

# From Concept to Clinic: Harnessing Technology for the Neurorehabilitation Toolkit

Dr Nicola J. Hancock

University of East Anglia, UK

[n.hancock@uea.ac.uk](mailto:n.hancock@uea.ac.uk)

@nicolajhancock



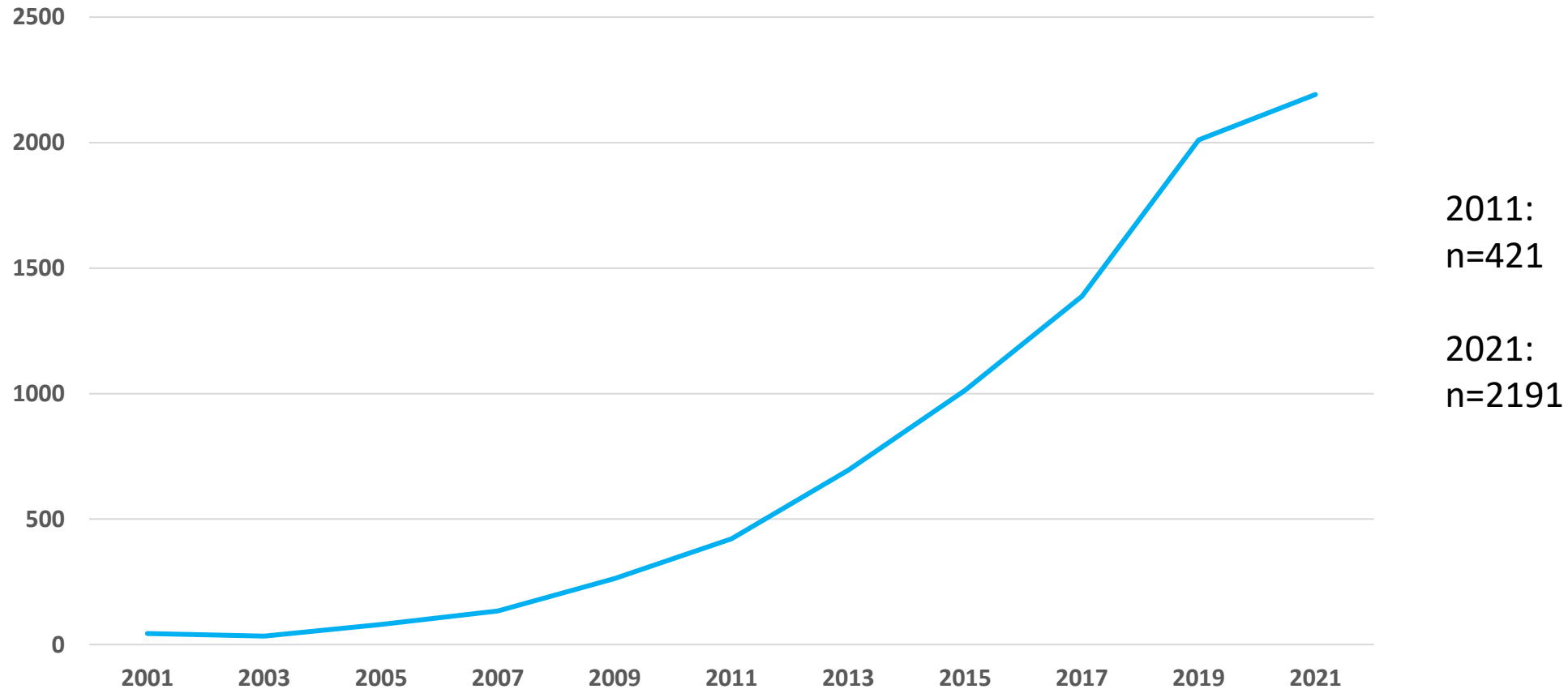
# Session plan and learning outcomes

- To consider the promise afforded by technology for your rehabilitation toolkit
- To consider challenges to uptake of rehabilitation technology
- To place inclusive, user-centred activity front and centre
- To consider a framework for development and evaluation of rehabilitation technology
- To generate discussion and debate- and share our thoughts and ideas: what action can we take forward from here?



# Physiotherapy Rehabilitation Technology publications per year 2001-2021

Number of publications per year in *PubMed*, identified November 2021; search terms 'rehabilitation' AND 'technology' AND 'physiotherapy'



# NHS Innovation landscape

One example of guiding principles:

The **NHS 'Accelerated Access Collaborative' (AAC)**, a multi-agency partnership including patient groups, government, industry and the NHS:

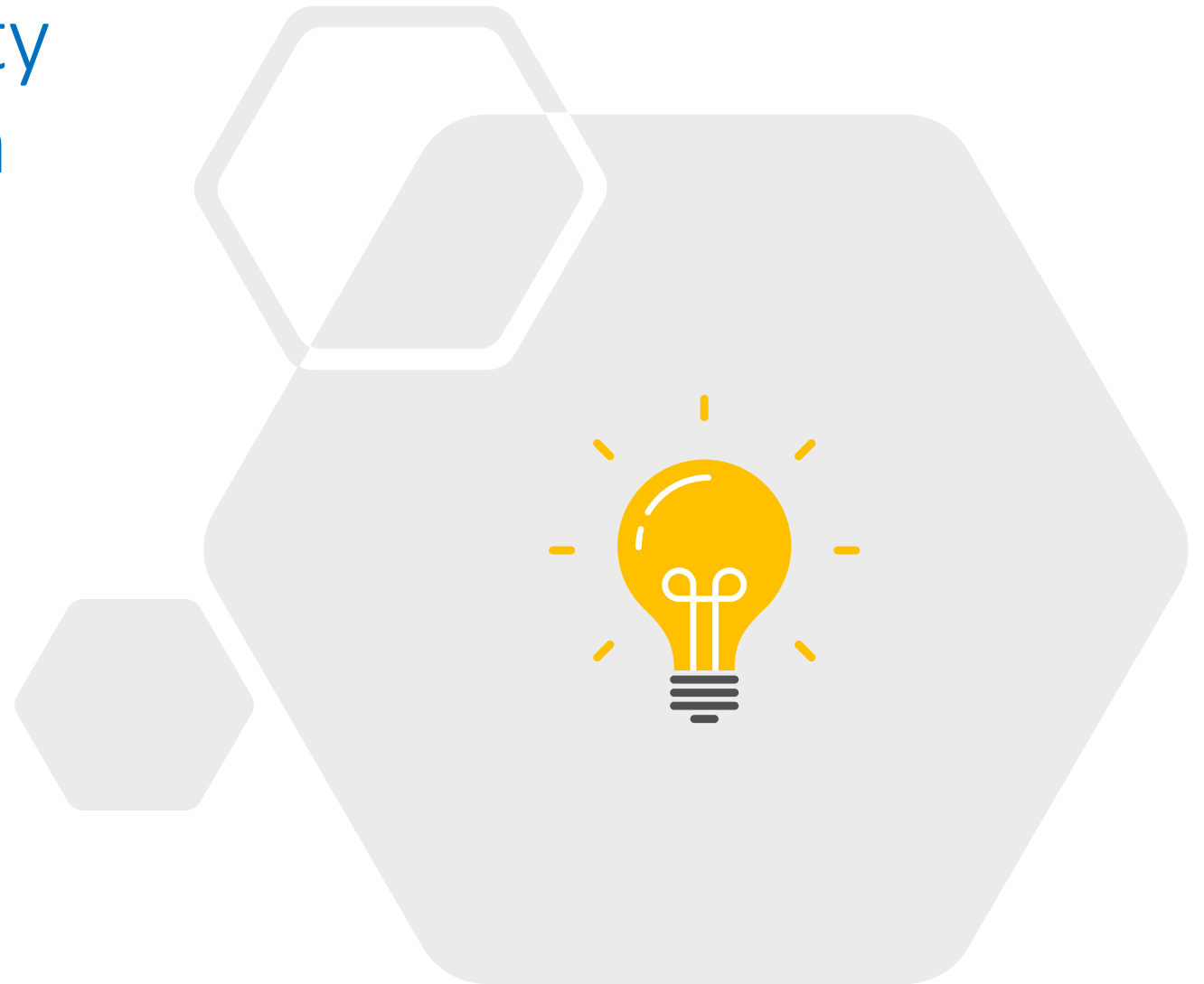
Six principles for providers:

- 1. Develop and deploy innovations with the people that will use them**
2. Develop a culture where innovation can happen
3. Supporting people
4. Adopt the best ideas and share learning
5. Focus on outcomes and impact
6. Be flexible when managing change

“Our goal is simple, speeding up access to the best technologies and products, leading to better care for patients.”  
Lord Darzi, *Chair, AAC*

