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Aseu Dyfeisiau ac Ymchwil Gofal Iechyd

# CEDAR

Centre for Healthcare Evaluation,  
Device Assessment and Research

## Level 2 neurorehabilitation service provision in Wales: the current state of affairs

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# Abbreviations

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Abbreviation	Definition
AHP	Allied healthcare professional
BSPRM	British Society of Physical and Rehabilitation Medicine
CFIR	Consolidated Framework for Implementation Research
COM-B	Capability, Opportunity, Motivation and Behaviour
MS	Microsoft
NHS	National Health Service
NWJCC	NHS Wales Joint Commissioning Committee
SROI	Social Return on Investment

## About CEDAR

CEDAR is an NHS-academic research and evaluation centre which is part of Cardiff and Vale University Local Health Board and Cardiff University. As a healthcare

technology research centre, CEDAR focuses on research and evaluation involving medical devices and diagnostics. We work with the NHS, academic institutions, commercial sector, publicly funded organisations, and charities. Our areas of expertise include systematic reviewing, health economics, clinical trial facilitation, qualitative research, analysis of routinely-collected and linked health data, and medical device regulations.



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# Level 2 neurorehabilitation service provision in Wales: the current state of affairs

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## 1 Introduction

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Neurorehabilitation is a specialised multi-disciplinary healthcare service for individuals who have experienced disease or injury to their neurological system, such as stroke, traumatic brain injury, spinal cord injury, sub arachnoid haemorrhage, multiple sclerosis, Guillain-Barré syndrome and post-intensive care polyneuropathy. The aim of neurorehabilitation is to restore functional abilities and improve the quality of life for patients with neurological impairments. Specialist neurorehabilitation services provide structured interventions to maximise independence, prevent complications, and reduce long-term healthcare costs [1].

Neurorehabilitation is widely recognised as a cost-effective, with evidence showing that early and appropriate rehabilitation significantly reduces long-term disability, hospital readmissions, and reliance on social care [2]. In the United Kingdom, neurorehabilitation is structured into three levels, based on the patient categorisation [1]:

- Level 1: Highly specialised inpatient services for patients with the most complex needs (Category A), led by consultants in Rehabilitation Medicine or neuropsychiatry. These services cater to populations across a wide catchment area and provide intensive, multidisciplinary rehabilitation.
- Level 2: Specialist inpatient rehabilitation for patients with moderate to severe needs (Category B) who require more intensive care than general rehabilitation but do not meet level 1 criteria. These services are consultant-led and serve as a bridge between acute hospital care and community rehabilitation.
- Level 3: Non-specialist rehabilitation delivered in acute hospitals or community settings, primarily for patients with less complex needs (Categories C and D). These services are often led by clinicians from other specialties, such as geriatrics or stroke medicine.

In Wales, Level 1 neurorehabilitation services are delivered through specialist centres at the University Hospital Llandough, Neath Port Talbot Hospital, but patients from North Wales can be referred to The Walton Centre in England under the cross-border agreement. There are currently a lack of level 2 neurorehabilitation pathways and services, which results in negative health, social and economic consequences for individuals, families and health and social care services.

This report summarises the current available evidence (or lack of evidence) that would support the deployment of level 2 neurorehabilitation services using the Consolidated Framework for Implementation Research (CFIR) [3], which covers both the evidence base for an intervention, and the landscape in which the intervention is to be implemented in. The purpose is to identify and inform future evidence generation and implementation barriers, in the hope that these can be targeted to ensure level 2 services are appropriately commissioned across Wales.

## 2 Methods

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### 2.1 The evidence-base

Relevant literature and data on the level 2 neurorehabilitation was provided by the National Strategic Clinical Network for Neurological conditions.. These documents included: peer-reviewed academic journals, grey literature (e.g., reports), policy/procedure documents (local and national), data summary tables on delayed discharge from the neurorehabilitation unit at the University Hospital Llandough, patient-case studies, and business cases.

### 2.2 Engaging stakeholders

Relevant stakeholders (e.g., consultants, allied health care professionals, rehabilitation lead, NWJCC commissioners) from all health boards, and national teams, were identified by the clinical team. These stakeholders were invited to take part in a focus group, to discuss the current challenges they were facing due to the lack of level 2 neurorehabilitation provision within Wales. The focus group lasted 1.5 hours on Microsoft (MS) Teams with 14 participants, and was facilitated by an experienced CEDAR researcher using a topic guide (appendix 1), with support from the clinical team to ensure the conversation remained clinically relevant.

