriate specialist facilities, equipment and interventions appropriate to their needs. Patients with specific needs or health conditions will have bespoke interventions tailored to their needs e.g. assessment and management of frailty. The survey found that 40% of units consider that their unit had “insufficient treatment space / equipment”.

# Recommendations: Rehabilitation Service Specification

## Service Specification

### Strategic Planning of National & Regional Rehabilitation Services

Health Region organisational change must support the aim for enhancing operational and clinical governance to support the delivery of integrated post-acute rehabilitation. This requires a shift in planning health and social care rehabilitation services – one that includes voluntary organisations, GPs and other health and social care professionals not employed directly by the HSE and should facilitate cross sectoral working at regional and national level (4).

Rehabilitation is an essential service within healthcare that requires a defined governance framework. Joint executive leadership and system agreements, including clinical and corporate governance across health and social care partner organisations is recommended to ensure shared decision and governance arrangements (2, 4).

To enable the delivery of standardised, high quality rehabilitation services, there should be a National Rehabilitation Director at executive level, as well as specialised rehabilitation committees at a national and local level to oversee rehabilitation service delivery (2, 18, 29).

A National Rehabilitation Steering Group must be established to strategically build integrated rehabilitation services and achieve equitable access to quality services for all patient populations, including those with multiple and complex rehabilitation needs (2, 18, 29). This group should have broad and inclusive membership from all rehabilitation stakeholders including those with lived experience.

The development of rehabilitation services in delivering high-quality, integrated care pathways must involve patients, those important to them and carers in order to make our services safer and better (4).

### Components of Service Specification

Post-acute rehabilitation service specifications will be developed nationally for the commissioning, delivery and monitoring of post-acute rehabilitation in line with international best practice (2, 11, 30). Admitting units should have the capability to meet patients' rehabilitation needs, that is, the scope of the service should meet the patients' needs based on specialism and level of clinical need (complexity). The service specification will detail the rehabilitation services, workforce, casemix and facilities required, and address population needs including those with the highest complexity (8). The service specification will outline what is required of national, regional specialist and community inpatient rehabilitation services. Rehabilitation service specifications should clearly describe clinical governance requirements (9, 21).

National rehabilitation standards for post-acute inpatient rehabilitation services must be developed to inform the design of service specifications that outlines minimal requirements for rehabilitation.

Each Health Region must have regional specialist post-acute inpatient service that have the capability to manage patients with more complex rehabilitation and care needs.

Each Health Region should review existing rehabilitation services capacity and capability and identify gaps in service provision by benchmarking against the service specification. A national mechanism must be developed to monitor units against service specifications.

Nationally, rehabilitation services should be subject to a formal designation process, with defined levels of care and specialism. This will ensure that rehabilitation services, workforce and facilities are commensurate with a person's rehabilitation needs (9, 18, 35).

Individual rehabilitation needs should be assessed using standardised, validated assessment tools to determine which patients require specialist rehabilitation services. Early and ongoing needs assessment is required to support timely rehabilitation access and seamless transitions of care.

Specialist units will have access to specialist interventions, equipment and rehabilitation environment appropriate to their caseload.

# 3 Rehabilitation Workforce

The WHO has identified improving the availability of the workforce and improving rehabilitation competencies as a priority for the development of rehabilitation services (2). Due to the projected growth of Ireland's population size, the Economic and Social Research Institute (ESRI) projects an increase in demand for all staff categories, and that a relatively large increases in workforce demand for HSCPs will be driven by the needs of older patients (5).

Rehabilitation interventions include therapeutic techniques and procedures, pharmacological interventions, exercise prescription, assistive products, environmental modifications, self-management interventions, vocational rehabilitation and support for family and carers (37). To provide intervention across multiple domains of functioning, an MDT approach is essential, with access to other key HCPs depending on the patient's specific care needs. Workforce staffing levels are influenced by several variables including acuity, complexity and the clinical presentation of the patient. As an example, the BSRM describes patients with category B needs, who require a Level 2 Rehabilitation service, as having a need of intensive therapy. This level of care involves input from 2-4 therapy disciplines, depending on the complexity of need, with access to between 20-25 hours of therapy per week (30). Workforce requirements including team composition, staffing levels and skill mix, therefore will vary between rehabilitation units.

**Workforce findings are presented under the following headings:**

- Validating Workforce Data
- Clinical Guidelines for Rehabilitation Staffing Levels
- Analysis of Rehabilitation Staffing Levels and Team Composition
- Rehabilitation Workforce Grade Mix and Skill Mix
- Interdisciplinary Team Working and Clinical Governance

## 3.1. Validating Workforce Data

Despite extensive efforts by the project team to validate staffing levels, reported staffing levels may not reflect actual approved staffing levels within a unit, due to the challenges reported by some units in determining staffing levels dedicated to a unit. It should also be considered that the survey was completed in 2023, prior to the HSE recruitment embargo.

Further data validation was required with some rehabilitation units, who completed the survey, for the following reasons:

- Some units did not initially report any dedicated HSCP staffing.
- The staffing levels for certain units appeared either to be very high or very low in relation to the number of beds.

Follow-up data validation gave insights into the challenges in reporting staffing levels. These challenges, and the approach taken to the management of data for reporting on staffing ratios, are presented in Table 21.

***Table 21:*** *Data Management for Rehabilitation Workforce Reporting*

| | |
|---|---|
| 1 | Some healthcare facilities, with more than one rehabilitation unit, were unable to provide a breakdown of staffing levels per individual rehabilitation unit as the staff worked across a number of units. When this occurred, the overall staffing levels reported for the healthcare facilities were allocated proportionally between the relevant rehabilitation units. |
| 2 | Two rehabilitation units, which consisted of one and two rehabilitation beds within a larger ward, were unable to provide a breakdown of nurse staffing levels specifically for the rehabilitation beds and included staffing levels for the whole unit. A rehabilitation unit with over 20 beds did not provide nurse staffing levels. These three units had to be excluded from sections of the workforce report that reported on nurse staffing ratios |
| 3 | Challenges were reported by some healthcare facilities in determining dedicated medical WTE figures for a rehabilitation unit; in these instances, an estimate WTE was provided by the unit. |

## 3.2. Clinical Guidelines for Rehabilitation Staffing Levels.

Specialist Gerontology, Mixed Rehabilitation, Orthopaedic and Trauma, Stroke, Brain Injury, Spinal Cord Injury and Neuro-Rehabilitation beds account for 95% of the total number of beds included in the survey. Relevant HSE Models of Care, guidelines and strategies, which provide rehabilitation staffing levels for these services, were identified and are presented in Table 22.

***Table 22:*** *Published HSE Guidelines and Strategies with Rehabilitation Staffing Levels*

| |
|---|
| The National Neuro-Rehabilitation Strategy, 2011 |
| Specialist Geriatric Services Model of Care, 2012 |
| National Model of Care for Trauma & Orthopaedic Surgery, 2015 |
| Model of Care for the Provision of Specialist Rehabilitation Services in Ireland, 2018 |
| National Clinical Guidelines for Stroke for UK and Ireland, 2023 |

**Summary of Guidelines on team composition and staffing levels recommendations (referenced in Table 22):**

The core members of the MDT in-patient rehabilitation team, with staffing level recommendations available in national guidelines include Dietitians, Medicine, Nursing, Occupational Therapy (OT), Physiotherapy (PT), Psychology, Social Work (SW) and Speech and Language Therapy (SLT).

Recommended Pharmacy staffing levels were not included in the referenced guidelines, despite a number of guidelines referring to Pharmacy as key members of the MDT.

Recommend staffing levels and team composition vary depending on whether the unit is a tertiary or non-tertiary unit. Recommended staffing levels also reflect the clinical complexity, acuity and clinical needs of the patient.

**For Consideration:**

The Framework for Safe Nurse Staffing and Skill Mix in General and Specialist Medical and Surgical Care Settings in Adult Hospitals in Ireland (2018) provides guidelines for nursing staffing levels in acute care settings. It does not currently include specific recommendations for rehabilitation services. This Framework considers the acuity and dependency requirements of the patients, rather than using fixed ratios for nursing and HCA staffing. The framework focuses on nursing hours per day based on the patient's acuity and dependency. There are plans to review and address safe nurse staffing and skill mix requirements for non-acute sites, in the future.

## 3.3. Rehabilitation Staffing Levels and Team Composition

### 3.3.1 Analysis of Rehabilitation Staffing Levels and Team Composition

Staffing levels reflect approved/funded posts rather than filled posts (i.e. the report did not capture vacancies). This decision was taken as WTE figures for "filled" posts were more likely to have changed in the time frame between data collection and publication of the report. The term approved posts in used in the workforce report.

Rehabilitation staffing level recommendations vary depending on the clinical condition. Therefore, for the purposes of this report, recommended staffing ratios have been amalgamated from the publications in Table 22 to develop a recommended range of staffing ratios per 20 beds. This recommended range was then compared to the average staffing ratios reported within the survey per 20 non-tertiary beds and the findings are presented in Table 23.

***Table 23:*** *Recommended Rehabilitation Staffing Ratio Ranges compared to Approved Survey Staffing Ratios*

| | Guidelines: Rehabilitation Staffing Ratios WTE per 20 beds (non-tertiary) | Findings: Approved Rehabilitation Staffing Ratios WTE per 20 beds (non-tertiary) |
|---|---|---|
| **Consultant** | 1.5; (one guideline references 7 day cover with adequate out of hours arrangements) | 0.67 |
| **Non-Consultant Hospital Doctor *** | 1.5-2.0 | 1.85 |
| **GP/ Senior Area Medical Officer** | - | 0.18 |
| **Nursing & Healthcare Assistants (these figures are generally presented as a ratio)** | 27-40 (Nurses and HCAs) ** | 15.28 Nurses<br>10.04 HCAs |
| **Physiotherapist** | 4.0-5.5 | 2.24 |
| **Occupational Therapist** | 4.0-5.5 | 2.0 |
| **Speech and Language Therapist** | 0.5-2.24 | 0.71 |
| **Dietitian** | 0.75-1.0 | 0.44 |
| **Social Worker** | 1-1.5 | 0.75 |
| **Clinical Psychologist** | 0.4-2.0 | 0.12 |
| **Pharmacy** | - | 0.36 |

* Includes Specialist Registrar, Registrar, Senior House Officer, Training post and Intern.
** Ratios will be informed by The Framework for Safe Nurse Staffing & Skill Mix

Staffing levels for Medicine, Nursing and HSCPs within the national tertiary centre, were aligned to the Model of Care for the Provision of Specialist Rehabilitation Services in Ireland.

A more detailed breakdown of the approved rehabilitation staffing levels for the following clinical conditions are available in Appendix 1: Specialist Gerontology, Mixed Rehabilitation, Stroke, Trauma and Orthopaedics and Neuro-Rehabilitation.

The composition of the rehabilitation MDT varies considerably between units. Table 24 reports the percentage of non-tertiary units that do not have a specific HSCP or Pharmacy discipline as a core member of the rehabilitation team. Psychology is not a core member of 75% of the units' MDTs.

Units who do not have a certain discipline as a core member of the MDT, may still be able to access services on referral. Therefore, the level of access to a discipline can vary from the findings presented in Table 24.

***Table 24:*** *Rehabilitation Units in which a HSCP Discipline or Pharmacist is Not a Core Member of the Rehabilitation Team*

| | **Percentage of units in which a HSCP or Pharmacy discipline is not a core member of the rehabilitation team*** |
|---|---|
| **Psychology** | 75% |
| **Pharmacy** | 51% |
| **Dietetics** | 38% |
| **Social Work** | 38% |
| **Speech and Language Therapy** | 21% |
| **Physiotherapy** | 9% |
| **Occupational Therapy** | 6% |

*Excludes national tertiary centre

*Table 25: Frequency of access to HSCP and Pharmacy services in non-tertiary units*

| Percentage of unit with access to a service over 7 days | | | | | |
|---|---|---|---|---|---|
| **HSCP** | **No Service Reported** | **Available <5 days a week** | **5-day service** | **6-day service** | **7-day service** |
| **Clinical Psychology** | 60% | 30% | 10% | - | - |
| **Dietetics** | 28% | 45% | 27% | - | - |
| **Occupational Therapy** | 8% | 8% | 84% | - | - |
| **Pharmacy** | 32% | 26% | 42% | - | - |
| **Physiotherapy** | 9% | 8% | 79% | 2% | 2% |
| **Social Work** | 34% | 32% | 34% | - | - |
| **Speech and Language Therapy** | 19% | 34% | 47% | - | - |

Analysis of workforce data highlighted significant variation in workforce staffing levels between non-tertiary units. Specialist Gerontology beds and Mixed Rehabilitation beds account for 70% of non-tertiary beds, therefore further analysis was conducted on staffing ratios within these unit types to demonstrate the variability in staffing ratios between similar unit types. Only units with 10 or more beds were included in the analysis. Thirteen Specialist Gerontology rehabilitation units and 24 Mixed Rehabilitation units met the criteria for further analysis; which accounted for 65% of all non-tertiary units. Findings are presented in Table 26.

*Table 26: Minimum to Maximum Range of Rehabilitation Staffing WTE per 10 Non-Tertiary Rehabilitation Beds, Specialist Gerontology and Mixed Rehabilitation Units.*

| | **Minimum no. of staff per 10 beds** | **Maximum no. of staff per 10 beds** | **Median no. of staff per 10 beds** |
|---|---|---|---|
| **Specialist Gerontology Units** | | | |
| Medicine | 0.11 | 1.82 | 0.42 |
| Nursing | 2.46 | 16.86 | 7.11 |
| HCA | 0 | 12.67 | 3.79 |
| HSCP ** | 0.34 | 5.81 | 2.80 |
| Pharmacy | 0 | 0.91 | 0.1 |
| **Mixed Rehabilitation Units** | | | |
| Medicine | 0 | 1.75 | 0.67 |
| Nursing | 0 * | 18.75 | 7.74 |
| HCA | 0.77 | 17.5 | 4.79 |
| HSCP** | 0.34 | 7 | 3.38 |
| Pharmacy | 0 | 1.5 | 0.11 |

* The unit with 0 nursing WTE provided rehabilitation to patients who were medically stable and did not have nursing or medical requirements.
** HSCP includes Dietitians, OT, PT, Psychology, SW and SLT staffing levels.