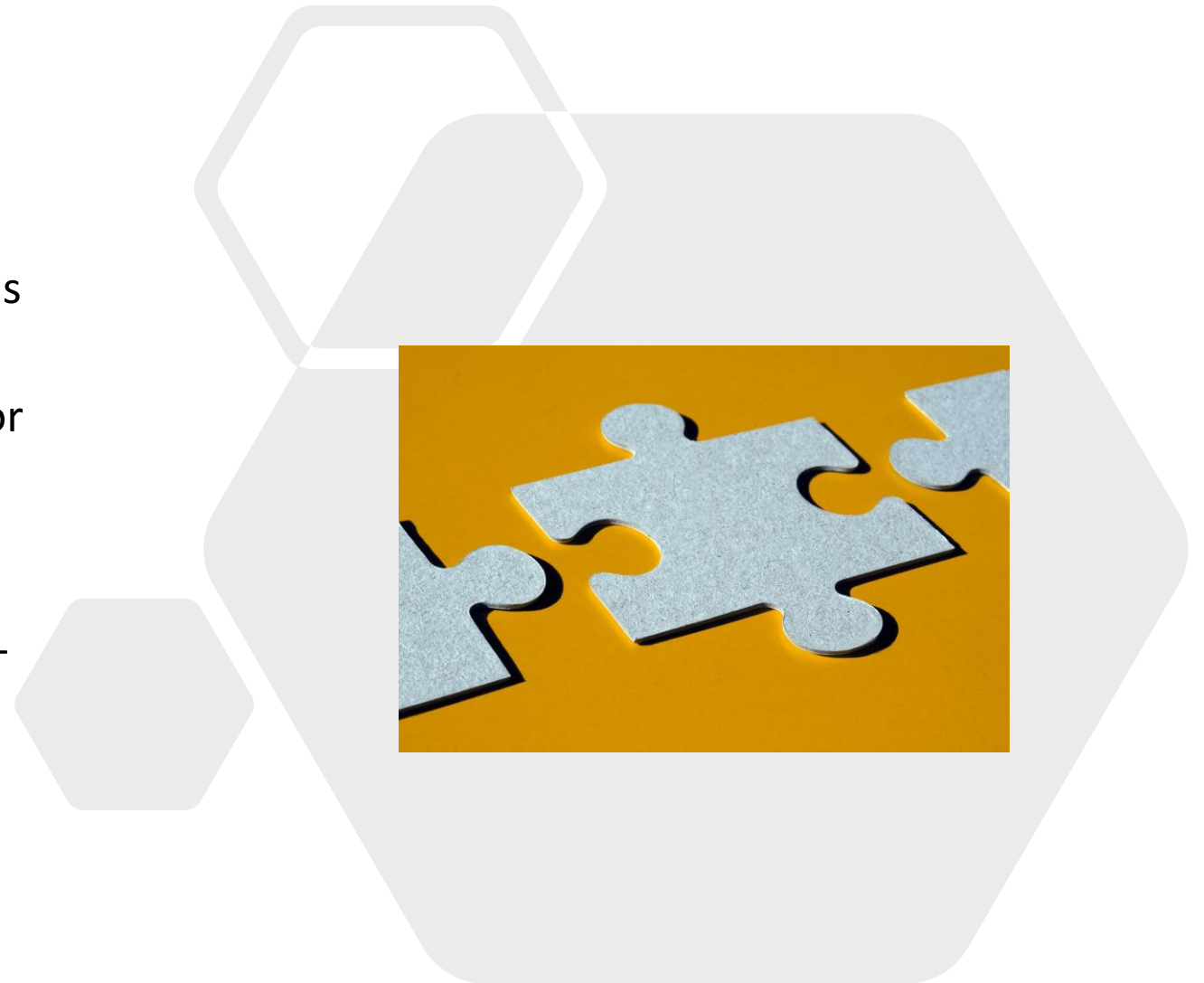
# Promise & opportunity in neurorehabilitation

- Increased intensity of interventions
- Enhancing assessment and measurement
- Monitoring adherence
- Enhancing patient interest and motivation; reducing feelings of 'abandonment??'
- **Providing opportunities for self-management**
- Widening participation in rehabilitation activity in home & community settings



# Challenges to uptake

- Translating 'laboratory' generated technology into clinically viable products is multi-faceted and complex
- Echoes the challenge already described for translation of fundamental science to clinical practice in neurorehabilitation
- Patient ambitions for rehabilitation often at odds with service/resource constraints- but *might* be a facilitator?
- Rigorous governance and safety frameworks challenging to understand?  
'Safeguards, not hurdles'\*





# Further challenges...

- Understanding a confusing landscape, multiple stakeholders in design, evaluation and adoption- where to start? Can feel simpler to do what we have always done!
- Research and testing: Understanding potential influence on practice-not only early device development & testing, but *spreading, sustaining & scaling* of innovations\*
- What are the key component(s) that might effect change? Is it the 'technology' or what 'the technology does' that really matters to clinicians and patients?
- The right research design to explore the above: RCTs of single devices best use of resources? A whole systems approach with an underpinning framework



# Importantly...a person-centred approach

- We need to engage the right people, at the right time, to address these challenges
- To what extent is user involvement in technology design and evaluation happening?- review in progress with INPA team: uptake and considerations for design and implementation of neurorehabilitation technology (Hancock, Pradhan, Alt-Murphy, Levin)

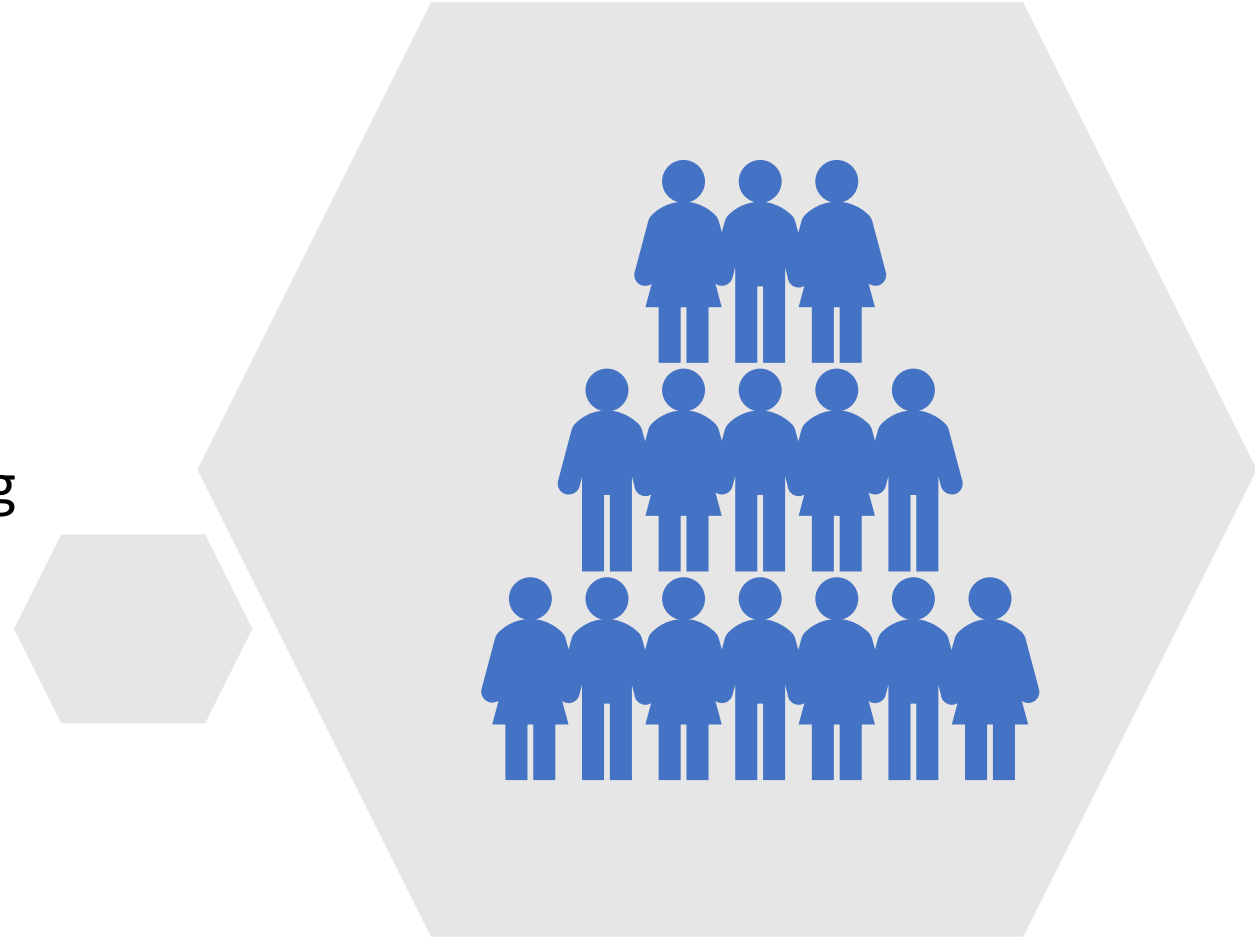




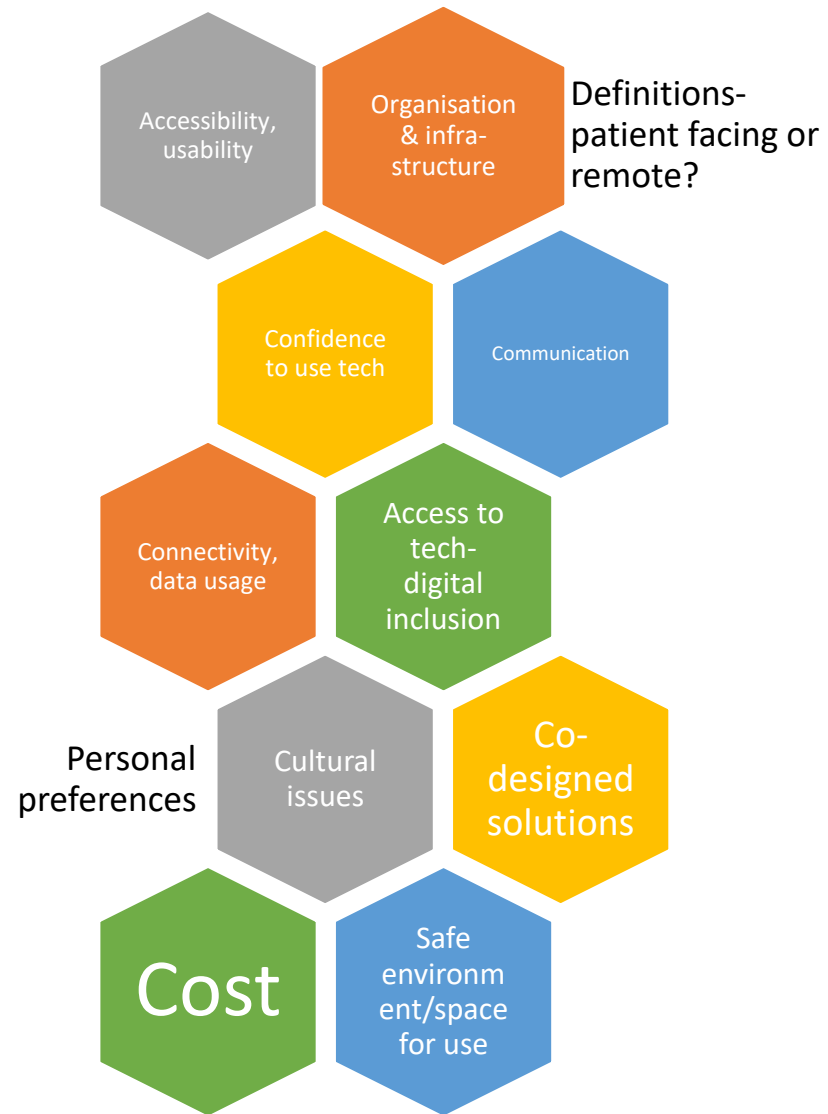
# Person-centred rehabilitation:

Opportunities for self-management through engagement with technology-some parallels:

- Shared decision making and goal setting
- Identifying barriers, problem solving
- Tailored support
- Education about the effects of practice and feedback



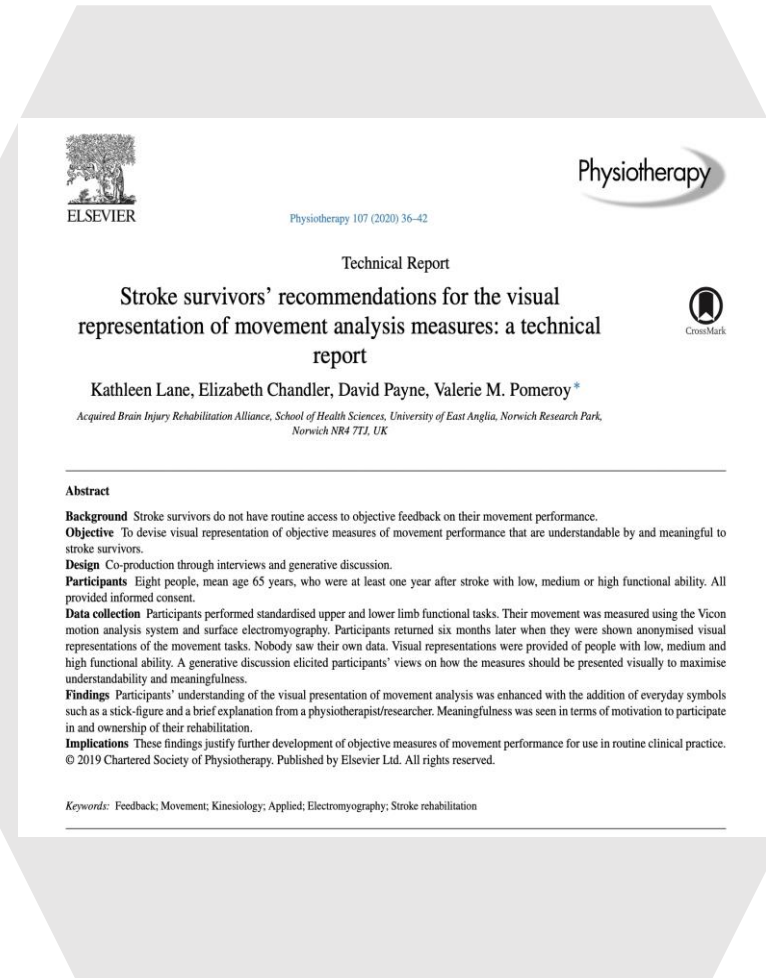
# Barriers and facilitators to uptake and use



Thank you to folks on Twitter!

# Placing users front and centre- an example

- Deriving visual representation of measures of movement performance
- Co-production of outputs via interviews and discussions; n=8 people with stroke
- Lab-based movement analysis
- Visual representation of high, medium and low functional ability
- People wanted everyday, simple figures such as traffic lights, scales, fuel indicators to enhance meaningfulness.
- Belief in their own progress was a significant motivator, as was demonstrating small steps forward.



# Some more activity in this exciting space...



Physiotherapy 113 (2021) 141–152

Physiotherapy

Systematic review

## Neurophysiological changes accompanying reduction in upper limb motor impairments in response to exercise-based virtual rehabilitation after stroke: systematic review

Fiona Ellis<sup>a</sup>, Niamh C. Kennedy<sup>b</sup>, Nicola J. Hancock<sup>a</sup>, Valerie M. Pomeroy<sup>a,c,\*</sup>

<sup>a</sup> School of Health Sciences, University of East Anglia, Norwich, UK

<sup>b</sup> School of Psychology, Ulster University, Northern Ireland, UK

<sup>c</sup> National Institute of Health Research Brain Injury MedTech Cooperative, UK

### Abstract

**Background** Virtual reality-augmented therapist-delivered exercise-based training has promise for enhancing upper limb motor recovery after stroke. However, the neurophysiological mechanisms are unclear.

**Objective** To find if neurophysiological changes are correlated with or accompany a reduction in motor impairment in response to virtual reality-aided exercise-based training.

**Data sources** Databases searched from inception to August 2020: MEDLINE, AMED, EMBASE, PUBMED, COCHRANE, CINHAL, PROQUEST and OPEN GREY.

**Eligibility criteria** Studies that investigated virtual reality-augmented exercise-based training for the upper limb in adults with stroke, and, measured motor impairment and neurophysiological outcomes. Studies that combined VR with another technology were excluded.

**Data extraction and synthesis** Using pre-prepared proformas, three reviewers independently identified eligible studies, assessed potential risk-of-bias, and extracted data. A critical narrative synthesis was conducted. A meta-analysis was not possible because of heterogeneity in participants, interventions and outcome measures.

**Results** Of 1387 records identified, four studies were eligible and included in the review. Overall, included studies were assessed as having high potential risk-of-bias. The VR equipment, and control interventions varied between studies. Two studies measured motor impairment with the Fugl-Meyer Assessment but there was no commonality in the use of neurophysiological measures. One study found improvement in neurophysiological measures only. The other three studies found a reduction in motor impairment and changes in neurophysiological outcomes, but did not calculate correlation coefficients.

**Conclusion** There is insufficient evidence to identify the neurophysiological changes that are correlated with, or accompany, reduction in upper limb motor impairment in response to virtual reality-augmented exercise-based training after stroke.

Systematic Review Registration Number PROSPERO 2017 CRD42017071312

© 2021 Chartered Society of Physiotherapy. Published by Elsevier Ltd. All rights reserved.



Open access

Quality Improvement Report

## BMJ Open Quality Evidence-based practice ‘on-the-go’: using ViaTherapy as a tool to enhance clinical decision making in upper limb rehabilitation after stroke, a quality improvement initiative

Nicola J Hancock,<sup>1</sup> Kathryn Collins,<sup>2</sup> Charlie Dorer,<sup>3</sup> Steven L Wolf,<sup>4</sup> Mark Bayley,<sup>5,6</sup> Valerie M Pomeroy<sup>1</sup>

To cite: Hancock NJ, Collins K, Dorer C, et al. Evidence-based practice ‘on-the-go’: using ViaTherapy as a tool to enhance clinical decision making in upper limb rehabilitation after stroke, a quality improvement initiative. *BMJ Open Quality* 2019;8:e000592. doi:10.1136/bmjopen-2018-000592

► Additional material is published online only. To view please visit the journal online (<http://dx.doi.org/10.1136/bmjopen-2018-000592>)

Received 28 November 2018  
Revised 4 July 2019  
Accepted 9 July 2019

### ABSTRACT

Recovery of upper limb function after stroke is currently sub-optimal, despite good quality evidence showing that interventions enabling repetitive practice of task-specific activity are effective in improving function. Therapists need to access and engage with such evidence to optimise outcomes with people with stroke, but this is challenging in fast-paced stroke rehabilitation services. This quality improvement project aimed to investigate acceptability and service impact of a new, international tool for accessing evidence on upper limb rehabilitation after stroke—‘ViaTherapy’—in a team of community rehabilitation therapists. Semi-structured interviews were undertaken at baseline to determine confidence in, and barriers to, evidence-based practice (EBP) to support clinical decision making. Reported barriers included time, lack of access to evidence and a research-practice disconnect. The clinicians then integrated use of ‘ViaTherapy’ into their practice for 4 weeks. Follow-up interviews explored the accessibility of the tool in community rehabilitation practice, and its impact on clinician confidence, treatment planning and provision. Clinicians found the tool, used predominantly in mobile device app format, to be concise

that enable high intensity, repetitive and task specific practice of functional activity.<sup>1</sup> Such guidance and underpinning evidence is important for adoption to clinical practice if outcomes from upper limb therapy are to be optimised with stroke survivors: approximately 65% do not regain the ability to reach and grasp despite participation in rehabilitation.<sup>2</sup> To facilitate the delivery of evidence-based rehabilitation and best outcomes, clinical therapists need access to current evidence identifying and supporting interventions that are tailored to their individual service user needs. But such engagement with the evidence is challenging in the context of increasingly demanding and fast-paced healthcare services, especially considering adaptations to service delivery that include a need for more community-based rehabilitation as hospital length of stay for stroke survivors reduces.<sup>3</sup> Such a challenge, however,



Physiotherapy 113 (2021) 37–43

Physiotherapy

Technical Report

## User perspectives on the design and setup of lower limb mirror therapy equipment after stroke: a technical report

Sarah Bajuaifer<sup>a,b,\*</sup>, Michael J. Grey<sup>a</sup>, Nicola Hancock<sup>a</sup>, Valerie M. Pomeroy<sup>a,c</sup>

<sup>a</sup> School of Health Sciences, University of East Anglia, UK

<sup>b</sup> Princess Nourah Bint Abdulrahman University, Saudi Arabia

<sup>c</sup> NIHR Brain Injury MedTech, UK



### Abstract

**Objectives** To co-design lower limb mirror therapy (MT) equipment and setup by working directly with stroke survivors and physiotherapists. **Design** Co-design approach through focus groups.

**Participants** Twenty-six participants. Sixteen stroke survivors and ten physiotherapists.

**Data collection and analysis** Data were collected in an iterative process through two sets of focus groups. Firstly, prototype one of the MT equipment was presented to the participants. They were encouraged to use and comment on it. Then, the key requirements for ankle exercise with MT were presented, and participants discussed whether the prototype one was able to deliver these requirements. These findings informed iterations to the device, and a second prototype was produced and discussed in the second set of focus groups. The final prototype was then produced based on the participants’ feedback. All focus groups were audio-recorded, followed by verbatim transcriptions and thematic analysis.