The focus group was recorded and transcribed using MS Teams. Inductive thematic analysis was undertaken using the transcripts and field notes, to identify

current challenges and facilitators current being faced in Wales in relation to the provision of level 2 neurorehabilitation.

### 2.3 Consolidated Framework for Implementation Research (CFIR)

The Consolidated Framework for Implementation Research (CFIR) is made up of five domains: innovation; outer setting; inner setting; characteristics of individuals; and implementation process. Definitions of these domains are documented in the results section and appendix 2. These domains help guide a systematic assessment of potential barriers and facilitators to implementation strategies, to identify interventions and adaptations that may need to occur and help explain potential outcomes [3], to ensure interventions are effective.

The CFIR framework will be used within this report to summarise the current evidence base and situation within Wales and develop recommendations for future work based on the findings.

## 3 Results and recommendations

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### 3.1 Innovation domain

#### 3.1.1 Domain definition

The innovation domains, related to the intervention to be implemented: in this case the provision of level two neurorehabilitation service, within NHS Wales, at a health board level.

#### 3.1.2 Current evidence and situation within Wales

Currently there are no level 2 neurorehabilitation service available in Wales, however, within England there are several national centres across the country that provide both level 1 and level 2 neurorehabilitation. Evidence within the literature suggests that a consultant-led service is effective and cost-efficient, including long-term care costs [4-8]. Due to the similarities between NHS England and NHS Wales, there is a high translatability of this evidence, and any required changes could be easily adapted to the Welsh context.

Feedback from stakeholders in the focus group, identified that there are alternative service models, that could be employed to provide level 2 neurorehabilitation, including the use of Allied Healthcare Professional (AHP) lead services, AHP consultants and outreach, which could reduce the cost of providing the service. However, this does not align with the current British Society of Physical and Rehabilitation Medicine (BSPRM) definition of level 2 neurorehabilitation.

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*Participant 4: "I think there is scope for potentially being a little bit more lateral thinking about what these units might look like and who they might be led by. We've got a lot of therapists and advanced care practitioners. We are slightly cheaper than our medic colleagues and some of these patients are medically quite stable."*

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### 3.1.3 Evidence gaps and recommendations

- **Implementation** - There is already a strong evidence-base related to consultant led neurorehabilitation, therefore the focus should be around the implementation strategy (see following sections for details), which would ultimately determine its success, rather than generating evidence to show that this intervention would work within the Welsh context.
- **Evidence assessment of alternative service models** - Further work is required to identify whether alternative service models, including consultant and AHP lead service, are present at a global scale within the literature to explore if there are other way of providing level 2 neurorehabilitation.
- **Outreach standardisation** - If outreach is to be used as an alternative or interim measure, standardised outreach practices should be developed, to include plans and processes for evaluating the effectiveness and efficiency of such practices.

## 3.2 Outer setting domain

### 3.2.1 Domain definition

The outer setting domain refers to the setting/context, in which the inner domain sits (see appendix 2 for details). In this case it covers the local and national health system of Wales, community factors and location of services.

### 3.2.2 Current evidence and situation within Wales

NHS Wales is split into seven autonomous health boards, that each provide care to residents in a specific geographical area, each with a unique geographic and rurality level. When acute or highly-specialised interventions are required, these often take place at specialist hospital sites, situated in urbanised areas. In this case level 1 neurorehabilitation is provided in two locations within Wales (University Hospital Llandough [Cardiff] and Neath Port Talbot Hospital [ Port Talbot]) and commissioned beds in the Walton Centre in England for patients from North Wales; resulting in clustering of poor experience, inequalities in access and long

waiting lists to level 1 neurorehabilitation. These impacts are particularly pertinent when some patients could receive adequate provision at level 2 neurorehabilitation, and therefore, by providing level 2 at a health board level could reduce the challenges in accessing services.

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*Participant 9: "There is variation in care being offered to people"*

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NHS Wales Joint Commissioning Committee (NWJCC) act on behalf of the seven health boards in the commissioning of specialist services, to ensure fair and equitable access to the full range of specialised services. However, individual Health Boards are ultimately accountable to their population and other stakeholders for the provision of the services commissioned by the NWJCC for the residents in their area [9]. Within the focus group, there were feelings that there appears to be a disconnect between the commissioners and health boards, which leads to a lack of accountability. There have been other services such as stroke services, that have been specifically commissioned, and ring fenced, therefore it is possible for specific interventions to be implemented.