## Summary of findings on Rehabilitation Staffing and Team Composition

### Key Findings

**Staffing levels for Medicine, Nursing and HSCPs within the national tertiary centre, were aligned to the Model of Care for the Provision of Specialist Rehabilitation Services in Ireland.**

**Average staffing levels in non-tertiary units are below recommended staffing levels (Table 23).**

- Specialist Gerontology beds, which account for 33% of all post-acute inpatient beds, do not meet the staffing ratios for HSCPs as recommended within the Specialist Geriatric Model of Care (2012) (Appendix 1, Table 36).
- Average staffing levels for HSCPs working within Specialist Gerontology rehabilitation units varied from 52% of recommended levels for Physiotherapy to 29% of recommended levels for Speech & Language Therapy (Appendix 1, Table 36).
- Quantitative findings showed that 61.4% of units deemed that they have insufficient numbers of approved posts, and 66.6% of units identified challenges with staff recruitment, as barriers to delivering rehabilitation services.

**There is diversity in the range of staffing ratios between rehabilitation units treating similar patient cohorts as demonstrated by the following examples:**

- Staffing range for nurses, not including HCAs, varied from a minimum of 7.08 WTE to a maximum of 16.86 WTE per 10 Stroke Rehabilitation beds.
- For medicine the range was from a minimum of 0.25 WTE to a maximum of 1.27 WTE per 10 Stroke Rehabilitation beds.
- One Specialist Gerontology unit reported 0.34 WTE HSCPs per 10 beds, while another unit reported 5.81 WTE. Recommended HSCPs staffing levels within the Specialist Geriatric Services MOC 2012, for 10 beds is 5.5 WTE.

**There is limited access to certain disciplines in non-tertiary units (see Table 24 and Table 25).**

- Within 75% of non-tertiary units Psychology was not a core member of the MDT.
- Within 51% of units Pharmacy was not a core member of the MDT.
- Excluding PT and OT, the majority of units had limited access to HSCP and Pharmacy services.
- Only PT was available over the weekend, and this was only in 2% of units.
- Time spent receiving HSCP delivered therapy was not included in the survey, however limited access to certain disciplines may indicate a challenge in providing intensive therapy that provides intervention to all relevant domains of functioning.

### Rehabilitation Staffing Ratios and Team Composition: Recommendations

To address the current and anticipated shortage of Health Care Professionals across healthcare services, future workforce planning is required to ensure that rehabilitation services can be developed and expanded to meet projected increased rehabilitation requirements.

Specialised rehabilitation in post-acute setting should be provided by a MDT, with relevant knowledge and expertise, which is associated with improved quality of care and shorter lengths of stay in hospital (21).

Staffing ratios and team composition should be sufficient to meet the complexity of care needs of patients who meet the eligibility criteria for post-acute inpatient rehabilitation. There should be adequate intensity and frequency of therapy services to meet the patients care needs (9, 11, 21).

Staffing ratios and team composition should be sufficient to meet the complexity of care needs of patients who meet the eligibility criteria for post-acute inpatient rehabilitation. There should be adequate intensity and frequency of therapy services to meet the patients care needs (9, 11, 21).

## 3.4. Rehabilitation Workforce Grade Mix and Skill Mix

A skilled workforce, who have undertaken appropriate training and education, and are able to use a range of evidenced based interventions and skills, is key to the provision of rehabilitation services (18). This aligns with HSE and Sláintecare objectives which aim to enable professions to practice to the top of their professional license. While this is to be achieved in a number of ways, one of the opportunities will be the development of specialist and advanced practice posts for health and social care professions and the continued development of advanced practice posts for nursing. Clinical Nurse Specialists (CNS) and Advanced Nurse Practitioners (ANP) are trained to provide advanced, evidence-based care, and they possess specialised knowledge in managing complex medical conditions and promoting patient well-being. ANP is a defined career pathway for registered nurses to practice at a higher level of capability as independent autonomous and expert practitioners (40). While Advanced Practice HSCP is not yet an established grade, work is currently being undertaken to support the establishment of this grade. The HSCP Advanced Practice Framework was published in 2023 by the National HSCP Office, which outlines the potential positive impact of the establishment of this grade for HSCP lead services including rehabilitation services (41).

In addition to the development of advanced practice grades there needs to be development of HCA grades. The WHO recommends "using innovative workforce modelling to more efficiently and effectively distribute rehabilitation competencies among the workforce in accordance with population needs" and this includes use of rehabilitation assistants (1).

This section of the report presents key findings in relation to the grade and skill mix of rehabilitation teams. The results in this section are based on staffing across tertiary and non-tertiary rehabilitation units.

### 3.4.1 Medical Workforce

Consultants in Geriatric Medicine, Rehabilitation Medicine, Neurology and Ortho-Gerontology and Orthopaedic Surgeons are working in rehabilitation units, and account for 23% of the medical staffing levels. 26% of all units reported no dedicated consultant hours within their unit, and 39% of Mixed Rehabilitation units reported no dedicated consultant hours. GPs and Senior Area Medical Officers provide intervention within rehabilitation units, accounting for 6% of the medical staff working within rehabilitation units.

Geriatricians account for 53% of all reported consultants. Geriatricians are the predominant specialism for both Mixed Rehabilitation units and Specialist Gerontology units. The national tertiary centre is entirely staffed by consultants specialising in Rehabilitation Medicine. Neuro-Rehabilitation units, excluding the national tertiary centre, have a range of consultant specialties including Rehabilitation Medicine, Neurology and Geriatric Medicine. Trauma and Orthopaedics units again have a mix of consultant specialties including Geriatric Medicine, Ortho-geriatricians and Orthopaedic Surgeons.

The rehabilitation units were asked if they were an approved site for Basic Specialist Training, Higher Specialist Training or GP Training; the findings are presented below in Table 27.

***Table 27:*** *Percentage of units which are an approved site for Medical Training*

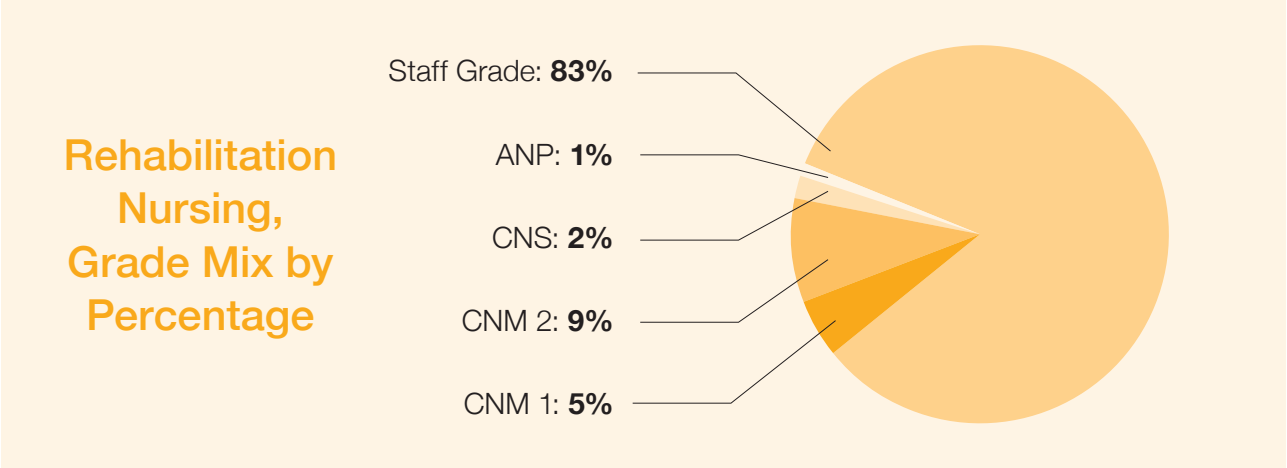
| Approved Site for Medical Training | Yes | No |
|---|---|---|
| **Basic Specialist Training** | 42% | 58% |
| **Higher Specialist Training** | 37% | 63% |
| **Both Basic Specialist Training and Higher Specialist Training** | 30% | - |
| **GP** | 32% | 68% |
| **Basic Specialist Training, Higher Specialist Training and GP** | 18% | - |

### 3.4.2. Nursing and Health Care Assistants

The majority (83%) of nurses working in post-rehabilitation units are staff-grade nurses, as depicted in Figure 5. Dedicated CNS and ANPs in rehabilitation can provide advanced nursing care, but these posts are not common within the post-acute rehabilitation units surveyed. Currently, only 2% of the post-acute inpatient rehabilitation nursing workforce were reported to be employed at a CNS grade, working across Amputee, Respiratory, Ortho-Geriatric, Mixed Rehabilitation and Brain Injury rehabilitation units. Only 1% of the nursing workforce was reported to be employed at an ANP grade. In addition to working in the above types of units, ANPs also work in Specialist Gerontology, Spinal Cord Injury and Stroke Rehabilitation units.

On average there are: one HCA per 1.6 Nurses (all grades included) and one HCA per 1.3 staff grade nurse across rehabilitation units.

***Figure 5:*** *Rehabilitation Nursing, Grade Mix*




### 3.4.3 Health & Social Care Professions

The majority of HSCPs in post-acute inpatient rehabilitation units are employed at senior grade, as depicted in Table 28.

***Table 28:*** *HSCP Grade Mix in Post-Acute Inpatient Rehabilitation Units*

| HSCP | Staff Grade % | Senior % | Clinical Specialist % | Principal % |
|---|---|---|---|---|
| **Clinical Psychology** | 17.79% | 62.83% | - | 19.38% |
| **Dietitians** | 25.48% | 68.47% | 6.05% | - |
| **Occupational Therapy** | 42.47% | 51.38% | 6.15% | - |
| **Physiotherapy** | 39.99% | 55.90% | 4.11% | - |
| **Speech and Language Therapy** | 35.68% | 58.56% | 5.75% | - |

| Social Work Grades % | | | | | |
|---|---|---|---|---|---|
| Social Worker | Medical Social Worker | Senior Social Work Practitioner | Senior Medial Social Worker | Team Leader Social Work | Principal Social Worker |
| 5.8% | 28.07% | 10.29% | 43.96% | 2.17% | 9.71% |

Clinical Specialist HSCP grades are relatively well established within certain types of rehabilitation units, e.g. Neuro-Rehabilitation units (see Table 29). Clinical specialist posts are not as common within Mixed Rehabilitation and Specialist Gerontology services, although these types of beds account for 70% of all post-acute rehabilitation beds.

***Table 29:*** *Percentage of Clinical Specialist HSCPs as part of Total HSCP Staffing*

| Rehabilitation Unit | Percentage of Clinical Specialist HSCPs working within Rehabilitation Units (PT, OT, Dietitians, SLT only included in analysis) |
|---|---|
| **Mixed Rehabilitation** | 2.69% |
| **Specialist Gerontology** | 4.16% |
| **Stroke** | 3.53% |
| **Neuro-Rehabilitation** | 9.83% |
| **Orthopaedics and Trauma** | 7.18% |

Table 30 presents the findings in relation to HSCP assistant staffing in post-acute inpatient rehabilitation units. HSCP assistant posts are more established within some HSCP professions. A significant number of rehabilitation units have no access to HSCP assistants. The majority (57%) of HSCP assistants are working within Mixed Rehabilitation and Specialist Gerontology units.

***Table 30:*** *HSCP Assistant Staffing Ratios in Post-Acute Rehabilitation Units*

| | Ratio of HSCP Assistant: HSCP | % of units with no assistant |
|---|---|---|
| **PT Assistant (PTA)** | 1 PTA: 3.5 PT | 23% |
| **OT Assistant (OTA)** | 1 OTA: 3.9 OT | 35% |
| **SLT Assistant (SLTA)** | 1 SLTA: 9.5 SLT | 79% |
| **Dietitian Assistant** | 1 Dietitian Ass: 17.8 Dietitian | 98% |

### 3.4.4 Pharmacy

Access to Pharmacy was limited; 51% of units do not have a pharmacist as part of their team. On average there are 0.02 Pharmacists per post-acute rehabilitation bed. There is a ratio of 2.1 Pharmacists: 1 Pharmacy Technician.

## Summary of Key Findings: Rehabilitation Workforce Grade Mix and Skill Mix

Consultants account for 23% of medical staffing levels.

Only 2% of the nurse workforce working in post-acute rehabilitation units are employed at a clinical nurse specialist level, and 1% are employed at an advanced nurse practice level.

For HSCPS, the average percentage of clinical specialists ranged from 4.1% of PTs to 6.1% of dietitians.

There is scope for the development of HSCP assistant roles to support service provision, as reflected by the finding that 35% of services have no OT assistants and 79% of services have no SLT assistants.

## Recommendations: Rehabilitation Workforce Grade Mix and Skill Mix:

Grade and Skill mix should reflect the clinical diagnosis, care needs and the acuity of the patient's needs. The multi-disciplinary team delivering post-acute inpatient rehabilitation should have relevant knowledge and expertise, as this is associated with improved quality of care and reduced length of stay (21, 42, 43).

The rehabilitation team should consist of a range of grade and skill mix, from all relevant disciplines and be led by a senior clinical rehabilitation professional with expertise in the specialty (21).

The development of HSCP assistant roles would allow HSCPs to prioritise the provision of more specialist therapy input into patient care.

Rehabilitation guidelines containing staffing recommendations should consider the grade and skill mix required to meet the needs of the clinical cohort. This should include the development and expansion of advanced practice nursing and HSCP roles within rehabilitation units, in addition to the development of HSCP assistant roles (40, 41)

## 3.5 Interdisciplinary Team Working and Clinical Governance

Clinical Governance and interdisciplinary team working are core requirements for the provision of integrated rehabilitation services (18, 21, 44).

Clinical governance is a framework through which healthcare teams are accountable for the quality, safety and satisfaction of patients in the care they deliver. HSE Principles of Clinical Governance include patient first, defined authority, clear accountability, leadership, inter-disciplinary team (IDT) working, supporting performance, continuous quality improvement among other principles (44).

Interdisciplinary team working involves the team working in a coordinated manner, and meeting regularly to ensure shared discussion and the provision of coordinated care, to achieve an agreed set of patient centred goals (11, 21). Competencies associated with interprofessional collaboration within interdisciplinary teams include knowledge of the team, communication and shared decision making (45). Developing a strong interdisciplinary rehabilitation workforce is key to the provision of integrated rehabilitation services.

## Key Findings

82% of all units receive their clinical governance from a consultant, with the other units receiving their clinical governance from a GP. 11% of units reporting consultant governance have no dedicated consultant WTE with descriptions of consultant input including: "consultant review on referral" or "visiting consultant from acute hospital".

81% of teams identify as a multidisciplinary team.