**Results** Main characteristics required of the lower limb MT device were found to be: the ability to produce MT ankle exercise from an upright sitting posture, an adjustable angle between 5 to 15 degree from the midline to allow clear lower limb reflection during seated exercise, and a lightweight device to enable easy use for stroke survivors.

**Conclusion** This work produced an iteratively co-design lower limb MT to be used with stroke survivors.

© 2021 Chartered Society of Physiotherapy. Published by Elsevier Ltd. All rights reserved.

### Contribution of the Paper

This study provides user-centred design of lower limb mirror therapy equipment and set up for use in clinical practice and subsequent research.

**Keywords:** Mirror therapy; Lower limb; Stroke; Rehabilitation; User-centred design

# Solution- focused, inclusive design

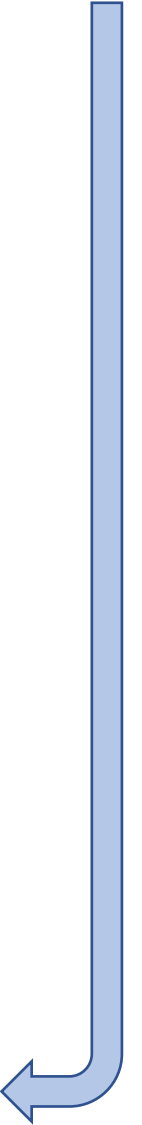
This should be the goal of any rehabilitation technology development process

Resources centred on technologies that have emerged via such processes

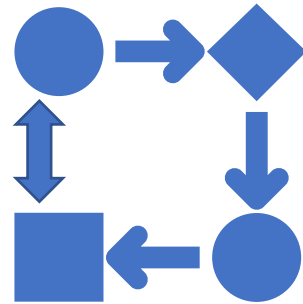
'Solution' defined by the user (not the 'end-user'!)

Questions should be generated by the user

Reduction of risks to translation and uptake



# Concept, clinic, community



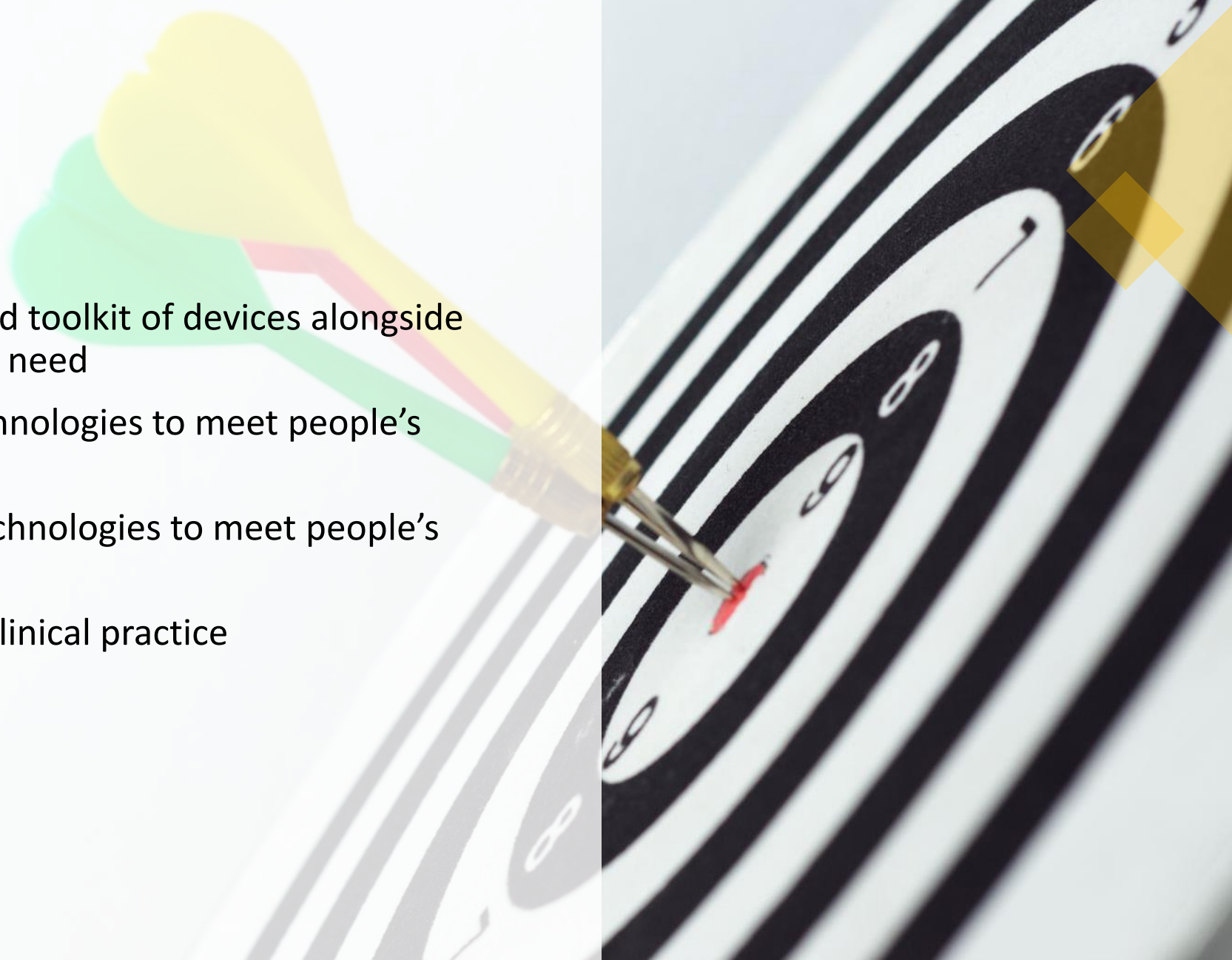
A joined-up, inclusive, iterative approach to technology design, evaluation and implementation can generate rich data from evolving idea to usable, accessible end-product



This should reflect true partnership working, not cursory consultation about an already fixed idea

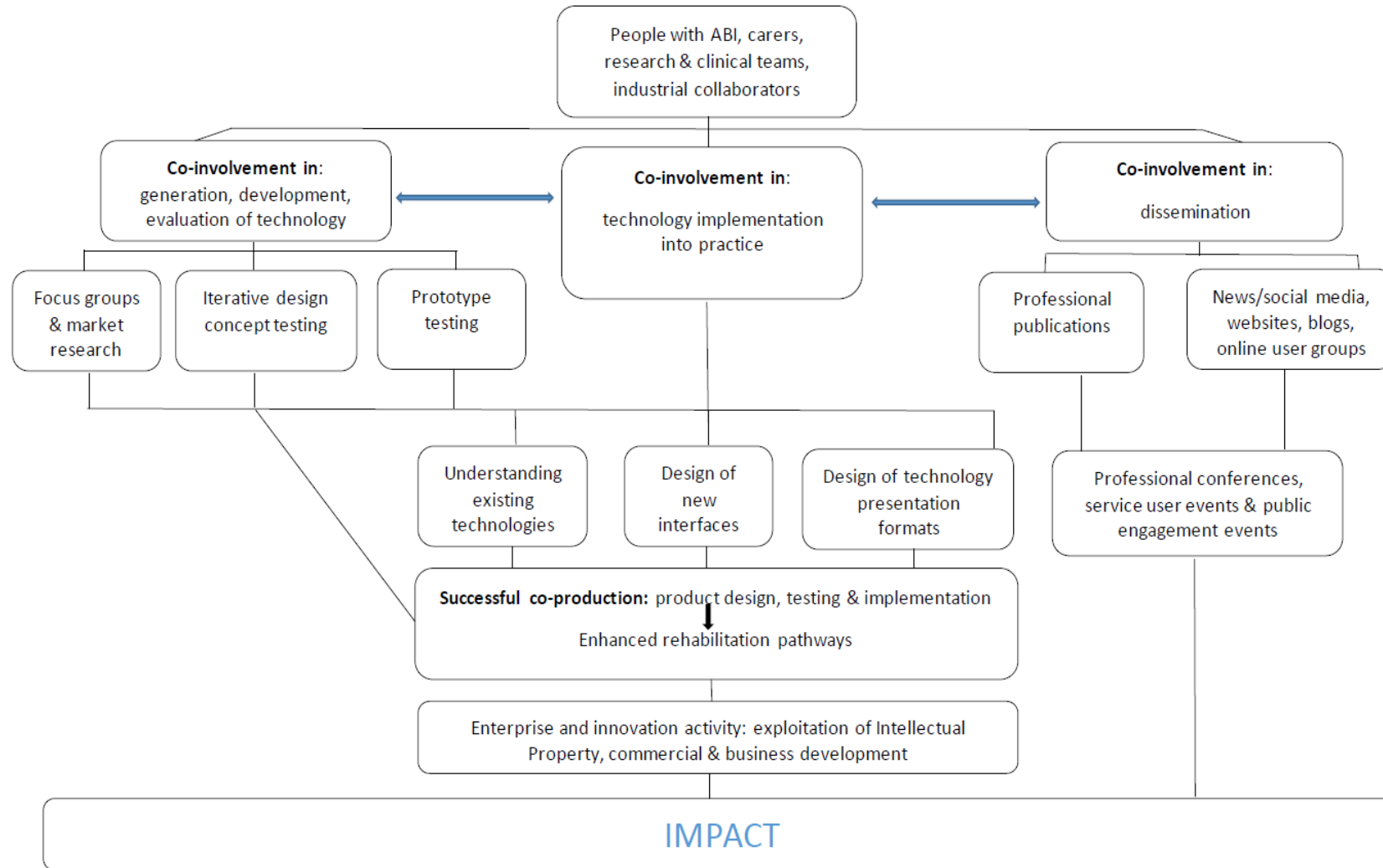
# The goal

- To build a robust, person-centred toolkit of devices alongside people with neurorehabilitation need
- User-centred design of new technologies to meet people's needs
- Robust evaluation of existing technologies to meet people's needs
- To enhance and not to replace clinical practice





# A blueprint for development, evaluation & use of rehabilitation technology?



Adapted from: Hancock, N.J., Pomeroy, V.M., Dorer, C., Jarritt, P. Kennedy, N., Mares, K., Ferris, I., Robinson, D. An action plan for the next generation of movement rehabilitation technologies. *Synapse*, 2018 (Autumn)

# Conversations for the experts...

- Have you ever been consulted in the concept development/design process for neurorehabilitation technology? Or supported patients to do so?
- Have you ever been involved in the (service) evaluation of an existing technology, or in research/testing for a new technology?
- If you could choose a single research question/aim to be addressed in this space, what might it be?
- What actions and inspirations would you take forward from here?