Of value in NHS Wales, are the national strategic networks held within the NHS Wales Performance and Improvement organisation, which provide national support to drive improvements in the quality and safety of care. Furthermore, greater impact could be gained by linking in with other strategic functions such as Quality, Safety and Improvement, and Value Transformation; both of which align with Welsh Government's and NHS Wales' priorities and strategic goals (e.g., quality and safety of care, achieving better and fairer healthcare outcomes, and reducing variation in services). Hospital acquired decondition is one area that could be linked to, as patients are a risk of harm from deconditioning if their rehabilitation needs are not met or they are having to sit on long waiting list to access rehabilitation. Specific to neurorehabilitation, the National Neurological plan 'Together for Health Delivery Plan for Neurological Conditions' 2017 [10] highlights the needs of local neurorehabilitation services and should be a priority of local health boards and the Quality Statement for neurological conditions [11] emphasises the need for safe, effective evidenced based care, equity of access and timely access to meet a person's needs. Furthermore, the lack of level 2 neurorehabilitation beds, means that the policy on the Repatriation of Patients 2017 [12] (i.e., care closer to home) and Strategic Framework for Welsh Language Services in Health, Social Services and Social Care 2022-27 [13], is not being fulfilled for patients with level 2 neurorehabilitation needs. Provision of level 2 neurorehabilitation would enable coordinated care delivered as close to home as

possible, and is hoped to reduce hospital stays and foster independence which illustrate a long-term investment in the population, supporting the creation of a healthier, more prosperous and resilient nation, which link into the 'A Healthier Wales' strategy [14] and 'Well-being of Future Generations (Wales) Act 2015' [15].

### 3.2.3 Evidence gaps and recommendations

**Use evidence and support from network** - strengthening collaboration across the functions of NHS Performance and Improvement could draw in further evidence for Wales around how provision of level 2 neurorehabilitation would meet a number of high-level national policies, and could support in providing data and evidence generation, for example the impact and numbers of patient experience hospital acquired decondition in Wales.

## 3.3 Inner setting domain

### 3.3.1 Domain definition

The inner domains in the setting that the intervention is to be implemented in, in this case, would be a specific hospital setting, which could include, location, resources and team/staff structure.

### 3.3.2 Current evidence and situation within Wales

The current neurorehabilitation pathway has been described as disjointed and incomplete, in part due to the lack of level 2 neurorehabilitation service provision, and often uses existing care pathways (e.g., elderly care rehabilitation pathways) which can preclude certain population groups and do not contain adequate expertise. A lack of a designated pathway impacts the ability for patients to move effectively through the system in a timely manner, especially when being repatriated back to their own health board and leads to longer waiting lists to access the service. Delayed discharge from level 1 neurorehabilitation services, once a patient is medically fit and has met their rehabilitation goals, has been documented by the level 1 neurorehabilitation unit at University Hospital Llandough, with an average delay of 19 days per patient in the 12-month period April 2024 - March 2025. It should be noted that the delays are due to multiple factors including but not limited to delay in repatriation to a local health board, no suitable level 2 facilities, delayed package of care for home discharge, delay in identifying a specialist nursing home. Further work should continue to ensure this data is routinely collected nationally, which would enable a rough estimated excess cost of holding a patient in a specialist service longer than required. Within the focus group there were reports of challenges in obtaining equipment (e.g., postural supportive wheelchairs, electric wheelchairs.) These consequence at a local level impact care quality and safety.

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*Participant 2: We have units, there's elderly care rehabilitation services in Saint David's and Lakeside and Barry and there's the Level 1 specialist centre, and nothing in between. So the short answer would be none [level 2] in Cardiff and the Vale. Patients stay in the Level 1 specialist centre for a lot longer because there is nowhere to send them, so we effectively do level 1 and level 2 and complex discharge planning for that cohort of patients. But that will obviously have a knock-on effect then on our ability to be equitable across the region"*

*Participants 4: "Therapist in Medical rehabilitation facilities often feel that they don't have the skills to fully meet the patient's needs. The MDT around them definitely don't have the skills to meet these more complicated needs discharge planning. There's a whole host of things that we are not offering those patients because they are in the wrong setting because we have nowhere else for them to go."*

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### 3.3.3 Evidence gaps and recommendations

**Evidence generation mechanism** - Develop mechanisms for recording the point at which level 2 neurorehabilitation is required, and the associated delays across the patient pathway. This could be implemented quickly at a local level, including the use of a small cohort to enable rapid evidence generation. Develop mechanisms for recording and reporting rehabilitation needs and working with DHCW to ensure this is routinely recorded to enable national data collection and analysis.