Within the national tertiary service all rehabilitation teams identify as interdisciplinary.

The MDT and patients are involved in shared goal setting in most units.

Team meetings, consultant-led ward rounds and shared goal setting occur regularly within the majority of rehabilitation units (see Table 31).

Patients and those who are important to them are routinely involved in team meetings in relation to their care (Table 32).

*Table 31: Team Processes Supporting Person-Centred Integrated Care*

| | | | |
|---|---|---|---|
| **MDT Meeting held weekly or more often** | Occurs in 90% of units | Remaining 10%; MDT meeting on case dependent basis or less than once weekly. | |
| **MDT meeting attended by a medical professional** | Occurs routinely in 81% units | - | - |
| **Consultant-led ward rounds** | Occurs in 79% of units | - | - |
| | **Routinely** | **Case by Case Basis** | **Does not occur/ No** |
| **Goals agreed by MDT** | 91% | 7% | 2% |
| **Goals agreed with the patient** | 85% | 12% | 3% |
| Qualitative data identified that the Goal Attainment Scale (GAS) was used as a PROM by 9% of units. | | | |

*Table 32: Patient-Centred Care Planning*

| **Processes supporting Person-Centred Care Planning** | **How often this happens.** | | | |
|---|---|---|---|---|
| | Routinely | Case by Case Basis | Does not occur/ No | Infrequently |
| **Do Patients attend team meetings regarding their care?** | 38% | 53% | 7% | 2% |
| **Do those who are important to the patient attend meetings about their care?** | 53% | 41% | 3% | 3% |
| **Are patient reported experience measures (PREMs) completed?** | 56% | 4% | 40% | - |

## Recommendations: Interdisciplinary Team Working and Clinical Governance

There will be clear accountability, leadership and authority within the team to support clinical decision making, care provision and clinical governance.

The MDT will provide coordinated assessments and rehabilitation for those with complex requirements (23, 30).

Structures and processes within rehabilitation units should facilitate integrated working.

Rehabilitation care planning should be informed by identifying the patient's goals, and what matters most to the patient (18).

# 4 Egress from Post-Acute Inpatient Rehabilitation

## 4.1 Length of Stay

While length of stay (LOS) will reflect the patient's experience of rehabilitation, it is also connected to effective rehabilitation egress pathways and timely access to care, supports and equipment. From an acute hospital perspective, LOS in post-acute rehabilitation units, as well as the capacity and capability of these units, impacts on acute beds occupancy delayed transfer of care (DTOC). DTOC from post-acute inpatient rehabilitation is discussed below in Section 4.4

The national tertiary centre reported an average LOS of 90 days across their 4 rehabilitation units in 2021.

LOS was only reported by 68% of non-tertiary rehabilitation unit; 28% could only provide an estimated LOS in weeks or months. Of the non-tertiary units who did provide specific data on LOS in days, the mean LOS in 2021 was 35.4 days. A breakdown by rehabilitation category (excluding the national tertiary centre) found the following mean LOS:

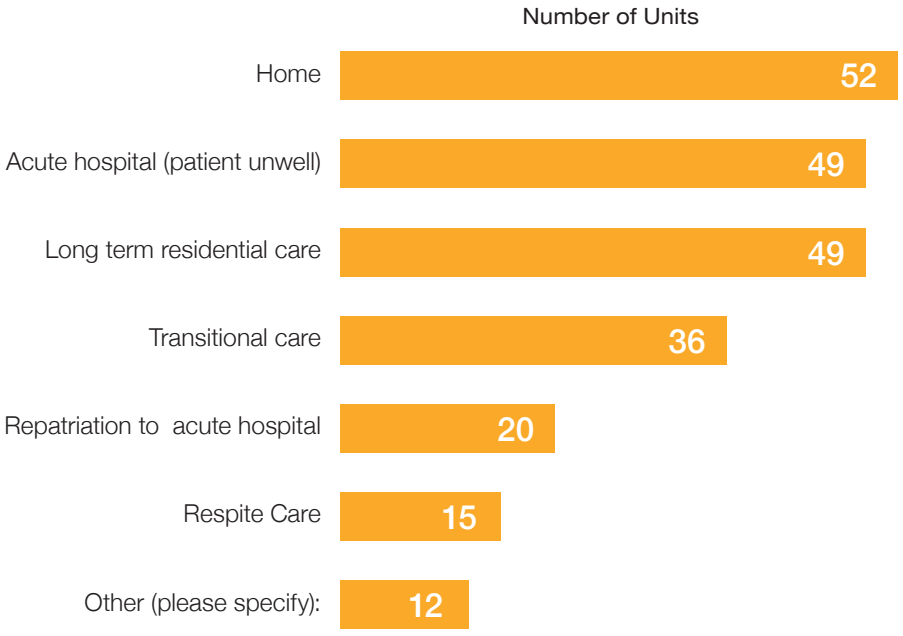
- 23 days (about 3 and a half weeks) for Trauma and Orthopaedic
- 29 days (about 4 weeks) for Specialist Gerontology
- 84 days (about 3 months) for Neuro-Rehabilitation

## 4.2 Discharge Destinations after Post-Acute Inpatient Rehabilitation

A home discharge is highly meaningful to patients and demonstrates the effectiveness of rehabilitation. Of the 57 units surveyed, 98% reported that discharge destination is recorded. However, only 17% identified discharge destination as a key performance indicator (KPI).

Units were asked to select which destinations their patients are most commonly discharged to (Figure 6). These responses represent qualitative data. Aside from discharge to home, return to an acute hospital and long-term residential care, other discharge destinations identified by units include hospice care, homeless services, independent living facilities, and the national tertiary centre.

***Figure 6:*** *Common Discharge Destinations Identified by Rehabilitation Units*



## 4.3 Egress Pathways from Post-Acute Inpatient Rehabilitation

Integrated care is a healthcare approach focused on the patient perspective, which aims to promote better coordination and continuity of care across organisational boundaries (46). To enable these successful transitions for patients, there needs to be integrated care planning and close networking links between primary, secondary and community services, and other relevant agencies e.g. voluntary agencies, with adequate capacity at all levels. Discharge planning should commence as soon as possible and be communicated with patients, families and carers (47).

In the survey, units were asked to identify the services and pathways that they refer patients to, for follow-up on completion of post-acute inpatient rehabilitation. This data was analysed by rehabilitation category and comparing findings between units highlighted key referral trends to community-based services;

Table 33 shows the demand for specific pathways by certain patient populations. The highest demand for services were for GP, Public Health Nurses and HSCPs.

- Orthopaedic and Trauma and Neuro-Rehabilitation units more commonly refer patients to outpatient departments and Day Hospital services.
- Patients are less frequently referred to pathways that provide specialist services (e.g. Community Neuro-Rehabilitation Team). Although these specialist pathways provide services to a smaller patient population, they provide important services to people with complex rehabilitation needs.

***Table 33:*** *Egress Pathways of Care from Post-Acute Inpatient Rehabilitation to Community Services*

| | Rehabilitation Category | | | |
|---|---|---|---|---|
| **Egress Pathway** | All Units | Mixed Rehabilitation & Specialist Gerontology | All Neuro-Rehabilitation incl. National Tertiary Centre | Orthopaedic and Trauma |
| **General Practitioner** | 91% | 84.5 % | 100 % | 100 % |
| **Public Health Nurse** | 96.5% | 97.5 % | 100 % | 100 % |
| **Primary Care HSCPs** | 84% | 80 % | 94 % | 100 % |
| **Outpatient Departments** | 61% | 57.5% | 69 % | 80 % |
| **Day Hospital** | 54% | 50 % | 75 % | 80 % |
| **Voluntary Provider** | 38.6% | 25 % | 62.5% | 40 % |
| **Voluntary Rehab Provider (ABII)** | 31.5% | 25 % | 50 % | 20 % |
| **Chronic Disease** | 26% | 20 % | 31 % | 40 % |
| **Disability Manager** | 24.5% | 20 % | 37.5% | 20 % |
| **Community Neuro-Rehabilitation Team** | 21% | - | 50 % | - |
| **Early Supported Discharge** | 21% | 22.5% | 25 % | 60% |

Social workers play a central role in supporting the management of complex discharges. The survey found that 34% of units did not have access to a social worker. Barriers to supporting patients egress from post-acute inpatient rehabilitation is reflected in the qualitative finding that 54% of units identified “challenges with meeting patient / family expectations”.

## 4.4 Delayed Transfer of Care from Post-Acute Inpatient Rehabilitation

An Independent Expert Review of DTOC recommended the recording of DTOC data in non-acute settings (48), similar to the post-acute rehabilitation units included in this report. Currently, services under Community Operations are not required to report to the National DTOC database. Almost half of all units surveyed (49%) did not formally report into the HSE National DTOC database.

Quantitative data showed that 89% of units surveyed identified that patients in their unit experience DTOC out of post-acute inpatient rehabilitation. Despite this, only 10% of units were able to provide specific data on DTOC i.e. bed days lost to DTOC. Of these, the total number of days lost to DTOC from rehabilitation facilities in 2021, ranged from 35 days to 4,145 days.

### Recommendation: Egress from Post-Acute Inpatient Rehabilitation

Clear pathways must be established into and out of post-acute inpatient rehabilitation units to support both access and egress. A networked model with community-based rehabilitation teams or ambulatory rehabilitation programs will support patient flow and facilitate timely referral, admission and discharge processes (9, 21, 29).

The survey showed a high demand for HSCP services on discharge from post-acute inpatient rehabilitation. To meet this need, community-based healthcare services for all patient populations, including rehabilitation teams, should be factored into community service planning.

# 5 Rehabilitation Metrics

Health Information Systems are used to collect, standardise and manage data relevant to indicators of health status and health systems (27). These systems, used to collect data and metrics, are needed by policy makers to identify and respond to challenges with evidence-based solutions, and to allocate resources effectively; planners to design more effective services; managers to monitor and evaluate these services; and clinicians to provide high quality and evidence-based care (27). For rehabilitation, Health Information Systems have been described as the "most important step to accurately identify demographic information, improve clinical and functional outcomes, and provide the criteria for providing rehabilitation care services" (49).

To enhance rehabilitation services both process and clinical data metrics should be collected, as recommended by the WHO. (2). Examples of comprehensive inpatient rehabilitation Health Information Systems can be found in the United States (50), Australia (51), Canada (52), Sweden (53), and the UK (54, 55).

In Ireland, an objective for the model of health and social care delivery for each of the 6 Health Regions is to develop a performance accountability framework and the implementation of baseline KPIs (4). There is currently no national rehabilitation database or Health Information System in Ireland. As a result, any collected data is not available regionally or nationally, and consequently HSE policy makers have no information on rehabilitation process or clinical data. This presents a significant gap between what policymakers, health professionals and researchers know and what they need to know to improve the health of the population (56).

## 5.1. Process Metrics: Performance and Quality Data

The survey asked rehabilitation units if they perform routine data collection and if so, to provide details of what data is collected.

Although 65% of units reported routinely collecting data/KPIs, only half of all units were able to provide examples of KPIs as detailed in Appendix 2.D: Qualitative Information on Metrics: Clinical and Process Measures recorded by Rehabilitation Units. This finding demonstrates that routine data collection is not standard practice across post-acute inpatient rehabilitation units. Furthermore, data that is collected is not available at a regional or national level due to the absence of a national rehabilitation database. Examples of inconsistencies and variations around clinical and process data collection have been provided in this report, e.g. metrics such as waiting times and LOS.

Only 56% of units reported the routine use of patient experience/satisfaction outcome measures (PREM).

The majority of units (79%) reported having a formal reporting arrangement in place, whereby units submit process data. However, this was typically a local arrangement, with 11% of units reporting internally (i.e. within their own facility), 82% of these units reporting locally to their Hospital Group or CHO and 7% to DTOC/bed register/HIQA. The survey did not explore what data was submitted, i.e. whether data relating to rehabilitation delivery or effectiveness was reported.

All units were affiliated with a quality or safety regulator. Ninety percent of rehabilitation units were affiliated with both HIQA and National Standards for Safer Better Healthcare. Two healthcare facilities, who provide Neuro-Rehabilitation and Amputee Rehabilitation, are accredited with the Commission on Accreditation of Rehabilitation Facilities.

## 5.2. Clinical Metrics: Assessment of Rehabilitation Need and Functional Outcomes

Rehabilitation metrics have been identified as a priority in the UK with the UK ROC development. Since 2013, registration with UK ROC and reporting of the UK ROC data set is now mandated by NHS England for all specialist post-acute (Level 1 and 2) inpatient rehabilitation units (55). UK ROC supports routine case mix and outcome data monitoring to match patient needs with services and for benchmarking and quality monitoring.

The survey examined the use of validated assessment, intervention and outcome measures that can be applied to a broad population of post-acute inpatient rehabilitation patients. The two main clinical domains analysed were assessment of rehabilitation need and functional outcomes.

### 5.2.1. Assessment of Rehabilitation Need

UK ROC identified the importance of defining patients' rehabilitation needs to match services to the individual's needs. Diagnosis alone is known to be a poor determinant of rehabilitation needs. Instead, patients may be more usefully described by their levels of impairment or disability or the complexity of their needs for rehabilitation (18). Access to rehabilitation should be based on rehabilitation needs rather than diagnosis e.g. 'patients with complex neurological needs', rather than 'head injury' (21). The aim for the model of health and social care delivery for each of the six Health Regions is to develop a framework for health needs assessments (4). Data identified through assessment of rehabilitation need will support the following (18):

- Monitoring the patient's recovery
- Matching the patients' needs with the available service
- Management of case mix within a unit
- Benchmarking

A number of tools and processes are available to assess a patient's needs, and develop a coordinated rehabilitation plan to meet those needs:

- The RCS-E is a clinical tool for measuring resource requirements for rehabilitation in terms of nursing, therapy and medical care. It is appropriate for use with all patient populations and demonstrates the complexity of patient needs.
- The CGA is fundamental to the assessment, planning and intervention required to meet the health and social care needs of an individual, aged over 65 years of age, that is at risk of or living with frailty.
- The Rehabilitation Prescription (RP) is a standardised evidence-informed process for assessing patients' rehabilitation needs. The RP generates a holistic, multidisciplinary rehabilitation prescription, tailored to a person's specific needs, that is designed to be used for all patient populations, throughout their pathway of care.

Table 34 shows that 63% of all units use a validated tool to routinely complete an assessment of rehabilitation need. The most widely used measures of need are the CGA and the RCS-E, with 61% of units reporting routine use of one of these two measures.