## In conclusion

Rehabilitation technology offers opportunities to optimise patient-centred rehabilitation and service pathways

Let's be mindful of the challenges to use and uptake from the earliest point in the design, evaluation and implementation cycle

Translation of technological developments to practice requires an ecosystem of inclusive processes via true partnership working with stakeholders

# Ps Supportive resources for remote rehabilitation- a cheeky plug!

<https://www.bridgesselfmanagement.org.uk/csh-resources/>



About us Workshops Innovation Media Contact **Community Stroke Hub**



## Community Stroke Hub: Resources

Getting Started -  
Read here first!

General Advice and  
Training

Telerehab  
Resources

Video  
Resources

Patient Info  
& Remote  
Support

# Acknowledgements

- All co-authors listed in publications slide 11
- Professor Valerie Pomeroy, Professor of Neurorehabilitation, UEA.
- Jacob Wells and Elizabeth Chandler, RAs UEA
- ACPIN, UK for supporting the original Editorial from which the blueprint, slide 10, was adapted



# References

---

Bajuaifer, S. Grey, M., Hancock, N.J., Pomeroy, V. User perspectives on the design and setup of lower limb mirror therapy equipment after stroke: a technical report. *Physiotherapy* 2021; 113 (37-43) <https://doi.org/10.1016/j.physio.2021.05.001>

---

Clark, D., Dean, G., Bolton, S., Beeson, B. Bench to Bedside: The technology adoption pathway in healthcare. *Health and Technology* 2020; 10(537-545)

---

Demain S, Burridge J, Ellis-Hill C, Hughes A-M, Yardley L, Tedesco-Tricas L, Swain I. Assistive technologies after stroke: self-management or fending for yourself? A focus group study. *BMC Health Services Research* 2013; 13:334. DOI: [10.1186/1472-6963-13-334](https://doi.org/10.1186/1472-6963-13-334)

---

Ellis, F. Kennedy, N. Hancock, N.J., Pomeroy, V. Neurophysiological changes accompanying reduction in upper limb motor impairments in response to exercise-based virtual rehabilitation after stroke: a systematic review. *Physiotherapy* 2021; 113(141-152) <https://doi.org/10.1016/j.physio.2021.05.009>

---

Hancock, N.J., Collins, K., Dorer, C., Wolf, S., Bayley, M., Pomeroy, V.M Evidence based practice 'on-the-go': using ViaTherapy as a tool to enhance clinical decision making in upper limb rehabilitation after stroke - a quality improvement initiative. *BMJ Open Quality* 2019; 8(3) <https://bmjopenquality.bmj.com/content/8/3/e000592>

---

Hancock, N.J., Pomeroy, V.M., Dorer, C., Jarritt, P. Kennedy, N., Mares, K., Ferris, I., Robinson, D. An action plan for the next generation of movement rehabilitation technologies. *Synapse, Journal of the Association of Chartered Physiotherapists in Neurology*, Autumn 2018 [https://ueaeprints.uea.ac.uk/id/eprint/68279/3/N\\_Hancock\\_Movt\\_Rehab\\_Tech.pdf](https://ueaeprints.uea.ac.uk/id/eprint/68279/3/N_Hancock_Movt_Rehab_Tech.pdf)

---

Proffitt R, Lange B. Considerations in the efficacy and effectiveness of virtual reality interventions for stroke rehabilitation: moving the field forward. *Physical Therapy* 2015; 95:441-448. DOI: [10.2522/ptj.20130571](https://doi.org/10.2522/ptj.20130571)

# The use of Acceptance and Commitment Therapy (ACT) in Neurorehabilitation

Dr Janice Mackenzie

Consultant Clinical  
Neuropsychologist,  
Central and South  
Manchester CSTs and  
CNRTs

Clinical Lead for  
Psychology in Stroke and  
CNRTs, GMNISDN





# Examples of emotional problems following a brain injury or neurological disorder

- Adjustment / Grief reaction
- Anxiety
- PTSD
- Depression
- Low Self-Esteem
- Anger / Frustration

# The Transition Curve: How We Adjust





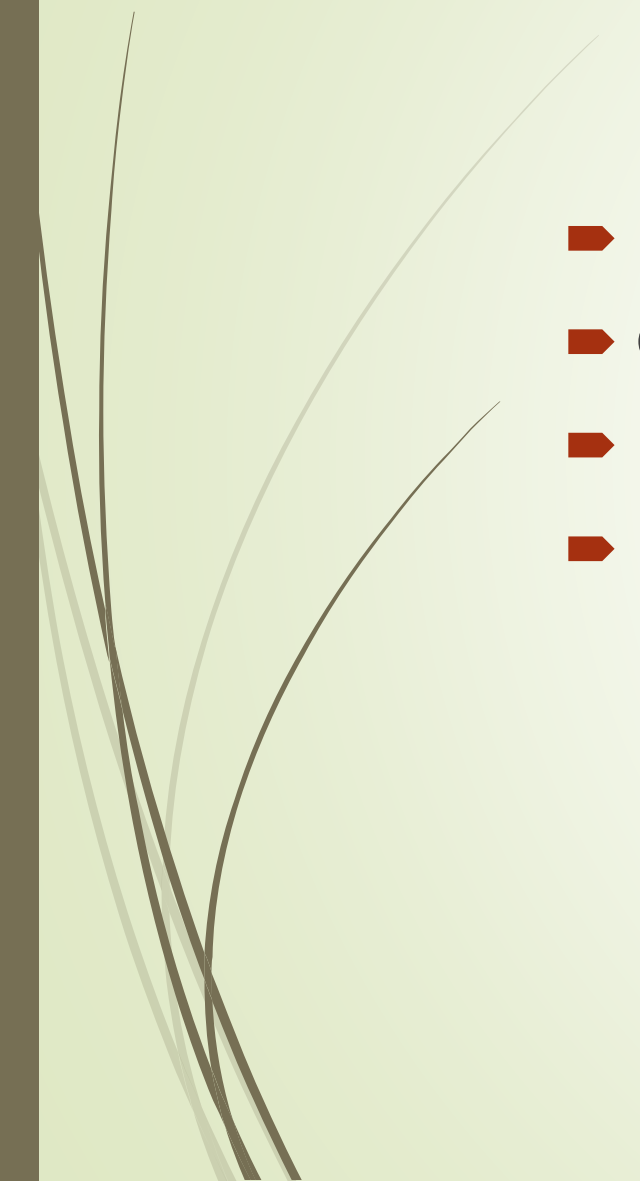
# Adjustment



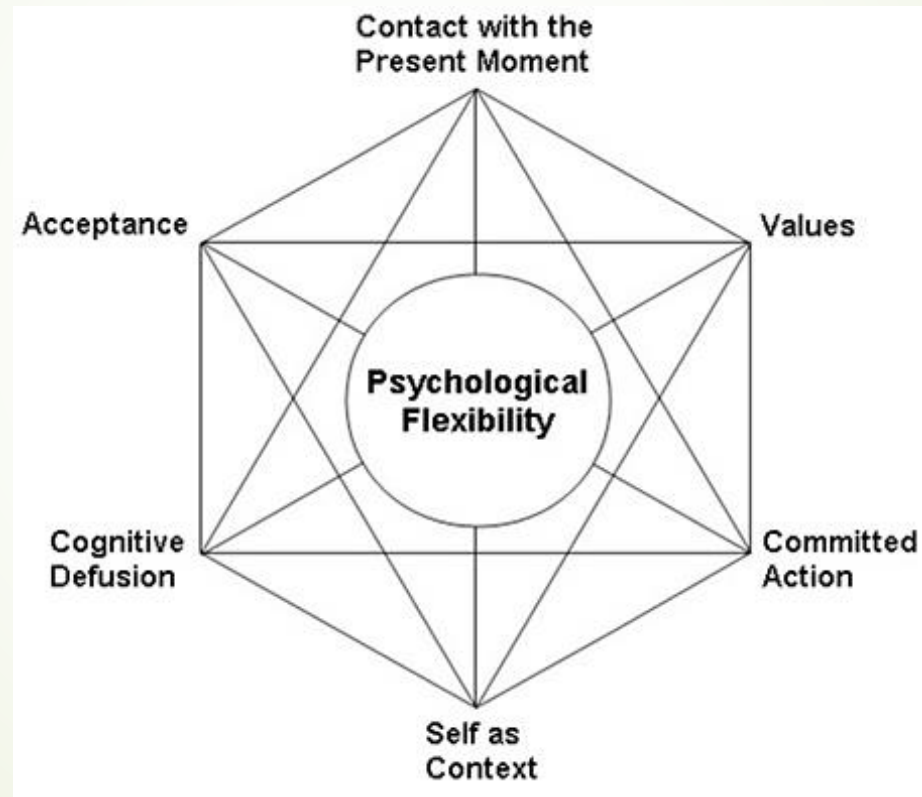
- ▶ Help bring together past and present for new sense of 'self' – including positive changes, eg, increased empathy
- ▶ Moving from a sense of loss to an appreciation of potential and 'good enough'
- ▶ Adjustment = adaptation and assimilation (Klonoff, 2010)
- ▶ 'Journey of personal discovery' (Tyerman and King, 2004) – no end point in adjustment and acceptance