## 3.4 Characteristics of individuals

### 3.4.1 Domain definition

The characteristics of individuals domain is defined as the role and characteristics of the individuals running and delivering the intervention from high-level leaders, to project managers, to healthcare staff delivering the service on the ground. It also includes those individuals who are receiving the intervention. This domain can be sub-characterised using the Capability, Opportunity, Motivation and Behaviour change (COM-B) model to identify where individuals have the knowledge, skills and competence (capability), availability and power to deliver the intervention (opportunity) and are committed to delivering the intervention (Motivation) [16]. In addition to the need of the individuals receiving the intervention.

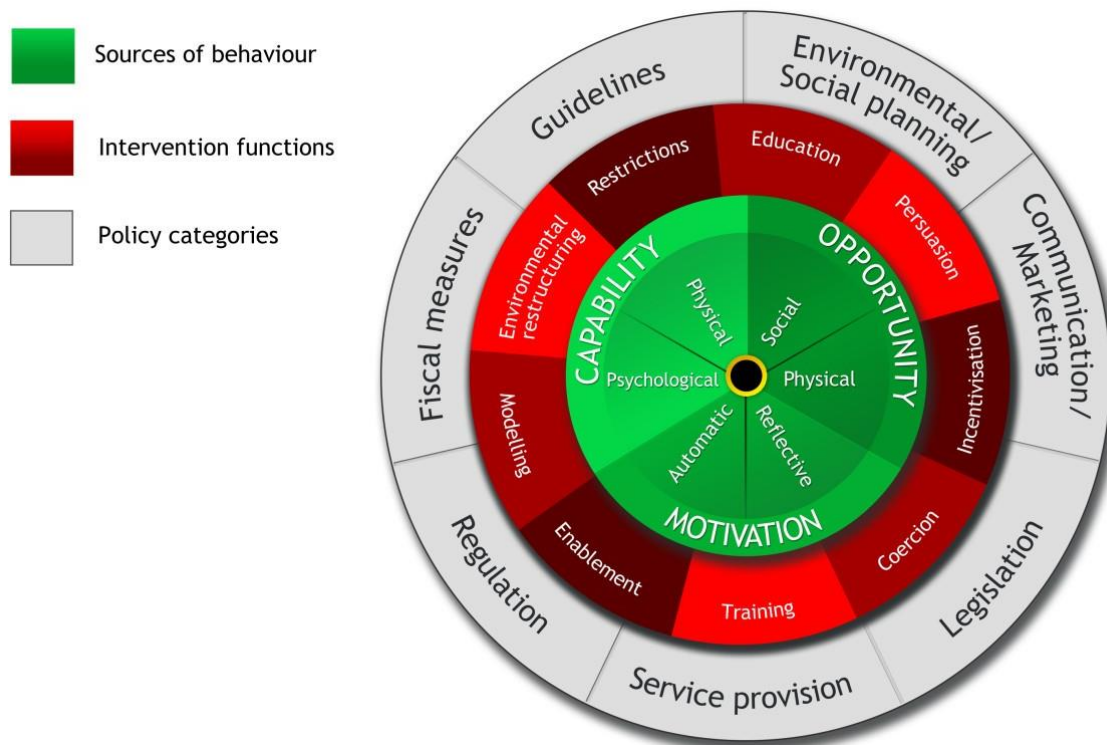


Figure 1 COM-B Wheel [16]

### 3.4.2 Current evidence and situation within Wales

#### 3.4.2.1 Staff

Within the focus group there was a high level of motivation of staff to provide adequate and timely care to patients requiring level 2 neurorehabilitation, which is a positive asset for implementation success through having motivated leaders or key workers within health boards. However, in terms of capability any new service would require recruitment and upskilling of staffs. Outreach, where experienced staff would train and upskills staff in other non-specialist area, was mentioned as a potential solution and has been used to increase the capacity of staff.

Furthermore, within the focus group there was some confusion around the BSPRM definition of level 2 neurorehabilitation. Finally, staff lack the opportunity to collect data, due to the absence of mechanisms in place to do so.

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*Participant 1: "I think what sometimes I find difficult is the separation out between level 2A and 2B is there. Is there a distinction between 2A and 2B because 2A kind of gets grouped into tertiary provision and 2B then sits which makes it a little bit confusing I think."*

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### 3.4.2.2 Patient need

The population requiring level 2 neurorehabilitation is very heterogeneous, with a range of co-morbid health conditions, however, not everyone with a particular health condition will require level 2 neurorehabilitation, which make it challenge when identifying the level of need, which is important given the shift toward needs-based rehabilitation. Despite this there are reports of an increasing demand, with long waits to access the service and to be discharged to appropriate services, all of which have negative patient impacts including deconditioning, mental health and impacts on family. Furthermore, there is a preference for people to be treated closer to home, which means that some patients may refuse rehabilitation at the level 1 neurorehabilitation centres as it is too far from home.