***Table 34:*** *Use of Validated Assessment & Intervention Processes*

| Clinical metrics (ICF) - Validated Assessment & Intervention Processes | | | |
|---|---|---|---|
| **Assessment of Rehabilitation Need** | **Routinely** | **Occasionally** | **Never** |
| Comprehensive Geriatric Assessment (CGA) | 45.6% | 15.8% | 38.6% |
| InterRAI | 10.5% | 8.7% | 79% |
| Rehabilitation Complexity Scale – Extended (RCS-E) | 31.6% | 5% | 63% |
| Rehabilitation Needs Assessment (RNA)* | 36.8% | 10.5% | 52.7% |
| CGA **or** InterRAI | 50% | - | - |
| CGA **or** RCS-E | 61% | - | - |
| CGA **or** InterRAI **or** RCS-E | 63% | - | - |

* The Rehabilitation Needs Assessment (RNA) which since 2024 is referred to as the Rehabilitation Prescription, is an approved assessment and planning document that has only been implemented in 8.8% of units. It is believed that some respondents interpreted this question as 'an assessment of (rehabilitation) need' rather than the use of this specific tool, i.e. the 'RNA'

## 5.2.2. Functional Outcomes

Information on functioning is essential for strengthening rehabilitation in the health system (27). 'Functioning' as defined by the WHO ICF, refers to the impact of health conditions (injuries, diseases, aging) on a person's experience in every aspect of their lives.

**Findings**

- 98% of units use at least one functional outcome measure (Table 35).
- The most common domain assessed is mobility, followed by cognition and then communication.
- The Functional Independence Measure and Functional Assessment Measurement (FIM+FAM) which derives a score by consensus of the multi-disciplinary team, is used with less than half of rehabilitation units. The FIM+FAM is a global measure of disability that provides a broad measure of overall functioning and is a reporting requirement by UK ROC and the Australasian Rehabilitation Outcomes Centre.
- The options of 'Frailty' and 'Functional' included in the survey provided generic descriptions of outcomes measures, both of which had high response rates of 72% and 91% respectively.
- Almost 60% of units use a quality-of-life measure, i.e. Patient Reported Outcome Measures (PROM).

***Table 35:*** *Functional Outcome Measures*

| Clinical metrics (ICF) – Functional Outcome Measures | | | |
|---|---|---|---|
| **Functional Outcome Measure** | **Routinely** | **Occasionally** | **Never** |
| FIM+FAM | 40% | 10.5% | 49% |
| Functional | 91% | - | 9% |
| Frailty | 72% | 10% | 17% |
| Mobility Measure | 93% | - | 7% |
| Cognition | 87.7% | 5% | 7% |
| Communication | 77% | 7% | 12% |
| Any functional outcome measure | 98% | - | - |
| Quality of Life Measure | 59.6% | 21% | 22.8% |

## Recommendations: Rehabilitation Metrics

There is a requirement for a national rehabilitation database to ensure a robust system of measurement and monitoring to support quality improvement and benchmarking (18, 56).

Core rehabilitation metrics should be defined and standardised, so that they are consistent and comparable to enable national, regional and local data interpretation and comparison.

The following core rehabilitation metrics should be completed by all rehabilitation units; waiting time from referral to admission, length of stay, DTOC from post-acute rehabilitation, discharge destination and functional, quality of life and participation outcomes (28, 55).

Condition-specific assessment, care planning and outcomes should be considered for some patients based on their injuries / illness (e.g. measures specific to stroke). The routine use of these measures, in addition to identifying the effectiveness of interventions, can also be used to enable benchmarking against national and international datasets.

Patients and those important to them should be actively involved in care planning and goal setting. Patient reported experience measures that are meaningful to people should be routinely recorded by all post-acute inpatient rehabilitation units (57).

All post-acute inpatient rehabilitation services should participate in the collection of these core rehabilitation metrics regardless of funding structure.

The future vision for a national rehabilitation database will include connecting datasets by linking the rehabilitation database with other databases e.g. TARN, IHFD, and Irish National Stroke Audit etc. Integrating health system information will enable patient rehabilitation data to be tracked from acute, to post-acute and ultimately community settings to derive meaningful long-term rehabilitation outcomes.

Implementation of the Individual Health Identifier (IHI) will be an essential requirement to enable the collection of long-term patient outcomes and to support data linkage.

Until a national rehabilitation database is established, all rehabilitation units should collect and record process and clinical data using a system that can be managed locally.

# 6 Collated Recommendations from Post-Acute Inpatient Rehabilitation Mapping Project: A National Overview of HSE Funded Services.

| | |
|---|---|
| | **Availability & Access** |
| 1 | Access to rehabilitation must support population needs and should be available to all those who require it, based on need and irrespective of age, condition or home address. |
| 2 | Additional designated rehabilitation beds are required to meet population needs. Based on available recommended bed ratios, an additional 175 non-tertiary Neuro-Rehabilitation beds, plus an additional 1,981 gerontology beds* are required.<br><br>*Calculation is based on beds specifically identified as Specialist Gerontology, does not include Mixed Rehabilitation beds for those aged over age 65. |
| 3 | The total national requirements for post-acute inpatient rehabilitation across all patient cohorts must be established with collaboration from key stakeholders. The projected need over the next number of years, must be determined to plan and deliver post-acute rehabilitation bed capacity.<br>Capacity planning needs to consider bed requirements for patients following trauma, stroke, amputation etc., and those appropriate for Mixed Rehabilitation services. |
| 4 | If a patient's rehabilitation needs cannot be met within the patients' home address, alternative pathways should be facilitated to ensure equity of access to rehabilitation. For example, patients should be supported to gain access to an out-of-region unit, as appropriate, ensuring that the patients' needs can be met in an alternative setting. |
| 5 | The spread of rehabilitation beds per Health Region and population should be addressed in planning rehabilitation services as a means of ensuring equity of access. This should initially prioritise regions experiencing the lowest rehabilitation resources per head of population (4). |
| 6 | Economies of scale need to be considered in developing rehabilitation units regionally, to ensure the delivery of effective rehabilitation. |
| 7 | In line with the Health Regions implementation Plan (4) all rehabilitation services, including HSE funded private providers of rehabilitation services for patients with complex needs, should be subject to service evaluation by the HSE. |
| 8 | Health Regions should identify and evaluate rehabilitation beds co-located with non-rehabilitation short-stay beds such as transitional care beds and determine their effectiveness in delivering rehabilitation. |
| | **Recommendations on Admission Processes** |
| 9 | All rehabilitation units must have a clearly documented scope of service that describes the nature of the services provided, patients who will access the services, principles, values or local /national guidance that underpin the services, information about partnerships working in the area etc.<br><br>• The scope should be used to match patient needs with available services.<br>• The scope should be available to all relevant stakeholders including HCPs across Health Regions. |
| 10 | Protocols for admission should be documented and entail a standardised process that is applied consistently and not subject to change based on a determination by an individual healthcare professional. |
| 11 | A clearly identified SPOC should be available in all units. This individual(s) should have a central role in coordinating services within a rehabilitation region or network. Contact details of the SPOC should be made available to stakeholders involved in the referral process. |

| | |
|---|---|
| 12 | Referrals to units should be accepted from all relevant healthcare professionals once the referral meets the service inclusion criteria. |
| 13 | A standardised approach for communicating patients' rehabilitation needs and ongoing management plan is recommended by applying the Rehabilitation Prescription or CGA (for those aged over 65 years) of age. This information will ensure that the receiving rehabilitation unit can match the patients' needs with the rehabilitation unit's capacity and capability and prepare for their transfer. RPs and CGA should be updated and shared with the service accepting the patient, that is, from the acute hospital to post-acute inpatient rehabilitation and again from in-patient rehabilitation to the next receiving service be it ambulatory or community-based rehabilitation services etc. |
| 14 | Access to post-acute inpatient rehabilitation services for those living in the community, as well as those transferring from acute hospitals, must be addressed in the development of all referral pathways. |
| 15 | Service Level Agreements should be reviewed and optimised to support the patient's transition of care and equity of access. |
| **Workforce** | |
| **Recommendations on Staffing Ratios and Team Composition** | |
| 16 | To address the current and anticipated shortage of Health Care Professionals across healthcare services, future workforce planning is required to ensure that rehabilitation services can be developed and expanded to meet projected increased rehabilitation requirements. |
| 17 | Specialised rehabilitation in post-acute setting should be provided by a MDT, with relevant knowledge and expertise, which is associated with improved quality of care and shorter lengths of stay in hospital (21, 42, 43). |
| 18 | Staffing ratios and team composition should be sufficient to meet the complexity of care needs of patients who meet the eligibility criteria for post-acute inpatient rehabilitation. There should be adequate intensity and frequency of therapy services to meet the patients care needs (9, 11, 21). |
| **Recommendations on rehabilitation Workforce Grade Mix and Skill Mix** | |
| 19 | Skill and grade mix should reflect the clinical diagnosis, care needs and the acuity of the patient's needs. The multi-disciplinary team delivering post-acute inpatient rehabilitation should have relevant knowledge and expertise, as this is associated with improved quality of care and reduced length of stay (21, 42, 43). |
| 20 | The rehabilitation team should consist of a range of grade and skill mix, from all relevant disciplines and be led by a senior clinical rehabilitation professional with expertise in the specialty (21). |
| 21 | The development of HSCP assistant roles would allow HSCPs to prioritise the provision of more specialist therapy input into patient care. |
| 22 | Rehabilitation guidelines containing staffing recommendations should consider the grade and skill mix required to meet the needs of the clinical cohort. This will include the development and expansion of advanced practice nursing and HSCP roles within rehabilitation units, in addition to the development of rehabilitation assistant roles (40, 41) |
| **Interdisciplinary Team Working and Clinical Governance** | |
| 23 | There will be clear accountability, leadership and authority within the team to support clinical decision making, care provision and clinical governance. |
| 24 | The MDT will provide coordinated assessments and rehabilitation for those with complex requirements (23, 30) |
| 25 | Structures and processes within rehabilitation units should facilitate integrated working. |
| 26 | Rehabilitation care planning should be informed by identifying the patient's goals, and what matters most to the patient (18). |

| | |
|---|---|
| **Egress from Post-Acute Inpatient Rehabilitation** | |
| 27 | Clear pathways must be established into and out of post-acute inpatient rehabilitation units to support both access and egress. A networked model with community-based rehabilitation teams or ambulatory rehabilitation programs will support patient flow and facilitate timely referral, admission and discharge processes (9, 21, 29). |
| 28 | The survey showed a high demand for HSCP services on discharge from post-acute inpatient rehabilitation. To meet this need, community-based healthcare services for all patient populations, including rehabilitation teams, should be factored into community service planning. |
| **Service Specification** | |
| **Strategic Planning of National and Regional Rehabilitation Services** | |
| 29 | Health Region organisational change must support the aim for enhancing operational and clinical governance to support the delivery of integrated post-acute rehabilitation. This requires a shift in planning health and social care rehabilitation services – one that includes voluntary organisations, GPs and other health and social care professionals not employed directly by the HSE and should facilitate cross sectoral working at regional and national level (4). |
| 30 | Rehabilitation is an essential service within healthcare that requires a defined governance framework and the department responsible for rehabilitation having its own internal governance structure. Joint executive leadership and system agreements, including clinical and corporate governance across health and social care partner organisations is recommended to ensure shared decision and governance arrangements (2, 4). |
| 31 | To enable the delivery of standardised, high quality rehabilitation services, there should be a rehabilitation director at executive level as well as specialised rehabilitation committees at a national and local level to oversee rehabilitation service delivery (2, 18, 29). |
| 32 | A national rehabilitation steering group must be established to strategically build integrated rehabilitation services and achieve equitable access to quality services for all patient populations, including those with multiple and complex rehabilitation needs (2, 18, 29). This group should have broad and inclusive membership from all rehabilitation stakeholders including those with lived experience. |
| 33 | The development of rehabilitation services in delivering high-quality, integrated care pathways must involve patients, those important to them and carers in order to make our services safer and better (4). |
| **Components of Service Specification** | |
| 34 | Post-acute rehabilitation service specifications will be developed nationally for the commissioning, delivery and monitoring of post-acute rehabilitation in line with international best practice (2, 11, 30). Admitting units should have the capability to meet patients' rehabilitation needs, that is, the scope of the service should meet the patients' needs based on specialism and level of clinical need (complexity). The service specification will detail the rehabilitation services, workforce, casemix and facilities required, with the service configuration designed to address population needs including those with the highest complexity (8). Rehabilitation service specifications should clearly describe clinical governance requirements (9, 21). |
| 35 | Rehabilitation standards for post-acute inpatient rehabilitation services must be developed to inform the design of service specifications that outlines minimal requirements for rehabilitation that is standardised at a national level. |
| 36 | Each Health Region must have regional specialist post-acute inpatient services that have the capability to manage patients with more complex rehabilitation and care needs. |
| 37 | Each Health Region should review existing rehabilitation services capacity and capability and identify gaps in service provision benchmarking against the service specification. A national mechanism must be developed to monitor units against service specifications. |

| | |
|---|---|
| 38 | Nationally, rehabilitation services should be subject to a formal designation process, with defined levels of care and specialism. This will ensure that rehabilitation services, workforce and facilities are commensurate with a person's rehabilitation needs (9, 18, 35). |
| 39 | Individual rehabilitation needs should be assessed using standardised, validated assessment tools to determine which patients require specialist rehabilitation services. Early and ongoing needs assessment is required to support timely rehabilitation access and seamless transitions of care. |
| 40 | Specialist units will have access to specialist interventions, equipment and rehabilitation environment appropriate to their caseload. |
| | **Rehabilitation Metrics** |
| 41 | There is a requirement for a national rehabilitation database to support quality improvement and benchmarking (18, 56). |
| 42 | Core rehabilitation metrics should be defined and standardised, so that they are consistent and comparable to enable national, regional and local data interpretation and comparison. |
| 43 | The following core rehabilitation metrics are to be completed by all rehabilitation units; waiting time from referral to admission, length of stay, DTOC from post-acute rehabilitation, discharge destination and functional, quality of life and participation outcomes (28, 55). |
| 44 | Condition-specific assessment, care planning and outcomes should be considered for some patients based on their injuries / illness (e.g. measures specific to stroke). This will support measurement of change at a patient level, between patients, and benchmarking against larger datasets using measures applied internationally. |
| 45 | Patients and those important to them should be actively involved in care planning and goal setting. Patient reported experience measures that are meaningful to people should be routinely recorded by all post-acute inpatient rehabilitation units (57) |
| 46 | All post-acute inpatient rehabilitation services should participate in the collection of these core rehabilitation metrics regardless of funding structure. |
| 47 | The future vision for a national rehabilitation database will include connecting datasets by linking the rehabilitation database with other databases e.g. TARN, IHFD, and Irish National Stroke Audit etc. Integrating health system information will enable patient rehabilitation data to be tracked from acute, to post-acute and ultimately community settings to derive meaningful long-term rehabilitation outcomes. |
| 48 | Implementation of the Individual Health Identifier (IHI) will be an essential requirement to enable the collection of long-term patient outcomes and to support data linkage. |
| 49 | Until a national rehabilitation database is established, all rehabilitation units should collect and record process and clinical data using a system that can be managed locally. |

# Appendices


Appendix 1: Rehabilitation Workforce (Supplementary Data) 76

Appendix 2: Additional Survey Findings 80

Appendix 3: Post-Acute Inpatient Rehabilitation Mapping Project Survey 89


**Interactive Document**
Click the section you want to read

# Appendices

## Appendix 1: Rehabilitation Workforce

### Average Staffing levels per Clinical Condition in comparison to National Guidelines

### Specialist Gerontology and Mixed Rehabilitation Beds

The different categories of rehabilitation beds have been compared against relevant clinical guidelines. 72% of Mixed Rehabilitation beds have 65 years of age as an eligibility criterion. As there are no staffing guidelines for Mixed Rehabilitation beds, the average staffing levels for Mixed Rehabilitation beds were compared against the Specialist Geriatric Services Model of Care recommended staffing levels.