# ACT in a nutshell metaphor

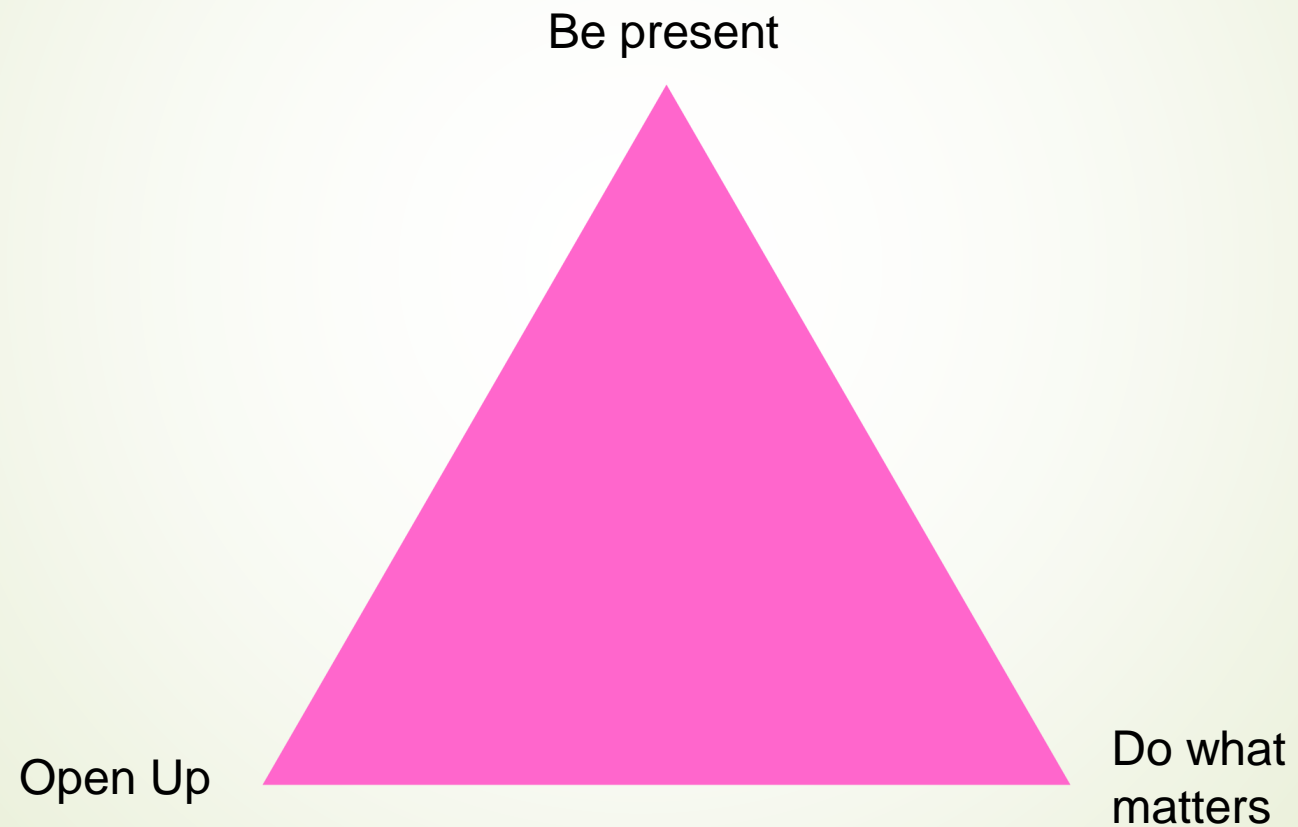
- ▶ Russ Harris
  - ▶ Clipboard/hands in front of face
  - ▶ Pushing it away
  - ▶ Leaving it in your lap
- 

# The ACT Hexiflex





# The Triflex





# The Hexaflexercise



Russ Harris







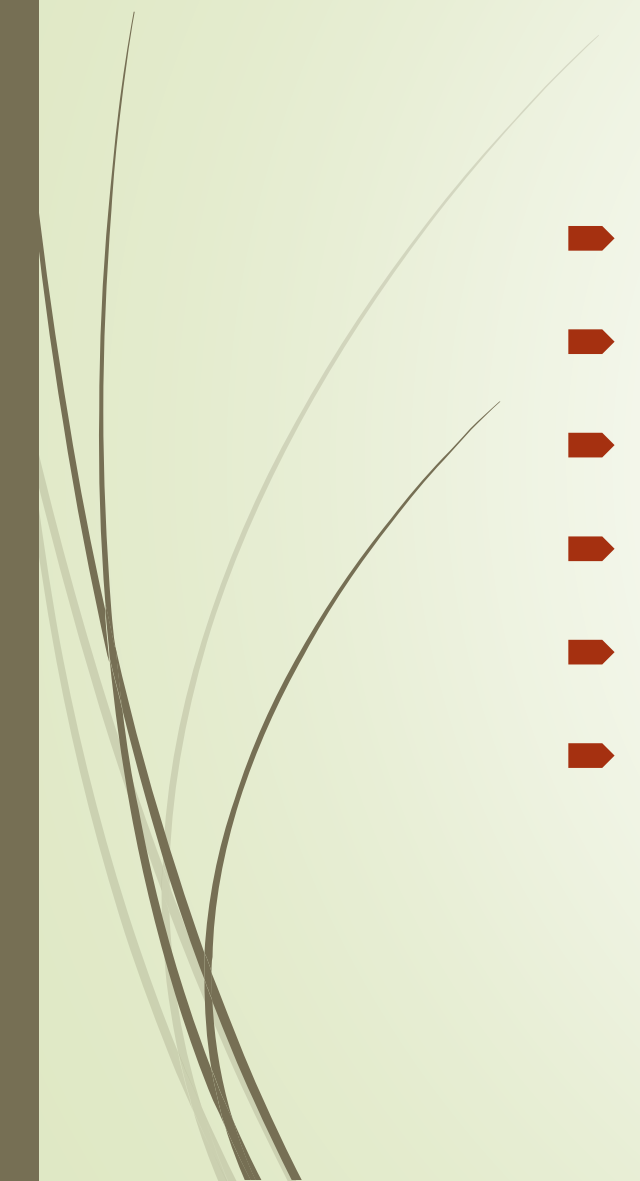
# Assessment



- ▶ The Bull's Eye:
  - ▶ Work/Education
  - ▶ Relationships
  - ▶ Personal growth/Health
  - ▶ Leisure
- ▶ Dissecting the Problem:
  - ▶ Entanglement with thoughts
  - ▶ Struggle with feelings
  - ▶ Life-draining actions
  - ▶ Avoiding challenging situations

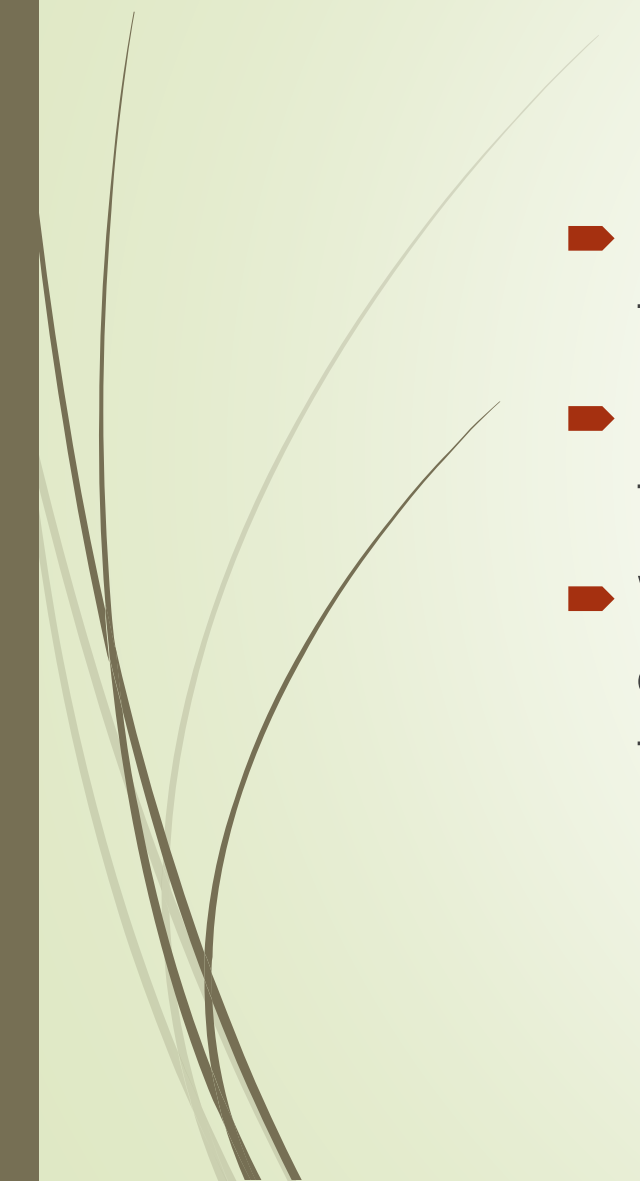


# Psychological rigidity

- Experiential avoidance
  - Fusion: Past, future, reasons, rules, judgments
  - Distractibility, disconnection, disengagement
  - Fusion with the conceptualised self
  - Remoteness from values
  - Unworkable action
- 

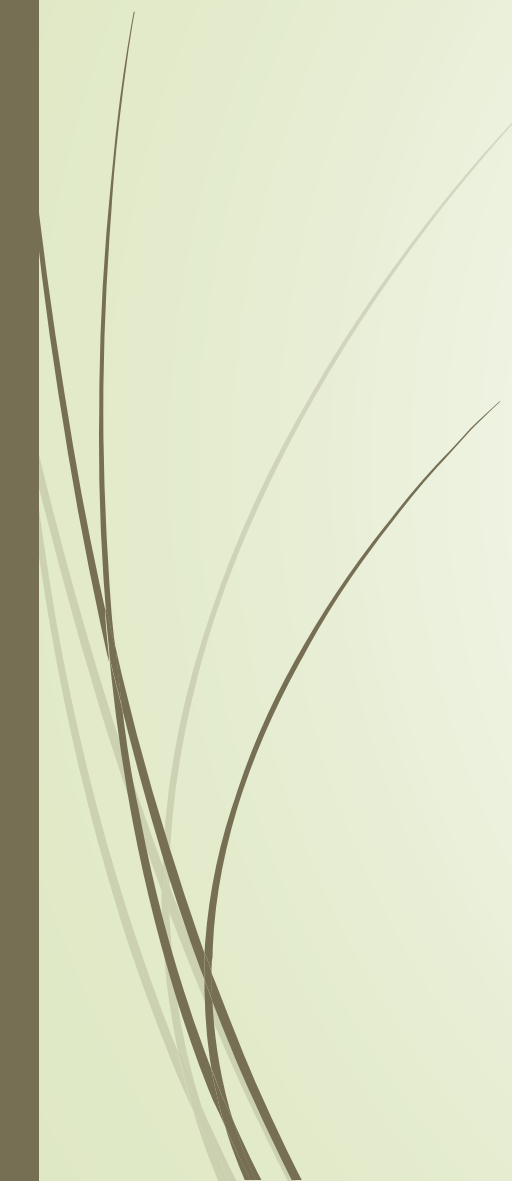


# Intervention summary 1

- Understanding how little control we have over our thoughts and feelings
  - Noticing that our minds are problem-solvers and story tellers
  - We often get hooked or caught up in thoughts and don't want to let them go (good or bad) so learning to take a step back; noticing but not being overwhelmed
- 