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*Participant 1: "We don't know what our current need is. We've got no way of assessing at the moment, I don't know how you even pull that together because it's so complicated. But data is probably going to be the key."*

*Participant 2: "Patients are still quite complicated, and we don't have that step down"*

*Participant 5: "We have long waits either end really of waiting to go into NRU [Neath Port Talbot Rehabilitation Unit] when waiting to come out, depending on demand capacity going in and out of that unit anyway."*

*Participant 6: "They're too far away from their family and it was having a detrimental effect on their mental health"*

*Participant 4: "You have a cohort of young people who are not rehabbed to their full potential, and therefore are going into the community with complex needs, can't get back to work, can't get back to full function because they haven't accessed the right things at the right time"*

*Participant 5: "so those people may be getting worse and worse and worse with the provisioning community while they're waiting for a neurorehabilitation bed and that obviously has a functional effect on the patient."*

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### 3.4.3 Evidence gaps and recommendations

**Quantitative evidence generation** - The current evidence is theoretical (i.e., based on translated evidence,) lived experience anecdotes or small-scale data collection, and further quantitative evidence would need to be obtained at a national level to show how the lack of a specialist level 2 neurorehabilitation service is impacting the adherence to these wider policies.

**Social return on investment (SROI) analysis** - The anecdotal reports of decondition, mental health and family impacts, and patient preference, lends itself towards an SROI. A forecast SROI could be undertaken to identify the social and environmental value to providing level 2 neurorehabilitation closer to home, which would reduce the need to have the high-level of data required for a health economic assessment. However, the estimated number of individuals requiring level 2 neurorehabilitation would be required.

**Identification of staff skills gap** - Staff across the NHS in Wales have a wealth of skills, however, specialist knowledge would be required. Therefore, exploration is needed to ascertain if this skill set already present or would external recruitment or upskilling be required and to what extent and cost.

## 3.5 Implementation process domain

### 3.5.1 Domain definition

The implementation process domain contains the activities and strategies that are required to successfully implement the intervention, covering aspect from planning, to doing, to evaluation and adaption.

### 3.5.2 Current evidence and situation within Wales

The NHS in Wales has proven success in change management and is highly experienced in the implementation of new and novel services, therefore, this should not be a barrier to implementation of level 2 neurorehabilitation service.

### 3.5.3 Evidence gaps and recommendations

**Robust evaluation** - Prior to implementation, consideration should be given to how the intervention would be evaluated and what data would need to be collected. Proactively planning an evaluation from the start would provide robust evidence of the effectiveness of the intervention implemented, allow for early iterations and adaptations to suit local context, and support the continued provision of the service.

**Drawing lesson learnt from other area** - Understanding and learning from other similar services (e.g., stroke) would support the scale and spread of successful implementation.

## 4 Discussion

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Within Wales there is a clear unmet patient need for level 2 neurorehabilitation with a lack of timely care impacting rehabilitation outcomes. There is a high-level of motivation among staff to provide adequate high-quality person-centred care which they currently feel is missing. The literature holds robust translatable evidence for the efficiency and cost-effectiveness for consultant led Level 2 neurorehabilitation. Although this evidence is from NHS England it could easily be translated to the Welsh context. There is an argument that the benefits maybe slightly different due to the anticipation of implementation strategy, local context and level of needs, however, due to the data limitations, generating this evidence would take time, and all the while patients are continuing to be underserved.

Although not numerically documented from Wales, there are clear harms and inequalities present due to the lack of adequate rehabilitation. Poor rehabilitation goes beyond the specialist level 2 neurorehabilitation and improved intensive open rehabilitation could improve outcomes for other patients in other specialists. A shift in perspective away from ring-fenced working could release capacity to increase access to rehabilitation based on needs, rather than diagnosis. Nevertheless, this is not a reinvention of the wheel, just using and utilising existing tools, pathways and data in a productive and meaningful way for patients, which will require investment to do.

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*Participant 6: "We do have people, which we sort of say need slow stream rehab, but that really is not defined and it could well be that those are the kinds of people who might benefit from having access to a level 2 centre in that where they are usually on a medical ward, their needs are not being fully met."*

*Participant 9: "Sometimes I find it easier to call it complex care rather than just level 2 neuro rehab because there are people with complex needs who would benefit from a service like this level 2 to sit outside of neuro"*

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This report documents a short scoping exercise and a more robust assessment using the CFIR framework (or similar). Involving more stakeholders at a more in-depth level could provide additional details on the implementation strategy and provide more robust indicators on the level of need. Furthermore, evidence generation such as a social return of investment and use, could provide some alternative evidence relatively quickly.