Specialist Gerontology beds had less than half the recommended HSCP staffing levels for most disciplines.

***Table 36:*** *Comparison of Survey findings against Recommended Specialist Geriatric Model of Care 2012 staffing levels*

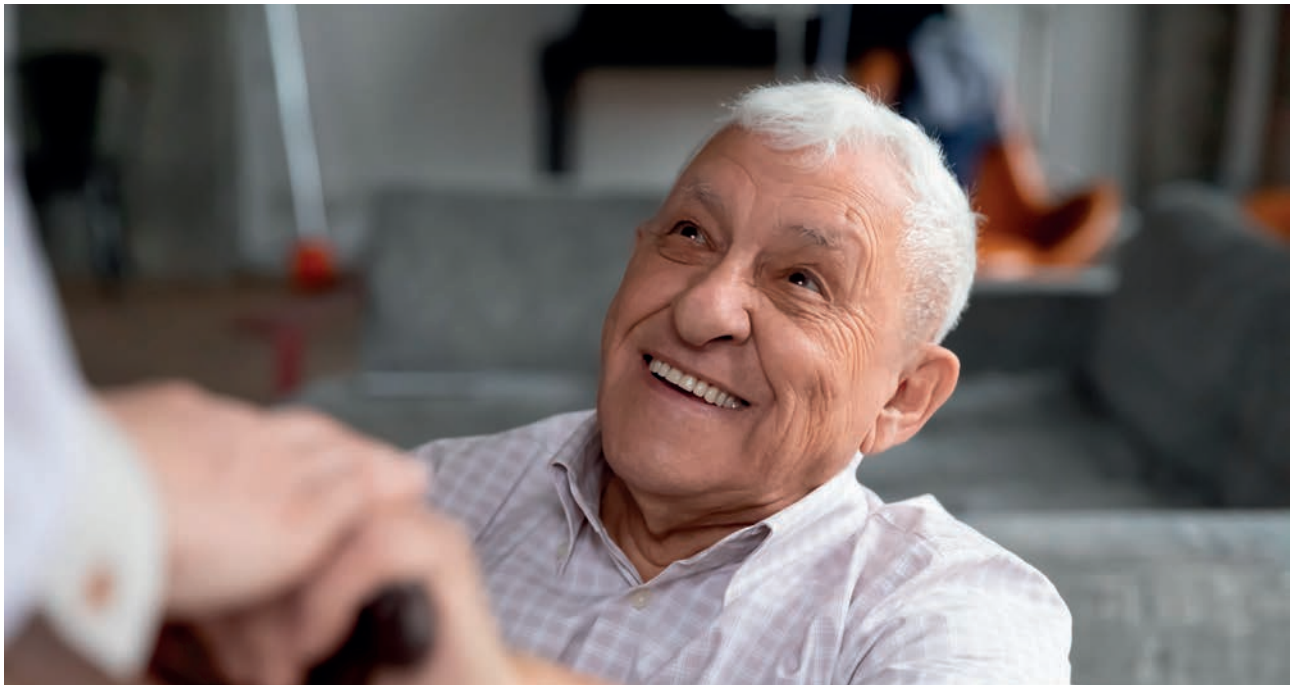
| | Specialist Geriatric Model of Care Staffing Recommendations per 20 beds: | Actual Specialist Gerontology Rehabilitation WTE: 20 beds | Actual Mixed Rehabilitation WTE: 20 beds: |
|---|---|---|---|
| **Physiotherapy** | 4 WTE | 2.08 | 2.24 |
| **Occupational Therapy** | 4 WTE | 1.71 | 2.31 |
| **Speech & Language Therapy** | 2 WTE | 0.58 | 0.81 |
| **Dietitian** | 1 WTE | 0.38 | 0.40 |
| **Clinical Psychology** | Not included | 0.09 | 0.08 |
| **Social Work** | Access required | 0.72 | 0.54 |
| **Nursing** | Staffing levels not included | 14.77 | 15.06 |
| **HCAs** | | 10.92 | 10.29 |
| **Consultants** | Staffing levels not included | 0.47 | 0.86 |
| *** NCHD** | Staffing levels not included | 2.03 | 1.53 |
| **GP/ Senior Area Medical Officer** | - | 0.07 | 0.35 |
| **Pharmacy** | Access required | 0.23 | 0.43 |

* This figure includes: SpR, Registrar, SHO, Training post & Intern.

## Specialist Gerontology and Mixed Rehabilitation Beds

***Table 37:*** *Comparison of Survey findings against National Clinical Guidelines for Stroke for UK and Ireland. 2023*

| | **National Clinical Guidelines for Stroke for UK and Ireland. 2023. (for Acute Stroke Unit and Stroke Rehabilitation unit) Per 5 Beds** | **From survey per 5 beds** *(excluding national tertiary centre)* |
|---|---|---|
| **Medicine** | Consultant stroke physician<br>7-day cover with adequate out of hours arrangements (Acute Stroke Unit) | 0.23<br>(this figure includes Geriatricians, Stroke Physicians, Ortho-geriatrician and Other) |
| **NCHD *** | WTE not included | 0.56 |
| **Physiotherapy** | 1.18 | 0.51 |
| **Occupational Therapy** | 1.13 | 0.55 |
| **Speech & Language Therapy** | 0.56 | 0.21 |
| **Dietitians** | 0.21 | 0.11 |
| **Psychology** | 0.28 | 0.04 |
| **Social Work** | WTE not included | 0.23 |
| **Pharmacy** | Timely Access | 0.08 |
| **Nursing** | 6.75<br>(WTE is 65:35 registered: unregistered) | 4.4 |
| **HCA** | | 2.4 |
| | * Includes SpR, Registrar, SHO, Training post and Intern. | |



## Orthopaedics

Australian (Australian Faculty of Rehabilitation Medicine (Royal Australasian College of Physicians 2019) and UK NHS (AHPs the Workforces & the Service they Provide 2017) guidelines provide staff ratios to reflect patient's rehabilitation need by sub-categorising staffing ratios under Inpatient Orthopaedics and Trauma.

The Irish Trauma & Orthopaedic MOC 2015 describe the role of HSCPs for different conditions and injuries and provide staff ratios in terms of levels of complexity (high, intermediate or low) as shown in Table 38. Although the T&O MOC describes the role of Clinical Psychology and Social Work, they do not provide staffing ratios for these disciplines.

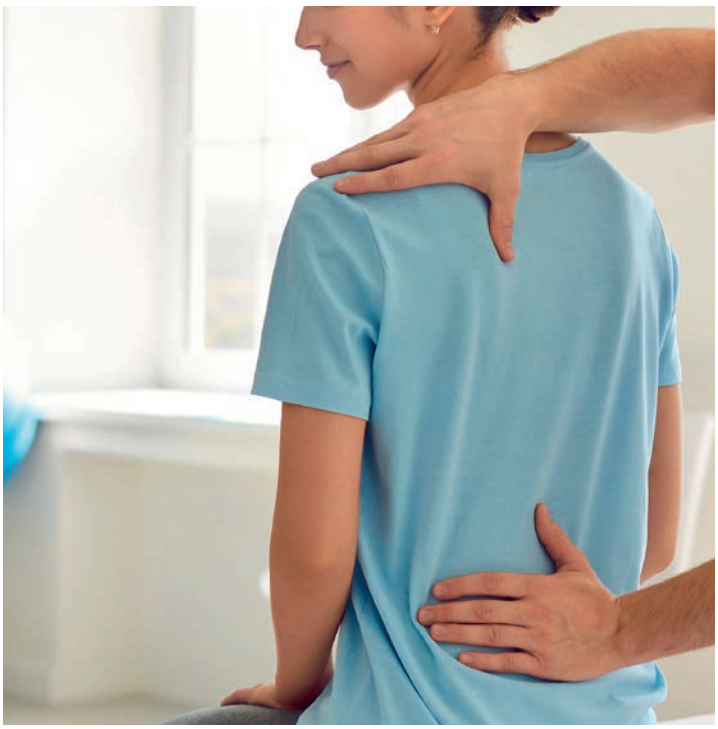


***Table 38:*** *Comparison of Survey findings against Irish Trauma and Orthopaedics Model of Care*

| | National MOC for Trauma & Orthopaedic Surgery 2015 | Ortho-Gerontology and Trauma & Ortho beds Actual Staffing Per 10 Beds |
|---|---|---|
| **Physiotherapy** | 1.0 * | 1.1 |
| **Occupational Therapy** | 1.0 * | 0.79 |
| **Speech and Language Therapy** | 0.25 | 0.51 |
| **1.0 (spinal)** | 0.27 | 0.55 |
| **Dietetics** | 0.4 | 0.3 |
| **Clinical Psychologist** | WTE not included | 0.05 |
| **Social Worker** | WTE not included | 0.5 |
| **Nursing** | WTE not included | 9.12 |
| **HCA** | WTE not included | 3.24 |
| **Pharmacy** | WTE not included | 0.14 |
| * Ratio for intermediate complexity as defined by MOC. | | |

## Neuro-Rehabilitation:

The National Clinical Programme for Rehabilitation Medicine references British Standards of Rehabilitation Medicine Guidelines to define the levels of in-patient specialist rehabilitation services in the 2017 Model of Care document and this is developed further within the National Neuro-Rehabilitation Strategy Implementation Strategy, 2019. It is recommended that post-acute in-patient rehabilitation is provided across two tiers with a National tertiary centre providing an equivalent to the BSRM Level 1 service and Level 2 services providing local specialist rehabilitation services, typically planned over a district-level population and both of these types of services being led or supported by a consultant trained and accredited in Rehabilitation medicine. The National Neuro-Rehabilitation Strategy which is responsible for the rollout of Neuro-Rehabilitation services within Ireland includes in-patient rehabilitation services for those with Spinal Cord Injury, Stroke, Neurological conditions and Brain Injury.

Table 39 includes analysis of in-patient services offering specialist rehabilitation to the above cohort but does not include the national tertiary centre as the staffing ratios for these aligns with the BSRM Level 1 guidelines. Existing non-tertiary rehabilitation services in Ireland do not meet the staffing levels required to be a Level 2b specialist site with approximately 50% of the recommended staffing currently available. The recommended staffing ratio is significantly less for Clinical Psychology.

***Table 39:*** *Comparison of Survey findings against National Neuro-Rehabilitation Strategy Implementation Framework 2019 and BSRM Model of Care*

| | National Neuro-Rehabilitation Strategy Implementation Framework 2019 | BSRM: Level 2B as reported in NCPRM MOC | |
|---|---|---|---|
| | Recommended WTE per 20 beds | | Actual Staffing levels per 20 beds |
| **Consultants*** | 2 | 1.5 | 0.7 (where present) |
| **Medical staff – Junior** | 1.5 | 1.5 - 2 | 1.67 |
| **Nursing (% depending on acuity)** | 15.75-19.25 | 15.75-22 | 15.95 |
| **HCA's (% depending on acuity)** | 15.75-19.25 | 15.75-22 | 10.29 |
| **Physiotherapy** | 5.5 | 4.5-5.5 | 2.48 |
| **Occupational Therapy** | 5.5 | 4.5-5.5 | 2.49 |
| **Speech and Language Therapy** | 2.5 | 1.5-2 | 0.93 |
| **Dietitian** | 1 | .5-.75 | 0.57 |
| **Social Worker** | 2 | 1-1.5 | 1.13 |
| **Clinical Psychologist** | 2 | 1.5-2 | 0.35 |
| **Pharmacy** | N/A | N/A | 0.48 |
| Above figures exclude the national tertiary centre | | | |

# Appendix 2: Additional Survey Findings

Appendix 2 details additional findings from the survey not included in the main body of the report, as follows.

A. Summary data on rehabilitation service provision for older adults
B. Rehabilitation Interventions available to all post-acute rehabilitation inpatients
C. Clinical and psychosocial factors (barriers, exclusions) that impact on accessing, delivering and egressing from rehabilitation - quantitative & qualitative information provided by rehabilitation units
D. Qualitative data, examples of clinical and process measures and KPI's provided by units

## A. Summary Data on Rehabilitation Service Provision for Older Adults

Sixty-five percent of all post-acute inpatient rehabilitation beds are available for older people. An analysis of this patient cohort was undertaken to understand which units this patient group access and under what clinical governance. The profile of these beds (using clinical and process data) was collated to explore service delivery for adults over age 65, who access Specialist Gerontology, Ortho-Gerontology and Mixed Rehabilitation units. Findings show that for example, most patients have an assessment of frailty (77%) and just over half of older patients (56%) have CGA completed. Fifty-six percent of these units were clinically governed by a Geriatrician.