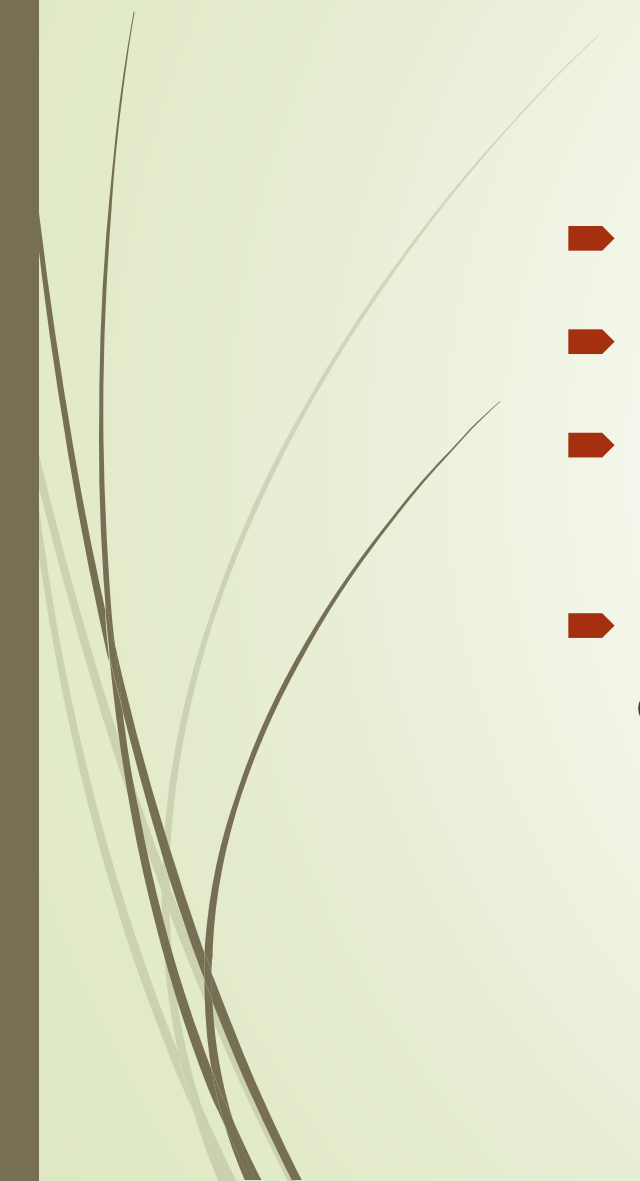


# Working with problematic self-stories

- Catch the story – what's the function?
  - Name the story – being aware of it coming up
  - Flexible perspective taking – spatial, temporal, other perspectives
  - Develop hierarchical relations – container, 'self as context'
  - Noticing that we hold on to negative stories if they make sense to us, keep us safe or give us an identity
- 



## Intervention summary 2

- Developing willingness to accept life's ups and downs
  - Being aware of the 'continuous you' that can observe
  - Identifying ways you want to behave on an ongoing basis while being kind to yourself
  - Developing goals guided by your values and taking action mindfully
- 



# Conclusions



- ▶ ACT can be very useful to help adjustment following a brain injury
- ▶ Holding 'self' stories lightly can help new stories to arise and foster a more flexible view on life and how the person fits into it
- ▶ Being able to step back and notice what thoughts and feelings arise leads to greater self-knowledge and allows a person to choose how to respond to situations
- ▶ The use of values helps the person realise that there are still ways to move towards who and what is important to him/her even with cognitive and physical difficulties






# References

- ▶ Harris, R. (2009) *ACT Made Simple: An easy-to-read primer on Acceptance and Commitment Therapy*. Oakland: New Harbinger Publications.
- ▶ Jackson Brown, F., and Gillard, D. (2016) *Acceptance and Commitment Therapy for Dummies*. Chichester: John Wiley & Sons.
- ▶ Klonoff, P.S. (2010) *Psychotherapy After Brain Injury: Principles and techniques*. New York: The Guilford Press.
- ▶ Sage, N., Sowden, M., Chorlton, E., and Edeleanu, A. (2008) *CBT for Chronic Illness and Palliative Care: A workbook and toolkit*. Chichester: Wiley-Blackwell.
- ▶ Tyerman, A., and King, N.S. (2004) Interventions for psychological problems after brain injury. In L.H. Goldstein and J.E. McNeil (eds.) *Clinical Neuropsychology: A practical guide to assessment and management for clinicians*. Chichester: John Wiley & Sons.





Greater  
Manchester  
Neuro Rehab  
Patient and  
Carer Group

*Mike Carpenter (He/Him) - Chair*



**All by myself  
Don't wanna be  
All by myself  
Anymore**



## Agenda

- About me
- My engagement with Neuro patients and carers
- My personal experience with NR
- Why chairing the group appealed to me
- What's next?

# About me

- ◇ Lived in Greater Manchester all my life - since 1985
- ◇ Telecommunications Professional - since 2006
- ◇ Living with Rapidly Evolving Relapsing Remitting Multiple Sclerosis - since 2008
- ◇ Volunteering with MS Charities - since 2014
- ◇ Mental Health First Aider - since 2019

# My engagement with Patients and Carers



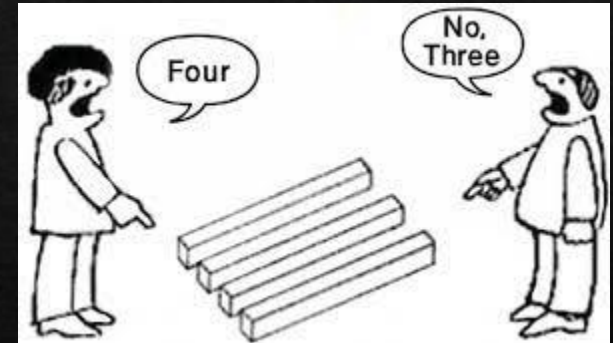
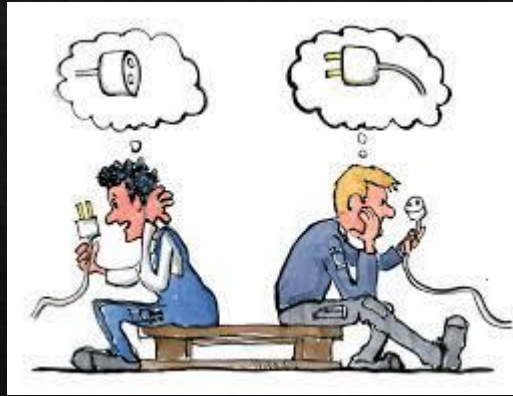


# My personal experience with NR

- ◆ Despite living with chronic MS for 14 years, fortunately very little
- ◆ Accessed Neuro-physio
- ◆ Engaged with Adult Continence Services



# Why chairing the group appealed to me



So...

What's next?



THE  
NEUROLOGICAL  
ALLIANCE

# Experiences of My Neuro Survey respondents in Greater Manchester

October 2022



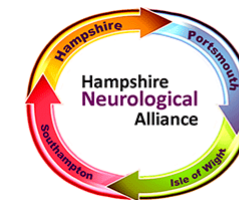
# About the Neurological Alliance

- **Vision:** Every person affected by a neurological condition can access the right treatment, care and support at the right time.
- **Mission:** To harness the energy and passion of the neurological community to ensure public policy in health reflects the realities of living with a neurological condition, so that everyone can access treatment, care and support whenever they need it.

PARKINSON'S<sup>UK</sup>  
CHANGE ATTITUDES.  
FIND A CURE.  
JOIN US.