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# Appendix 1 – Focus group topic guide

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## Stakeholder focus group: current situation for level 2 neurorehabilitation within Wales.

My name is Katherine, and I am a research scientist who works for a department called CEDAR, based at Cardiff & Vale University Health Board.

As you may be aware CEDAR are working with the Strategic Neurological Network looking at the current complex neurorehabilitation Level 2 offer in Wales for patients who are not suitable for Specialist Services funded for by the JCC. The purpose of this focus group is to understand from your perspective the current situation within Wales, where the gaps are and what the future challenges may be.

The conversations will be recorded for transcription purposes but the responses you give today will remain anonymous, but anonymised quotes maybe used in the reports we produce. Please note that anything discussed here today is confidential.

### **Do you have any questions before we begin?**

**Are you all happy to proceed with the focus group? Y/N**

**Are you all happy for me to record the focus group? Y/N**

1. I'll now go around the room and ask each of you to tell us your name, your current role, and any relevant experience?
2. In your view can you describe the current service provision for patients needing level 2 neurorehabilitation. We are defining level 2 as: "Local (district) specialist rehabilitation services (Level 2) are typically planned over a district-level population of 350-500K, and are led or supported by a consultant trained and accredited in Rehabilitation medicine (RM), working both in hospital and the community setting. The specialist multidisciplinary rehabilitation team provides advice and support for local general rehabilitation teams".

*Prompts:*

- a. Are current patient needs being met?
- b. What are the current challenges being faced?

- i. Rehabilitation pathway
- ii. Access to rehabilitation
- c. What are the impacts on patients?
- d. What are the service level impacts?

3. [If time allows] What would you like to see provided in the future?

*Prompts:*

- a. Short-term and long-term changes
- b. What resource would be needed?
- c. What are the positives to that approach?
- d. What are the negatives to that approach?
- e. What barriers do you foresee?
  - i. Knowledge
  - ii. Skills
  - iii. Power/influence
  - iv. Commitment
  - v. Patient needs - (e.g., changing patient need, such as increased demand)

4. Is there anything else you would like to tell me?

**Thank you for attending today's focus group. Just as a reminder that anything discussed here is confidential. The data collected today will be anonymous, but anonymised quotes may be used in the reports we produce.**

# Appendix 2- CFIR

## I. INNOVATION DOMAIN [More Details](#)

Innovation: The “thing” being implemented, e.g., a new clinical treatment, educational program, or city service.

[Document the innovation being implemented, e.g., innovation type, innovation core vs. adaptable components, using a published reporting guideline. Distinguish the innovation (the “thing” that continues when implementation is complete) from the implementation process and strategies used to implement the innovation (activities that end after implementation is complete).]

Construct Name	Construct Definition <i>The degree to which:</i>
A. <a href="#">Innovation Source</a>	The group that developed and/or visibly sponsored use of the innovation is reputable, credible, and/or trustable.
B. <a href="#">Innovation Evidence-Base</a>	The innovation has robust evidence supporting its effectiveness.
C. <a href="#">Innovation Relative Advantage</a>	The innovation is better than other available innovations or current practice.
D. <a href="#">Innovation Adaptability</a>	The innovation can be modified, tailored, or refined to fit local context or needs.
E. <a href="#">Innovation Trialability</a>	The innovation can be tested or piloted on a small scale and undone.
F. <a href="#">Innovation Complexity</a>	The innovation is complicated, which may be reflected by its scope and/or the nature and number of connections and steps.
G. <a href="#">Innovation Design</a>	The innovation is well designed and packaged, including how it is assembled, bundled, and presented.
H. <a href="#">Innovation Cost</a>	The innovation purchase and operating costs are affordable.

## II. OUTER SETTING DOMAIN [More Details](#)

Outer Setting: The setting in which the Inner Setting exists, e.g., hospital system, school district, state. There may be multiple Outer Settings and/or multiple levels within the Outer Setting (e.g., community, system, state).

Project Outer Setting(s): [Document the actual Outer Setting in the project, e.g., type, location, and the boundary between the Outer Setting and the Inner Setting.]