***Table 40:*** *Rehabilitation Service Provision for Older Adults – Summary Findings on Access to Assessment, Care Planning, Interventions and Outcomes*

| **Patient Population: Adults over age 65 who access Specialist Gerontology, Ortho Gerontology & Mixed Rehabilitation Units (936 beds, 39 units)** | | | |
|---|---|---|---|
| | **Routinely** | **Occasionally** | **Never** |
| **Validated Assessment & Intervention Processes and Outcome Measures** | | | |
| **1. Comprehensive Geriatric Assessment (CGA)** | 56% | 23% | 20% |
| **2. Rehabilitation Complexity Scale – Extended (RCS-E)** | 18% | 8% | 74% |
| **3. Rehabilitation Needs Assessment *** | 41% | 5% | 54% |
| **4. InterRAI** | 10% | 13% | 77% |
| **Mobility** | 90% | - | 10% |
| **Cognition** | 87% | 5% | 8% |
| **Communication** | 79% | 10% | 10% |
| **FIM+FAM / Functional (average of 2 measures)** | 61% | 15% | 24% |
| **Frailty Measure** | 77% | 15% | 8% |
| **Quality of Life Measure** | 51% | 23% | 26% |
| **Access to Services** | **On-site** | **Off-site** | **Not available** |
| **Orthopaedic Surgeon Consultation Service** | 12.8% | 79.5% | 7.7% |
| **Geriatrician** | Available in 56% of units | | |
| **Orthogeriatrician** | Available in 2% of units | | |
| **Bone Health Assessment & Management** | 41% | 46% | 12.8% |
| **DEXA Scan** | 36% | 56% | 8% |
| **Venous Thromboembolism Screening** | 26% | 58% | 16% |
| **Falls Risk Assessment and Prevention** | 97.4% | - | 2.5% |
| **Tissue Viability Service** | 67% | 27% | 6% |
| | **5 Day Service** | **<5 Day Service** | **Not Available** |
| **Nutrition (Dietitian availability)** | 16% | 33% | 19% |

*The Rehabilitation Needs Assessment (RNA) is now referred to as the Rehabilitation Prescription. This change in terminology occurred in 2024.

## B. Rehabilitation Interventions available to all Post-Acute Rehabilitation Inpatients

***Table 41:*** *Availability of Rehabilitation Assessments & Interventions: ICF - Cognition, Communication and Sensorimotor Functions*

| Target Functions | WHO PIR Assessment / Interventions for: | Intervention (Survey) | On-site | Off-site | No access |
|---|---|---|---|---|---|
| **Cognitive Function** | Memory, attention, orientation, intellectual functioning.<br>Energy & Drive: Fatigue Sleep functions<br>Behavioural support<br>Consciousness; Assess,<br>Amantadine / Zolpidem | Cognitive Assessments + rehabilitation | 74% | 18% | 8% |
| | | Behavioural Support | 40% | 27% | 33% |
| | | Neuropsychiatry | 6% | 40% | 54% |
| | | Neuropsychology | 26% | 28% | 54% |
| | | Assessment of Low Awareness State | 13% | 40% | 47% |
| **Speech, Language & Communication** | Communication<br>Provision and training in the use of assistive products for communication | Augmentative & Alternative Communication | 26% | 40% | 34% |
| **Perception, Sensation, Vision, Hearing** | Visual, perceptual, sensory systems<br>Vestibular functions | Audiology | 4% | 70% | 26% |
| | | Optometry | 7% | 54% | 39% |
| | | Ophthalmology | 11% | 74% | 16% |
| | | Orthoptics | 11% | 58% | 32% |
| **Motor functions & mobility** | **Assessment & interventions** for Muscle function, joint mobility, balance, gait, sensation, upper limb use.<br>Falls risk, Spasticity, Contracture and Postural Management<br>Constraint induced movement therapy | Aquatic/Hydrotherapy | 14% | 25% | 61% |
| | | Botulinum Toxin Injection | 24% | 37% | 39% |
| | | Intrathecal Baclofen | 11% | 28% | 61% |
| | | Falls Risk & Management | 96% | - | 4% |
| | | Amputee Rehabilitation | 49% | 26% | 25% |
| | **Material Resources**<br>Orthoses, Splinting / Casting equipment<br>Prosthesis provision<br>Wheelchairs & Seating, pressure relief<br>Provision & training on products for mobility | Customised equipment | 56% | 35% | 9% |
| | | Customised splinting | 58% | 26% | 16% |
| | | Orthotics | 21% | 58% | 21% |
| | | Orthotics | 18% | 53% | 30% |

***Table 42:*** *Availability of Rehabilitation Assessments & Interventions: ICF – Body Functions and Structures*

| Target Functions | WHO Assessment/ Interventions | Material Resource / Specialist Service | Intervention (Survey) | On-site | Off-site | No access |
|---|---|---|---|---|---|---|
| **Pain Management** | Musculoskeletal and central neuropathic pain Pharmacological & Therapeutic interventions | Intra-articular corticosteroid injection Neuromuscular electrical stimulation | Pain Management | 37% | 51% | 51% |
| **Respiratory Function** | Respiratory Function | Invasive and non-invasive ventilation | Tracheostomy Management | 32% | 32% | 32% |
| | | | Ventilatory Support | 14% | 14% | 14% |
| **Dysphagia** | Dysphagia assessment and management | Flexible laryngoscopy / Video fluoroscopic equipment | Instrumental Swallow Assess (VFSS*, FEES**) | 28% | 58% | 14% |
| **Nutrition** | Assessment & interventions including enteral nutrition | Feeding Pump | 38% of units do not have access to Dietetics - see Section 4.2 | | | |
| **Bowel & Bladder** | Bowel & bladder management | Intermittent + indwelling catheter kits | Neurogenic Bowel Management | 16% | 37% | 46% |
| | | | Urology | 12% | 72% | 16% |
| **Skin / wound care** | Skin care, oedema | | Tissue Viability | 67% | 26% | 7% |
| | | | Podiatry | 63% | 26% | 11% |
| **Cardiovascular & Immunological** | Cardiac, vascular functions Autonomic dysreflexia | | Not captured by survey | | | |
| **Bone Health** | Assessment & interventions for bone health Screening for osteoporosis | General-purpose X-ray system, digital. DEXA scan | X-Ray | 60% | 31% | 9% |
| | | | Bone Health | 49% | 37% | 14% |
| | | | DEXA Scanning | 35% | 51% | 14% |
| **Prevention & Treatment of Secondary Conditions** | Respiratory functioning Deep venous thrombo-embolism Heterotopic ossification | Venous Thromboembolism Screening | | 19% | 56% | 25% |
| | | Microbiology Service | | 25% | 61% | 14% |
| | | Routine Blood Analysis | | 26% | 69% | 5% |
| | | Arterial Blood Gas Analysis | | 37% | 42% | 21% |
| | | CT scan | | 21% | 68% | 11% |
| | | MRI Scan | | 9% | 81% | 11% |
| | | Ultrasound | | 33% | 56% | 11% |
| | | NIMIS*** | | 60% | 17% | 23% |
| | | Orthopaedic Surgeon Consult | | - | 2% | 98% |
| | *VFSS = Video Fluoroscopic Swallowing Study<br>**FEES = Fiberoptic Endoscopic Evaluation of Swallowing<br>***NIMIS = National Integrated Medical Imaging System | | | | | |

*Table 43: Availability of Rehabilitation Assessments & Interventions: ICF - Activity and Participation Functions*

| Target Functions | WHO Assessment/ Interventions | Material Resource / Specialist Service | On-site | Off-site | No access |
|---|---|---|---|---|---|
| **Activities of Daily Living** | Activities of Daily Living. Modifications of home/work environment. | Home environmental / access assessment | 89% | 7% | 4% |
| **Education, vocation & participation** | Vocational assessment & training Interventions focused on participation in community & social life | Vocational Assessment | 23% | 23% | 54% |
| | | Vocational Rehabilitation | 25% | 16% | 60% |
| | | Driving Assessment | 28% | 44% | 60% |
| **Mental health** | Interventions for depression, anxiety and emotional distress | Art / Music Therapy | 59% | 30% | 52% |
| | | Counselling | 39% | 31% | 30% |
| **Self-management** | Education, advice and support for self-management of the health condition | Education & Training | Routinely: | | 79% |
| | | | Case-dependent: | | 19% |
| | | | No: | | 2% |
| **Lifestyle modification** | Assessment education & advise for healthy lifestyle | Not captured by survey. May be addressed during 'Training & Education provided to patient / those important to them' (Self-management). | | | |
| **Interpersonal interactions & relationships** | Assessment of sexual functions and intimate relationships. Peer support. Social skills training. | Sexual Wellbeing | 23% | 25% | 53% |
| | | Peer Support | 7% | 54% | 39% |
| **Carer & Family Support** | Carer & family training & support and information | Safeguarding | 74% | 23% | 23% |

## C. Issues that Impact on Accessing, Delivering and Egressing from Rehabilitation - Qualitative Information Provided by Rehabilitation Units

***Table 44:*** *Clinical and Psychosocial Factors (Reported Barriers, Exclusion Criteria) that impact Rehabilitation Provision*

| **Scope of Access: Examples of barriers to accessing, delivering and egressing from post-acute rehabilitation** |
|---|
| **Psychological and Cognitive Issues Outside of Scope** |
| • **31.5% of units (11 organisations) reported that a barrier to accessing rehabilitation applied to patients who do not meet criteria based on predominant needs relating to substance misuse or mental health challenges** |
| Cannot admit patients with: |
| Acute delirium |
| Acute Psychiatric Issues |
| Behaviours that challenge, unit cannot provide behaviour support. |
| Patients at risk of absconding |
| Moderate to severe dementia |
| Patients must be able to engage with rehabilitation |
| **Physical Health Conditions Outside of Scope** |
| Orthopaedic Needs: with complex / unstable fractures |
| Respiratory Needs: patients who require: Tracheostomy / Non-invasive ventilation / Chronic Obstructive Pulmonary Disease |
| Patients who require complex specialist rehabilitation |
| Spinal Needs: Patients with spinal cord injuries / young patient with spinal cord injuries / spinal precautions |
| Complex disability management |
| Morbid obesity |
| **Medical Needs Outside of Scope** |
| Patients with acute medical needs / Patients who require 24/7 medical support. |
| Patients must be medically fit for rehabilitation |
| Patients who require Palliative Medicine / Care |
| Patients who require IV Therapy |
| Patients who require Microbiology services / infection prevention and control needs / limited single rooms |
| Egress: Delayed egress due to infection prevention and control status of receiving institution/ organisation |
| **Clinical Need / Case mix – Admission to a unit at a given time can depend on:** |
| Workforce Capacity; issue with recruiting nursing, dietitians and speech and language therapists were highlighted |
| Staffing capacity to manage patients with complex needs |

If certain discipline required that is not available

No dietician available. Issue with recruitment of Speech & Language therapist/

One to one enhanced staffing not available

Cannot accept patient with highly complex needs

Cannot accept patients for complex Neuro-Rehabilitation over age 65

Cannot accept inappropriate referrals / patient with no rehabilitation potential

May be a delay in admitting patient with more complex needs who require a longer length of stay due to limited beds

Lack of Team Lead to manage rehabilitation unit issues

- **45.6% of units reported Insufficient staff experience / training (skill mix)**

We would benefit from more training educating families post traumatic brain injury / complex higher cognitive issues - older people with falls and head injury appears increasingly referred

Egress: Delayed egress while awaiting specialist rehabilitation / insufficient beds in national tertiary centre

**Workforce**

**Quantitative** – units were asked to identify which of the following issues were barriers to delving rehabilitation

- Insufficient number of approved posts 61.4%
- Challenges with staff recruitment 66.6%

**Qualitative**

Significant issues with therapy staff shortages due to difficulty recruiting staff.
Reduced staff due to difficulty filling approved posts

Issue with recruitment of Speech & Language Therapist

Egress: Delayed egress due to delays in recruitment of staff in the community

**Treatment Space**

**40% of units reported that their unit had "Insufficient treatment space / equipment"**

Insufficient treatment space - impacting on intensity of treatment / can impact on patient overall rehabilitation programs

Insufficient number of toilet and shower facilities, environment in need of upgrade, lack of wifi access for patients

**Social and Discharge Issues**

- **89% of units reported that patients in their unit experience DTOC**

Insufficient funding for step down home rehabilitation - after care post discharge.

- **54% of units reported "Challenges with meeting patient / family expectations"**

"Patients are sometimes referred to us with poor rehab potential (we are told that they have rehab potential). Families then become irrational as the patient hasn't reached any rehab goals. They are given a high expectation by the acute services to move the patient from an acute bed."

No clear discharge plan.