Construct Name	Construct Definition <i>The degree to which:</i>
A. <a href="#">Critical Incidents</a>	Large-scale and/or unanticipated events disrupt implementation and/or delivery of the innovation.
B. <a href="#">Local Attitudes</a>	Sociocultural values (e.g., shared responsibility in helping recipients) and beliefs (e.g., convictions about the worthiness of recipients) encourage the Outer Setting to support implementation and/or delivery of the innovation.
C. <a href="#">Local Conditions</a>	Economic, environmental, political, and/or technological conditions enable the Outer Setting to support implementation and/or delivery of the innovation.
D. <a href="#">Partnerships &amp; Connections</a>	The Inner Setting is networked with external entities, including referral networks, academic affiliations, and professional organization networks.
E. <a href="#">Policies &amp; Laws</a>	Legislation, regulations, professional group guidelines and recommendations, or accreditation standards support implementation and/or delivery of the innovation.
F. <a href="#">Financing</a>	Funding from external entities (e.g., grants, reimbursement) is available to implement and/or deliver the innovation.
G. <a href="#">External Pressure</a>	External pressures drive implementation and/or delivery of the innovation. Note: Use this construct to capture themes related to External Pressures that are not included in the subconstructs below.
– 1. <a href="#">Societal Pressure</a>	Mass media campaigns, advocacy groups, or social movements or protests drive implementation and/or delivery of the innovation.
– 2. <a href="#">Market Pressure</a>	Competing with and/or imitating peer entities drives implementation and/or delivery of the innovation.
– 3. <a href="#">Performance-Measurement Pressure</a>	Quality or benchmarking metrics or established service goals drive implementation and/or delivery of the innovation.

### III. INNER SETTING DOMAIN [More Details](#)

Inner Setting: The setting in which the innovation is implemented, e.g., hospital, school, city. There may be multiple Inner Settings and/or multiple levels within the Inner Setting, e.g., unit, classroom, team.

Project Inner Setting(s): [Document the actual Inner Setting in the project, e.g., type, location, and the boundary between the Outer Setting and the Inner Setting.]

Construct Name

Construct Definition  
*The degree to which:*

Note:

Constructs A - D exist in the Inner Setting regardless of implementation and/or delivery of the innovation, i.e., they are persistent general characteristics of the Inner Setting.

A. [Structural Characteristics](#)

Infrastructure components support functional performance of the Inner Setting. Note: Use this construct to capture themes related to Structural Characteristics that are not included in the subconstructs below.

– 1. [Physical Infrastructure](#)

Layout and configuration of space and other tangible material features support functional performance of the Inner Setting.

– 2. [Information Technology Infrastructure](#)

Technological systems for tele-communication, electronic documentation, and data storage, management, reporting, and analysis support functional performance of the Inner Setting.

– 3. [Work Infrastructure](#)

Organization of tasks and responsibilities within and between individuals and teams, and general staffing levels, support functional performance of the Inner Setting.

B. [Relational Connections](#)

There are high quality formal and informal relationships, networks, and teams within and across Inner Setting boundaries (e.g., structural, professional).

C. [Communications](#)

There are high quality formal and informal information sharing practices within and across Inner Setting boundaries (e.g., structural, professional).

D. [Culture](#)

There are shared values, beliefs, and norms across the Inner Setting. Note: Use this construct to capture themes related to Culture that are not included in the subconstructs below.

– 1. [Human Equality-Centeredness](#)

There are shared values, beliefs, and norms about the inherent equal worth and value of all human beings.

– 2. [Recipient-Centeredness](#)

There are shared values, beliefs, and norms around caring, supporting, and addressing the needs and welfare of recipients.

– 3. [Deliverer-Centeredness](#) There are shared values, beliefs, and norms around caring, supporting, and addressing the needs and welfare of deliverers.

– 4. [Learning-Centeredness](#) There are shared values, beliefs, and norms around psychological safety, continual improvement, and using data to inform practice.

Note: Constructs E - K are specific to the implementation and/or delivery of the innovation.

E. [Tension for Change](#) The current situation is intolerable and needs to change.

F. [Compatibility](#) The innovation fits with workflows, systems, and processes.

G. [Relative Priority](#) Implementing and delivering the innovation is important compared to other initiatives.

H. [Incentive Systems](#) Tangible and/or intangible incentives and rewards and/or disincentives and punishments support implementation and delivery of the innovation.

I. [Mission Alignment](#) Implementing and delivering the innovation is in line with the overarching commitment, purpose, or goals in the Inner Setting.

J. [Available Resources](#) Resources are available to implement and deliver the innovation. Note: Use this construct to capture themes related to Available Resources that are not included in the subconstructs below.

-1. [Funding](#) Funding is available to implement and deliver the innovation.

-2. [Space](#) Physical space is available to implement and deliver the innovation.

-3. [Materials & Equipment](#) Supplies are available to implement and deliver the innovation.