**Delayed Egress due to:**

- Private & public residential care facilities being unable to meet patient needs
- Delays with repatriation
- Issues with Residency status
- Issues with addiction
- Issues with Wardship applications
- Patients reluctant to move to private facilities due to fear of not receiving the same level of allied health services and some due to financial affairs

**Percentages of units who identified delays in egressing patients due to following issues:**

**Funding:** 54% of units report delays while - Awaiting approval of funding for ongoing care

**Community workforce:** 93% of units report delays while - Awaiting recruitment of home support staff

**Home Environment:**

- 82% Awaiting home adaptations 82%
- 31.5% Awaiting assessment of home environment
- 56% Awaiting adaptive equipment (wheelchair, bed etc.)
- 65% Awaiting allocation of housing

**Psychological (Complexity)**

- 74% Challenges with engaging patient / those important to them in planning discharge / transfer of care
- 84% Complex social issues
- 30% Residency status
- 28% Challenges with addiction issues

## D. Qualitative Information on Metrics: Clinical and Process Measures recorded by Rehabilitation Units

***Table 45:*** *Examples of Clinical Measures and KPIs Provided by Rehabilitation Units*

| Clinical Measures |
|---|
| **Assessment of Need** |
| Northwick Park Dependency scale |
| Model 2 Hospital: "Commencing use of RCS-E and RNA scales in June 2023 (Model 2 Hospital)" |
| Rehab complexity weighting |
| "InterRai training in progress completed June 2023" |
| "CSAR Report used instead of Inter RAI" |
| **Functional Outcome Measure** |
| "The FIM is completed by OT with all patients admitted but not the FIM/FAM" |
| "Swallowing routinely assessed with outcome measures" |
| "Cognition and communication are formally assessed as required" |
| Nurse-led Unit. "We have a suite of assessment tools for frailty, mobility, nutrition, falls risk, skin integrity, cognition, and Barthel Index" |
| Canadian Occupational Performance Measure |
| Admission / Discharge interventions |
| **Nutrition & Nursing Care Measures** |
| Malnutrition Universal Screening Tool (MUST), Norton, Weight / Nutrition |
| "The team plan to add the strength, assistance with walking, rising from a chair, climbing stairs, and falls questionnaire (SARC-F) and MUST and will have a management plan following that" |
| Oral health |
| Pressure Ulcer rates |
| Falls rates |
| Nursing metric 'Test your Care' |
| Medication audit |
| ICP audit |
| **Quality of Life** |
| Euro Qual 5-dimensional questionnaire |
| **MDT Working / Patient-Centred** |
| "Goal attainment scale used by MDT as an outcome measure and to set patient centred goals" |
| Patent Goals |
| Service User feedback |
| Completion of IDT discharge reports |

| Service Measures |
| --- |
| Waiting time for admission |
| Length of Stay |
| “Target times for response to referrals, assessment/screening” |
| Bed occupancy |
| Complaints management |
| Continuous auditing. Database with outcome measures and KPIs |

# Appendix 3: Post-Acute Inpatient Rehabilitation Mapping Project Survey

## Mapping Survey: Survey Questions adapted from live electronic version for reference

Section 1 included information on the project members, sponsors, scope of the project and instructions for completion

### 2. Organisational Information

**2.1 What is the name of your organisation?**

**2.2 Has the organisational information previously been completed?**

Yes No

**2.3 Please select which CHO your service is located?**
CHO 1-CHO 9

**2.4 If you are funded through a hospital group please select which group?**

- Ireland East Hospital Group
- RCSI Hospital Group
- Dublin Midlands Hospital Group
- University Hospital Limerick Hospital Group
- South/South West Hospital Group
- Saolta Hospital Group
- N/A

**2.5 Organisational Type - under which of the following is your organisation governed?**

- Acute HSE Model: 2- 4
- Acute Section 38 Model 2-4
- Acute Section 38
- Community HSE
- Community Section 38; 39
- Other (please specify):

**2.6 How many distinct rehabilitation units in the organisation?**

**2.7 Which of the following is your hospital/facility comprised of:**

- A: Hospital/Facility comprised entirely of rehabilitation beds
- B: Dedicated rehab units located on the same site as long or short stay care units
- C: Dedicated rehab beds co-located with long or short stay care beds
- D: Combination of B and C
- E: Private residential setting

**2.8 Are the rehabilitation beds registered/aligned to the standards of a regulator or accreditor? (Please tick all that apply)**

- Commission on Accreditation of Rehabilitation Facilities (CARF)
- Health Information & Quality Authority
- Safer, better healthcare
- Other (please specify)

**2.9 Does your organisation have Hospital Inpatient Enquiry (HIPE)?**

Yes No

## 3. Individual Unit Information

**3.1 How many rehabilitation beds do you have within your specific rehabilitation unit for the following?** *No of beds:*

- Rehabilitation Unit
- Short Stay
- Specialist Geriatric Rehabilitation
- Trauma & Orthopaedic
- Ortho-geriatrics
- Complex Musculoskeletal Rehabilitation
- Stroke Unit
- Neuro-rehabilitation
- Brain Injury Unit
- Amputee Rehabilitation
- Spinal Cord Injury
- Palliative Rehabilitation
- Mixed Rehabilitation population
- Other (please describe):

**3.2 Referral Pathways: Which of the following do you accept referrals from? (Please tick all that apply)**

- Acute Hospital
- Community Unit
- Home (may include input from community teams)
- Other (please specify):

**3.3 Which of the following is your main referral source?**

- Acute Hospital
- Community Unit
- Home
- Other (please specify):

**3.4 Referral Mechanism - do you accept referrals from (please tick all that apply):**

- Consultant only
- Consultant
- Nursing
- GP
- Health and Social Care Practitioner (HSCP)
- Other (please specify):

**3.5 Is there a single point of contact (SPOC) for admissions?**

*The role may include coordinating referrals, waiting list, admissions and discharges (transfer of care) or elements of these processes. They may be a clinical nurse manager/patient flow manager/HSCP coordinator role or an administrator who coordinates communication and processes to support admissions.*

Yes No

**3.6 Do you operate a waiting list system?**

Yes No

**3.7 What is the average waiting time for admission?**

Less than 1 week; 2-4weeks; 4-8 weeks; 8-12 weeks, 3-6 months; 6 months +

**3.8 What is your admission criteria regarding patients age?**

16-65; 18-65; 65 and above; All ages. Other (please specify):

**3.9 What is your admission criteria regarding patients home address?**

- Acute Hospital Catchment Area
- Within patients' CHO
- Distance from Rehabilitation Unit
- Not applicable
- Other (please specify):

**3.10 Do you have exclusion criteria based on the following clinical considerations?**

| | **Yes** | **No** |
|---|---|---|
| Diagnosis | | |
| Complexity | | |
| Dependency | | |
| Behaviours of concern | | |
| If limited by diagnosis, please specify which diagnoses | | |

**3.11 Does your unit have a documented scope of service?**

Yes No

## 4. Staffing and Clinical Governance

**4.1 Which specialty provides medical governance for rehabilitation unit/bed?**

- General Practitioner
- Geriatrician
- Neurologist
- Ortho-geriatrician
- Orthopaedic Surgeon
- Rehabilitation Medicine Consultant
- Senior Area Medical Officer
- Stroke Physician
- Other (please specify)

**4.2 What is the Medical Whole Time Equivalent (WTE) for unit (please use decimals)?**

| | Consultant | SpR |
|---|---|---|
| Orth-geriatrician | | |
| Geriatrician | | |
| Rehabilitation Medicine Consultant | | |
| Orthopaedic Surgeon | | |
| Stroke Physician | | |
| Neurologist | | |
| General Practitioner | | |
| Senior Area Medical Officer | | |
| Other | | |

**4.3 Please select the organisation from which Consultant/Medical Practitioner role, who is assuming governance, is provided?**

Acute Hospital/ Community/ Across Acute and Community/ Other (please specify)

**4.4 Who provides on call service to the unit? (Please tick all that apply)**

GP/ Non Consultant Hospital Doctor (NCHD)/ Consultant/ No call provision

**4.5 When is this on-call service provided?**

Out of hours only 24/7 in hours only

**4.6 Where is this call provided from?**

On-site Off-site Other

**4.7 What is the WTE for each medical grade?**

Registrar/ Senior House Officer/ Intern/ Training Post

**4.8 Is your rehabilitation site an approved site for medical education for the following (please tick all that apply):**

BST – Basic Specialist Training

HST- Higher Specialist Training

GP- training

**4.9 Medical Services - please select which of the following imaging services you have access to:**

| | **On-site** | **Off-site** | **No access** |
|---|---|---|---|
| X-Ray | | | |
| CT | | | |
| MRI | | | |
| DEXA scan | | | |
| Ultrasound | | | |
| NIMIS | | | |

**4.10 Laboratory Services - please select which of the following laboratory services you have access to for analysis:**

| | On-site | Off-site | No access |
|---|---|---|---|
| Routine Bloods | | | |
| ABG's | | | |
| VTE Screening | | | |

**4.11 Nursing Staffing (funded regardless of current vacancies). What is the WTE for the unit? (Please use decimals)**

- Staff nurses
- Clinical Nurse Manager 1; Clinical Nurse Manager 2
- Clinical Nurse Specialist (CNS)
- Advanced Nurse Practitioner (ANP)
- Psychiatric Nurse
- Healthcare Assistant
- If CNS or ANP please specify speciality:

**4.12 HSCP Staffing (funded regardless of current vacancies):**

| | **WTE** |
|---|---|
| Speech & Language Therapist Clinical Specialist/ Senior/ Staff Grade | |
| Speech & Language Therapist Assistant | |
| Occupational Therapist Clinical Specialist/ Senior/ Staff Grade | |
| Occupational Therapist Assistant | |
| Physiotherapist Clinical Specialist/ Senior/ Staff Grade | |
| Physiotherapist Assistant | |

Medical Social Worker Principle/ Senior/ Staff Grade
Social Worker Principle/ Team Lead/ Senior/ Social Worker
Social Worker Non-professionally Qualified
Social Worker Senior Practitioner
Clinical Psychologist Principle/ Senior/ Staff Grade
Clinical Psychologist Trainee
Dietitian Clinical Specialist/ Senior/ Staff Grade
Dietitian Assistant
Pharmacist Chief/ Senior
Pharmacist Technician

**4.13 Does the discipline provide service cover?**

| | Less than 5 days | 5 days | 6 days | 7 days |
|---|---|---|---|---|
| Speech and Language Therapy | | | | |
| Occupational Therapy | | | | |
| Physiotherapy | | | | |
| Social Work | | | | |
| Clinical Psychology | | | | |
| Dietetics | | | | |
| Pharmacy | | | | |

## 5. Clinical Processes

**5.1 Which of the following approaches does your team operate under?**

Multidisciplinary - *A multidisciplinary team consists of a range of professionals from clinical and therapy disciplines and services, who work with the patient to develop and achieve rehabilitation goals.*

Interdisciplinary - *Interdisciplinary Teams are organised to work on a common set of complex problems. Each discipline contributes their skill set in order to augment and support others in the team whilst taking account of that person's contribution. Members retain specialised roles and functions whilst communicating actively with one another.*

Unidisciplinary - *Input from a single discipline, therapist.*

**5.2 Do you hold Multi/Inter-disciplinary Meetings?**

Yes No

**5.3 If yes, how often are these held?**

Weekly/ More than weekly/ less than weekly/ Case dependent

**5.4 Are these meetings attended by a medical professional?**

Routinely/ Case dependent/ infrequently/ No/ N/A

**5.5 Do you hold a consultant-led ward round?**

Yes No

**5.6 If yes, how often does this occur?**

More than weekly Weekly Less than weekly

**5.7 Do you use validated assessment & intervention processes and outcome measures?**

| | Routinely | Occasionally | Never |
|---|---|---|---|
| Comprehensive Geriatric Assessment | | | |
| Rehabilitation Complexity Scale Extended | | | |
| InterRAI | | | |

Rehab Needs Assessment & Rehab Prescription
Frailty
Mobility
Functional
Cognitive
Communication
Quality of Life
FIM/FAM
Comments:

**5.8 Rehabilitation Goals**

| | Routinely | Case Dependent | Infrequently | No |
|---|---|---|---|---|
| Do you agree rehabilitation goals with the MDT? | | | | |
| Do you agree rehabilitation goals with the patient as a partner in their care plan? | | | | |

**5.9 Patient Meetings**

| | Routinely | Case Dependent | Infrequently | No |
|---|---|---|---|---|
| Do patients attend team meetings regarding their care? | | | | |
| Do those who are important to the patient attend meetings about their care? | | | | |

**5.10 Do patients have a named key Worker/case co-ordinator?**

Routinely Case dependent Infrequently No

**5.11 Treatment space**

Is there a dedicated treatment space for rehabilitation?
Is this space adequate for the service?

## 6. Discharge Planning

**6.1 Is training/education provided to patients/those important to them?**

Routinely Case dependent No

**6.2 If yes, what is the format of this?**

Verbal Written Demonstration

Combination of the above N/A

**6.3 Do you hold discharge planning meetings?**

Routinely Case-dependent No

**6.4 Who attends this meeting? (Please tick that all apply)**

- Medical Professional
- Nursing
- Therapist
- Social Worker
- Patient/those important to them
- Community stakeholders
- Other (please specify):

**6.5 Where indicated, does the team complete following applications?**

Homecare package Fair Deal NHSS

**6.6 What is the format of Discharge Reports completed?**

Individual Disciplines/ Multidisciplinary/ Both/ None

**6.7 Discharge Pathways - What services are patients most often referred to upon discharge? (Please tick all that apply)**

- Public Health Nurse
- Day Hospital
- Primary Care Health and Social Care Professionals (HSCP's)
- Chronic Disease Teams
- General Practitioner (GP)
- Disability Manager
- Early Supported Discharge (ESD) Team
- Outpatient Services
- Voluntary Rehab Provider (ABII)
- Other voluntary providers
- Enhanced Community Care Teams (ECC)
- Community neuro-rehabilitation team (CNRT)
- Other (please specify):

**6.8 Is there a service level agreement (SLA) in place?**

Yes (If yes, with which organisation(s)) No N/A

## 7. Clinical need of patients admitted

This section outlines patients' clinical needs of varying complexity. Please select the category (A/B or C) that describes the highest level of clinical need that your rehabilitation unit can provide in each category. This may not be representative of the majority of the patients on your unit. (Adapted from Microsoft Word - Specialised Neuro-rehabilitation Service Standards 7 30 4 2015-forweb.doc (bsrm.org.uk))

**7.1 Physical**

A: Complex postural tone /contracture management or ≥ 2 to handle

B: Routine physical issues or 1 to handle

C: Higher function problems only or no physical issues

**7.2 Tracheostomy/Ventilatory**

A: Unstable tracheostomy requiring intensive suction or O2 sats monitoring programme or active weaning programme or assisted ventilation

B: Tracheostomy in situ but stable

C: No tracheostomy

**7.3 Swallowing**

A: Complex swallowing evaluation (e.g. FEES)

B: Moderate monitoring – e.g. progressive consistency, dietary content

C: Normal or stable modified diet

**7.4 Nutrition**

A: Complex nutritional requirements requiring intensive dietary support/intervention

B: Dietary education (e.g. healthy eating, weight reduction) or enteral feeding programme

C: Standard dietary / Weight monitoring only

**7.5 Communication**

A: Complex communication needs requiring: Specialist evaluation or complex communication aid set/up provision

B: Moderate communication issues with some listener burden, but able to communicate basic needs and ideas

C: Higher function problems only or no problems with communication

**7.6 Cognitive**

A: Highly challenging behaviours (e.g. physical/verbal aggression) requiring interactive behavioural management programme

B: Mild/moderate behavioural issues controlled in structured environment

C: No significant behavioural problems

**7.7 Mood/Emotion**

A: Severe anxiety / depression / emotional lability requiring: Specialist evaluation or Active management and frequent crisis intervention

B: Mood disorder/adjustment issues under active management with planned programme

C: No significant mood / adjustment issues

**7.8 Complex Disability Management**

A: Complex disability management e.g. Evaluation of low awareness state or Neuro-palliative rehabilitation / end of life care

B: Standard disability management e.g. set-up of care programme, care booklet, carer training etc.