K. [Access to Knowledge & Information](#) Guidance and/or training is accessible to implement and deliver the innovation.

#### **IV. INDIVIDUALS DOMAIN** [\(More Details\)](#)

Individuals: The roles and characteristics of individuals.

### **ROLES SUBDOMAIN**

Document the roles applicable to the project and their location in the Inner or Outer Setting.

Construct Name

Construct Definition

A. [High-Level Leaders](#)

Individuals with a high level of authority, including key decision-makers, executive leaders, or directors.

B. [Mid-level Leaders](#)

Individuals with a moderate level of authority, including leaders supervised by a high-level leader and who supervise others.

C. [Opinion Leaders](#)

Individuals with informal influence on the attitudes and behaviours of others.

D. [Implementation Facilitators](#)

Individuals with subject matter expertise who assist, coach, or support implementation.

E. [Implementation Leads](#)

Individuals who lead efforts to implement the innovation.

F. [Implementation Team Members](#)

Individuals who collaborate with and support the Implementation Leads to implement the innovation, ideally including Innovation Deliverers and Recipients.

G. [Other Implementation Support](#)

Individuals who support the Implementation Leads and/or Implementation Team Members to implement the innovation.

H. [Innovation Deliverers](#)

Individuals who are directly or indirectly delivering the innovation.

I. [Innovation Recipients](#)

Individuals who are directly or indirectly receiving the innovation.

### **CHARACTERISTICS SUBDOMAIN**

Project Characteristics: [Document the characteristics applicable to the roles in the project based on the COM-B system or role-specific theories.]

Construct Name

Construct Definition:  
*The degree to which:*

A. [Need](#)

The individual(s) has deficits related to survival, well-being, or personal fulfilment, which will be addressed by implementation and/or delivery of the innovation.

- B. [Capability](#) The individual(s) has interpersonal competence, knowledge, and skills to fulfil Role.
- C. [Opportunity](#) The individual(s) has availability, scope, and power to fulfil Role.
- D. [Motivation](#) The individual(s) is committed to fulfilling Role.

## V. IMPLEMENTATION PROCESS DOMAIN [\[More Details\]](#)

Implementation Process: The activities and strategies used to implement the innovation.

Project Implementation Process: [Document the implementation process framework and/or activities and strategies being used to implement the innovation. Distinguish the implementation process used to implement the innovation (activities that end after implementation is complete) from the innovation (the “thing” that continues when implementation is complete).]

Construct Name	Construct Definition:
	<i>The degree to which individuals:</i>

- A. [Teaming](#) Join together, intentionally coordinating and collaborating on interdependent tasks, to implement the innovation.
- B. [Assessing Needs](#) Collect information about priorities, preferences, and needs of people. Note: Use this construct to capture themes related to Assessing Needs that are not included in the subconstructs below.
- 1. [Innovation Deliverers](#) Collect information about the priorities, preferences, and needs of deliverers to guide implementation and delivery of the innovation.
  - 2. [Innovation Recipients](#) Collect information about the priorities, preferences, and needs of recipients to guide implementation and delivery of the innovation.
- C. [Assessing Context](#) Collect information to identify and appraise barriers and facilitators to implementation and delivery of the innovation.
- D. [Planning](#) Identify roles and responsibilities, outline specific steps and milestones, and define goals and measures for implementation success in advance.
- E. [Tailoring Strategies](#) Choose and operationalize implementation strategies to address barriers, leverage facilitators, and fit context.

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F. <a href="#">Engaging</a>	Attract and encourage participation in implementation and/or the innovation. Note: Use this construct to capture themes related to Engaging that are not included in the subconstructs below.
– 1. <a href="#">Innovation Deliverers</a>	Attract and encourage deliverers to serve on the implementation team and/or to deliver the innovation.
– 2. <a href="#">Innovation Recipients</a>	Attract and encourage recipients to serve on the implementation team and/or participate in the innovation.
G. <a href="#">Doing</a>	Implement in small steps, tests, or cycles of change to trial and cumulatively optimize delivery of the innovation.
H. <a href="#">Reflecting &amp; Evaluating</a>	Collect and discuss quantitative and qualitative information about the success of implementation. Note: Use this construct to capture themes related to Reflecting & Evaluating that are not included in the subconstructs below.
– 1. <a href="#">Implementation</a>	Collect and discuss quantitative and qualitative information about the success of implementation.
– 2. <a href="#">Innovation</a>	Collect and discuss quantitative and qualitative information about the success of the innovation.
I. <a href="#">Adapting</a>	Modify the innovation and/or the Inner Setting for optimal fit and integration into work processes.