C: None required

**7.9 Social/Discharge Planning**

A: Complex placement / housing /funding issues requiring extensive multi-agency negotiation

B: Active discharge planning requiring liaison with community SW/DN/OT e.g. to arrange care package

C: No major discharge issues, taken care of by family / allocated social worker

**7.10 Family Support**

A: Major family distress issues require frequent support or crisis intervention

B: Routine family support needs (met by planned meetings)

C: No significant family problems

**7.11 Load on staff**

A: Demanding situation requiring highly experienced staff / extra support for staff

B: Somewhat challenging situation but manageable

C: Minimal or no emotional load on staff

**7.12 Vocational Rehabilitation**

A: Specialist vocational rehabilitation needs e.g. Multi-disciplinary vocational assessment or multi-agency support for return to work, retraining or work withdrawal or complex support in other roles (e.g. single-parenting)

B: Moderate vocational support: Work visits or employer liaison or support for other roles, e.g. home-maker / parenting

C: Not of working age or no significant needs for vocational support

**7.13 Medico-legal Issues**

A: Complex medico-legal issues e.g. requiring interaction with legal system: Complex best interests decisions or Court of protection applications or Safeguarding or Litigation issues or complex mental capacity / consent issues

B: Standard medico-legal issues e.g. Capacity evaluation or Standard consent / best interests decisions or Assisted Decision Making

C: No significant medico-legal issues

**7.14 Specialist Equipment/Facilities**

A: Highly specialist equipment /facilities required e.g. Bespoke Assistive technology or highly specialist seating/wheelchair needs or bespoke orthotics or electronic assistive technology or assisted ventilation

B: Moderate specialist equipment needs e.g. Adapted Wheelchair / seating or electric standing frame or treadmill/harness training or assisted cycling (e.g. motor-med) or Splinting / casting

C: No equipment needs or Basic off the shelf equipment only or standard exercise facilities, e.g. plinth, bike tilt table, parallel bars

## 8. Allied Services

**8.1 Do you provide or have access to the following Allied Services?**

***Services were asked to indicate if these were: Available on-site; Available off-site; No access to services***

| | | |
|---|---|---|
| Ventilatory support scheme | Cognitive Assessment & Rehabilitation Assessment of Low Awareness State | Behavioural Support (management of Behaviours that challenge) |
| Tracheostomy Management | Psychiatry | Seating Service |
| Orthopaedic review | Podiatry | Customised Splinting |

| | | |
|---|---|---|
| Pain management | Neuropsychology | Home environmental/access Assessment |
| Urology service | Counselling | Driving Assessment |
| Tissue Viability Service | Peer support | Orthotics |
| Palliative Medicine and Care | Optometry | Vocational Assessment |
| Botulinum Toxin injection | Orthoptics | Vocational Rehabilitation |
| Intra-thecal Baclofen | Ophthalmology | Sexual Wellbeing |
| Neurogenic Bowel management | Bone Health Assessment & Management | Provision of standard equipment |
| Instrumental Swallow Assessment (VFSS, FEES) | Falls risk assessment and prevention | Augmentative & Alternative Communication |
| Audiology | Amputee Rehabilitation | Safeguarding Service |
| Art therapy / Music Therapy | Prosthetics | Neuro-psychiatry |
| Hydro/Aquatic Therapy | Microbiology | Other |

## 9. Service Outcomes

**9.1 Do you record rehabilitation key performance indicators (KPIs) / routine data collection?**

Yes (If yes, describe) No

**9.2 What is the average length of stay?**

2020 2021 Not recorded

**9.3 Do you record discharge destination?**

Yes No

**9.4 Do you report to National Delayed Transfer of Care (DTOC) Database?**

Yes No

**9.5 If no, do you keep a local record of DTOC?**

Yes No

**9.6 How many Bed days were lost to DTOC?**

2020 2021

**9.7 Do you have formal reporting arrangements e.g., to hospital group etc.**

Yes No

If yes, to whom?

**9.8 Are patient reported experience measures completed (i.e. service satisfaction measures)?**

Yes, routinely/ Yes, but case dependent/ No or infrequently

**9.9 If yes, is this**

Formal Informal

## 10. Barriers to Discharge

**10.1 Do patients in your unit experience delayed transfer of care (DTOC)?**

Yes No

**10.2 Please select issues that impact DTOC (please tick all that apply)**

- Awaiting approval for funding for ongoing care
- Awaiting recruitment of home support staff
- Awaiting home adaptations
- Awaiting assessment of home environment
- Awaiting adaptive equipment (wheelchair, bed etc.)
- Awaiting allocation of housing
- Challenges with engaging patient/those important to them in planning discharge/transfer of care
- Complex social issues
- Residency status
- Challenges with addiction issues
- Other (please specify):

## 11. Barriers to Delivering Rehabilitation

**11.1 Do you experience barriers to delivering rehabilitation in your unit?**

Yes No

**11.2 Please select the issues that you believe may apply to your unit: (Please tick all that apply)**

- Insufficient number of approved posts
- Challenges with staff recruitment
- Insufficient staff experience / training (skill mix)
- Insufficient treatment space / equipment
- Challenges with meeting patient / family expectations
- Other (please specify):

**11.3 Are you aware of patients who cannot access your unit?**

Yes No

**11.4 If yes, can you describe these patients and what are the barriers to them accessing inpatient rehabilitation?**

- Patients' needs being too complex / specialist
- High care needs e.g. hoist dependent
- Demand for service exceeds availability of beds, resulting in significant waiting list
- Patients who do not meet criteria based on age
- Patients who do not meet criteria based on home address
- Patients who do not meet criteria based on predominant needs relating to substance misuse or mental health challenges
- Service unavailable in particular geographical areas
- Other (please specify):

**11.5 Is there an alternative unit / service available in the region?**

Yes (If yes, describe the service) No

## 12. Survey Completion

**12.1. Who completed this survey? (Please tick all that apply)**

Senior Nursing Staff/ Senior HSCP/ Senior Management Team/ Patient flow- bed management/ Consultant/ Registrar / Other (please specify):

# References


1. WHO. Access to rehabilitation in primary health care: an ongoing challenge. WHO Technical Series on Primary Health Care. 2018.
2. WHO. Rehabilitation in health systems: guide for action. 2019.
3. WHO. Rehabilitation 2030, A call for action. 2017.
4. Department of Health. Introducing HSE Health Regions. 2023.
5. Keegan C, Brick, A., Garcia-Rodriguez, A., Hill, L. . Projections of workforce requirements for public acute hospitals in Ireland. 2019-2035. A regional analysis based on Hippocrates model. ESRI. 2022.
6. HSE Urgent and Emergency Care Operational Plan 2023. HSE. 2023.
7. WHO Regional Office for Europe. The need for Rehabilitation Services in the WHO European Region. Copenhagen: WHO Regional Office for Europe. 2022.
8. Turner-Stokes L, Williams H, Bill A, Bassett P, Sephton K. Cost-efficiency of specialist inpatient rehabilitation for working-aged adults with complex neurological disabilities: a multicentre cohort analysis of a national clinical data set. BMJ Open. 2016;6(2):e010238.
9. HSE National Clinical Programme for Rehabilitation Medicine. Model of Care for the Provision of Specialist Rehabilitation Services in Ireland. HSE. 2017.
10. Health Information and Quality Authority. National Standards for Safer Better Healthcare. 2012.
11. Australasian Faculty of Rehabilitation Medicine. Standards for the provision of Inpatient Adult Rehabilitation Medicine Services in Public and Private Hospital. AFRM. 2019.
12. National Office of Clinical Audit. Major Trauma Audit. National Report 2021.
13. Department of Health. A Trauma System for Ireland: Report of the Trauma Steering Group. DoH. 2018.
14. National Office of Clinical Audit. Irish Hip Fracture Database. National Report. 2022.
15. National Office of Clinical Audit. Irish National Audit of Stroke. National Report. 2022.
16. National Rehabilitation University Hospital. 42 Annual Report. 2022.
17. Department of Health. Independent Expert Review of Delayed Discharges. 2018.
18. NHS England. Commissioning Guidance for Rehabilitation. NHS. 2016.
19. Health Information and Quality Authority. Guidance on a data quality framework for health and social care. 2018.
20. Godbolt AK, Stenberg M, Lindgren M, Ulfarsson T, Lannsjö M, Stålnacke BM, et al. Associations between care pathways and outcome 1 year after severe traumatic brain injury. J Head Trauma Rehabil. 2015;30(3):E41-51.
21. BSRM. Standards for specialist rehabilitation for community dwelling adults. BSRM. 2021.
22. HSE. National Strategy & Policy for the Provision of Neuro-Rehabilitation Services in Ireland. Implementation Framework 2019-2021. HSE.
23. HSE National Clinical Programme for Older People. Specialist Geriatric Services Model of Care HSE. 2012.
24. NCASRI Project team Lead Turner-Stokes L Northwick Park Hospital. London. Final report of the National Clinical Audit of Specialist Rehabilitation following major Injury. . National Clinical Audit. 2019.
25. HSE National Clinical Programme for Rehabilitation Medicine. Integrated Care Pathway for the Management of Spinal Cord Injury. 2018.
26. CSO. Population and Migration Estimates. 2023.
27. WHO. Rehabilitation 2030 a call for action; Health information systems and rehabilitation. 2017.
28. NHS National Quality Board. A shared commitment to quality for those working in health and care systems. 2021.
29. The Chartered Society of Physiotherapy. Rehab on Track. Community Rehabilitation Best Practice Standards. Community Rehabilitation Alliance,. 2022.
30. BSRM. Specialised Neurorehabilitation Service Standards: providing for patients with complex rehabilitation needs. BSRM. 2023.
31. Andelic N, Bautz-Holter E, Ronning P, Olafsen K, Sigurdardottir S, Schanke AK, et al. Does an early onset and continuous chain of rehabilitation improve the long-term functional outcome of patients with severe traumatic brain injury? J Neurotrauma. 2012;29(1):66-74.
32. NHS. Rehabilitation is everyone's business: Principles and expectations for good adult rehabilitation. 2015.
33. Turner-Stokes L, Disler R, Williams H. The Rehabilitation Complexity Scale: a simple, practical tool to identify 'complex specialised' services in neurological rehabilitation. Clin Med (Lond). 2007;7(6):593-9.
34. HSE National Clinical Programme for Older People. Specialist Geriatric Team Guidance on Comprehensive Geriatric Assessment. HSE. 2016.
35. Turner-Stokes L, Krägeloh CU, Siegert RJ. The patient categorisation tool: psychometric evaluation of a tool to measure complexity of needs for rehabilitation in a large multicentre dataset from the United Kingdom. Disability and Rehabilitation. 2019;41(9):1101-9.

# References


36. NHS England. NHS Standard Contract for Specialised Rehabilitation for Patients with Highly Complex Needs (All Ages). NHS. 2013.
37. WHO. Package of interventions for rehabilitation Module 1 Introduction World Health Organisation,. 2023.
38. WHO. Rehabilitation Competency Framework 2021.
39. New South Wales Ministry of Health. NSW Health Guide to the Role Delineation of Clinical Services. 2024.
40. NMBI. Advanced Practice (Nursing) Standards and Requirements Nursing and Midwifery Board of Ireland. 2017.
41. HSE National HSCP Office. HSCP Advanced Practice Framework. National HSCP Office. 2023.
42. Prvu Bettger JA, Stineman MG. Effectiveness of multidisciplinary rehabilitation services in postacute care: state-of-the-science. A review. Arch Phys Med Rehabil. 2007;88(11):1526-34.
43. Handoll HH, Cameron ID, Mak JC, Panagoda CE, Finnegan TP. Multidisciplinary rehabilitation for older people with hip fractures. Cochrane Database Syst Rev. 2021;11(11):Cd007125.
44. HSE. Clinical Governance Information Leaflet. HSE. 2012.
45. O'Donnell, D. O'Shea M. Donnelly, S. Ní Shé, É. O' Donoghue, G. Bourke, N. Brennan, J. Claffey, A. Coleman, S. Cosgrave, S. Lang, D. Maloney, P. McAuliffe, E., McGuigan, C., McMahon, N., O'Shea, D., Quinn, S., Reilly, P., Whitty, H. . Getting Started in Developing Core Competences for Interprofessional Collaboration Within Integrated Care Teams for Older People: A Framework for the National Integrated Care Programme for Older Persons. University College Dublin. 2021.
46. Coughlan C, Manek N, Razak Y, Klaber RE. How to improve care across boundaries. BMJ. 2020;369:m1045.
47. HSE. Integrated Care Guidance: A practical guide to discharge and transfer from hospital 2014.
48. Department of Health. Independent Expert Review of Delayed Discharges. 2018.
49. Mousavi F, Sarbaz M, Sobhani-Rad M, Mousavi A, Kimiafar K. Rehabilitation Registration Systems: Current Recommendations and Challenges. Frontiers in Health Informatics. 2022;11:124.
50. Graham JE, Granger CV, Karmarkar AM, Deutsch A, Niewczyk P, Divita MA, et al. The Uniform Data System for Medical Rehabilitation: report of follow-up information on patients discharged from inpatient rehabilitation programs in 2002-2010. Am J Phys Med Rehabil. 2014;93(3):231-44.
51. Simmonds FJ, L; Berger, M; Tazelaar-Molinia, J; Zhang, M. Australian clinical quality registries project for ACS & QHC: Final report. . Wollongong: Australian Health Services Research Institute. 2009.
52. Information CIfH. Canadian Institute for Health Information. Rehabilitation minimum data set manual. 2022.
53. Sunnerhagen KS, Flansbjer UB, Lannsjö M, Tölli A, Lundgren-Nilsson A. WebRehab: a Swedish database for quality control in rehabilitation. J Rehabil Med. 2014;46(10):958-62.
54. Turner-Stokes L, Williams H, Sephton K, Rose H, Harris S, Thu A. Engaging the hearts and minds of clinicians in outcome measurement - the UK Rehabilitation Outcomes Collaborative approach. Disabil Rehabil. 2012;34(22):1871-9.
55. ROC U. UK Rehabilitation Outcomes Collaborative (UK ROC) Six-year report 2015-2021 2022.
56. WHO. Guidance on the analysis and use of routine health information systems: rehabilitation module. 2022.
57. Keeney T, Kumar A, Erler KS, Karmarkar AM. Making the Case for Patient-Reported Outcome Measures in Big-Data Rehabilitation Research: Implications for Optimizing Patient-Centered Care. Arch Phys Med Rehabil. 2022;103(5s):S140-s5.

**Health Service Executive**
Dr. Steevens' Hospital
Steeven's Lane
Dublin 8
D08 W2A8

Telephone: 01 6352000
**www.hse.ie**
September 2024