British Society of  
Rehabilitation Medicine  
Promoting quality through  
education and standards



# About My Neuro Survey

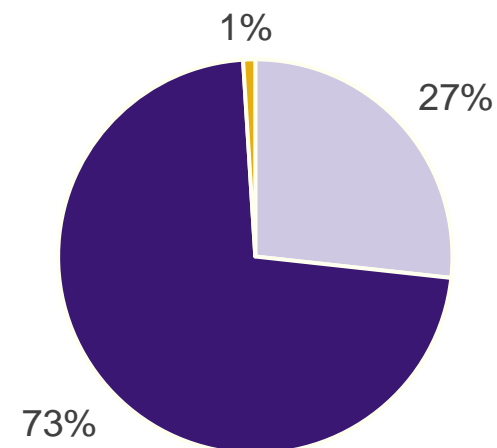
- Fourth Neuro Alliance Patient Experience Survey
- Open to everyone in the UK with a (or suspected) neuro condition
- Delivered in collaboration with Alliances across the UK
- Responses collected between 25 October 2021 – 6 February 2022 via:
  - An online survey, promoted in clinic, member websites and social media
  - A paper-based survey, returned through freepost envelopes
  - An easy read version of the survey
  - A language line
- Rolled out across 35 clinics, through our membership and other partners
- Endorsed by the ABN, BPNA, Royal College of Psychiatry and ACPIN

# Final response rates

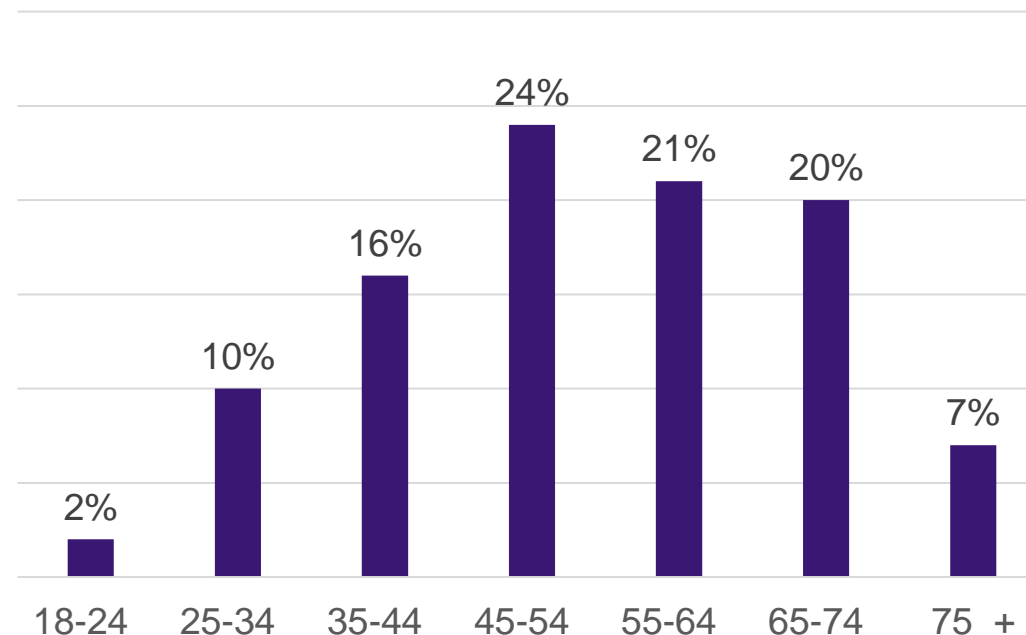
	Adults	Paediatrics	All
Online	7,008	629	7,637
Clinic responses	873	N/A	873
Totals	7,881	629	<b>8,510</b>

# Who responded in GM?

- 194 respondents to the adult survey
- Most reported neurological conditions:
  - Epilepsy 14% (n=27)
  - MS 14% (n=27)
  - Fibromyalgia 11% (n=22)
  - Migraine 11% (n=22)
  - FND 11% (n=21)
- 65% (n=124) reported living with other non-neurological condition(s)
- 97% white British/ Irish/ Other



■ Male ■ Female ■ prefer not to say



# Rehab makes a real difference

---

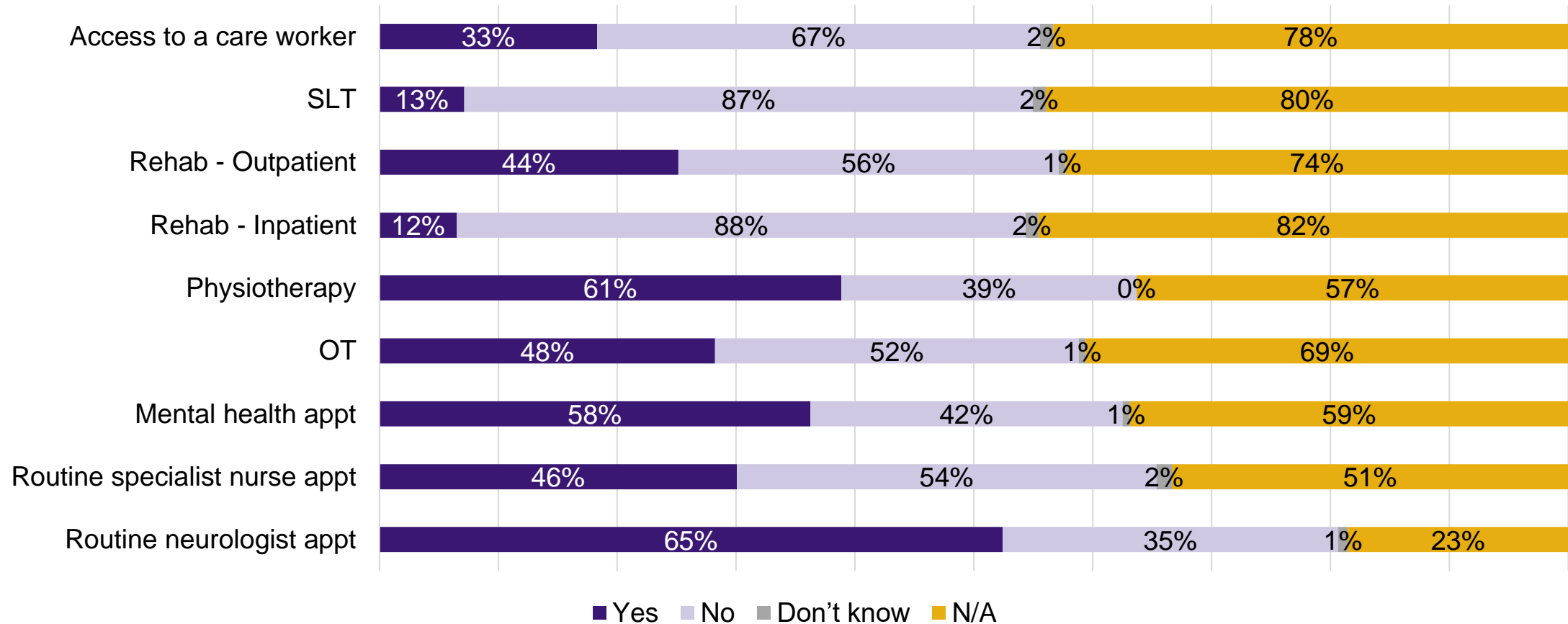
The support I receive from the local Rehabilitation Team is invaluable and they are always at the end of the phone should I need any additional assistance.

Being treated at the [redacted] Rehab Centre with a collaborative team of specialists was life saving and gave me my life back and how to cope/ work with the life long changes.

OT assistance in my rehabilitation since my aquired Brain Injury was excellent and helped me cope well with the changes to my life

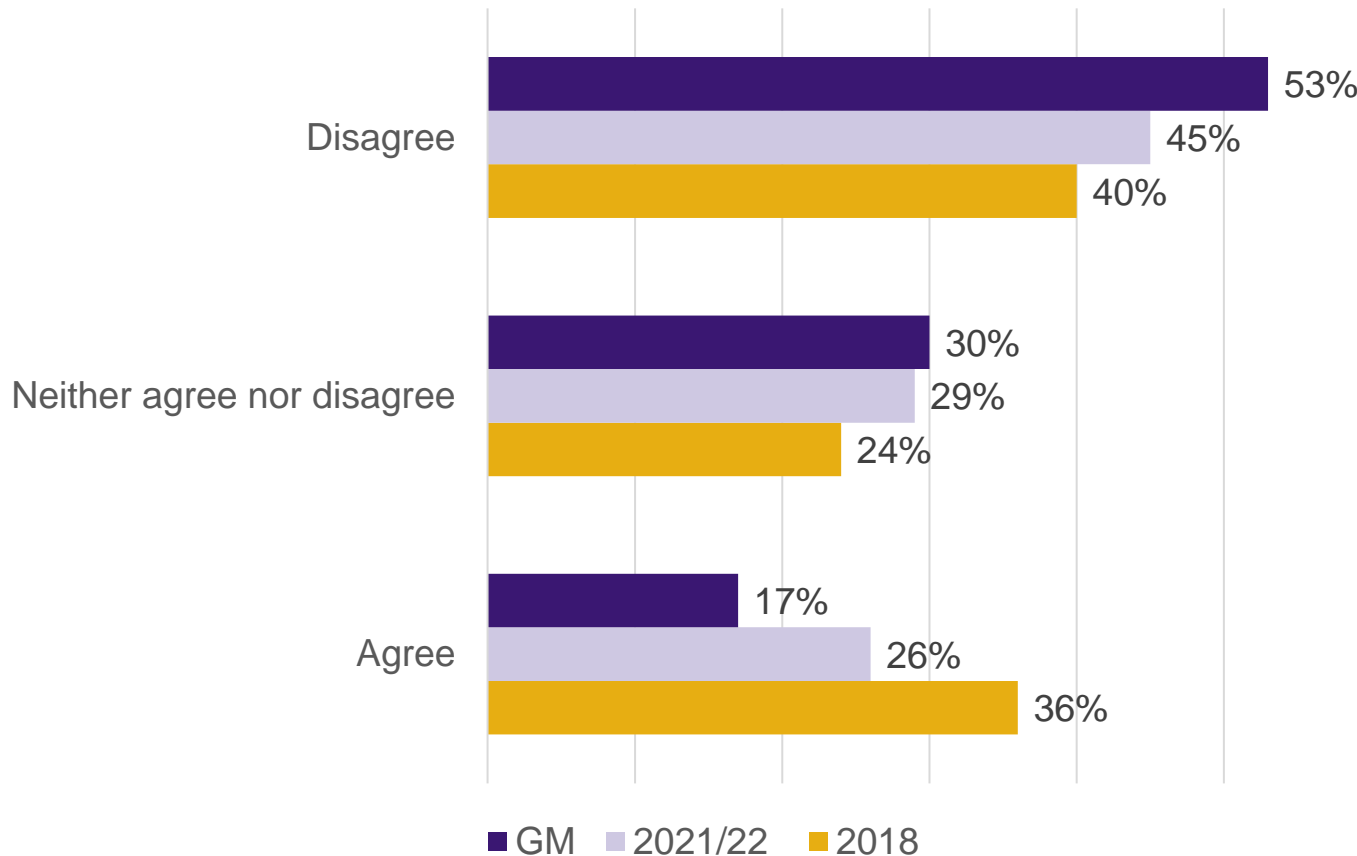
# Many experienced delays to treatment and care in the last year

Q. Have you experienced delays to your neurological care or treatment in the last 12 months?



# More people in GM faced challenges accessing necessary support after hospital stays

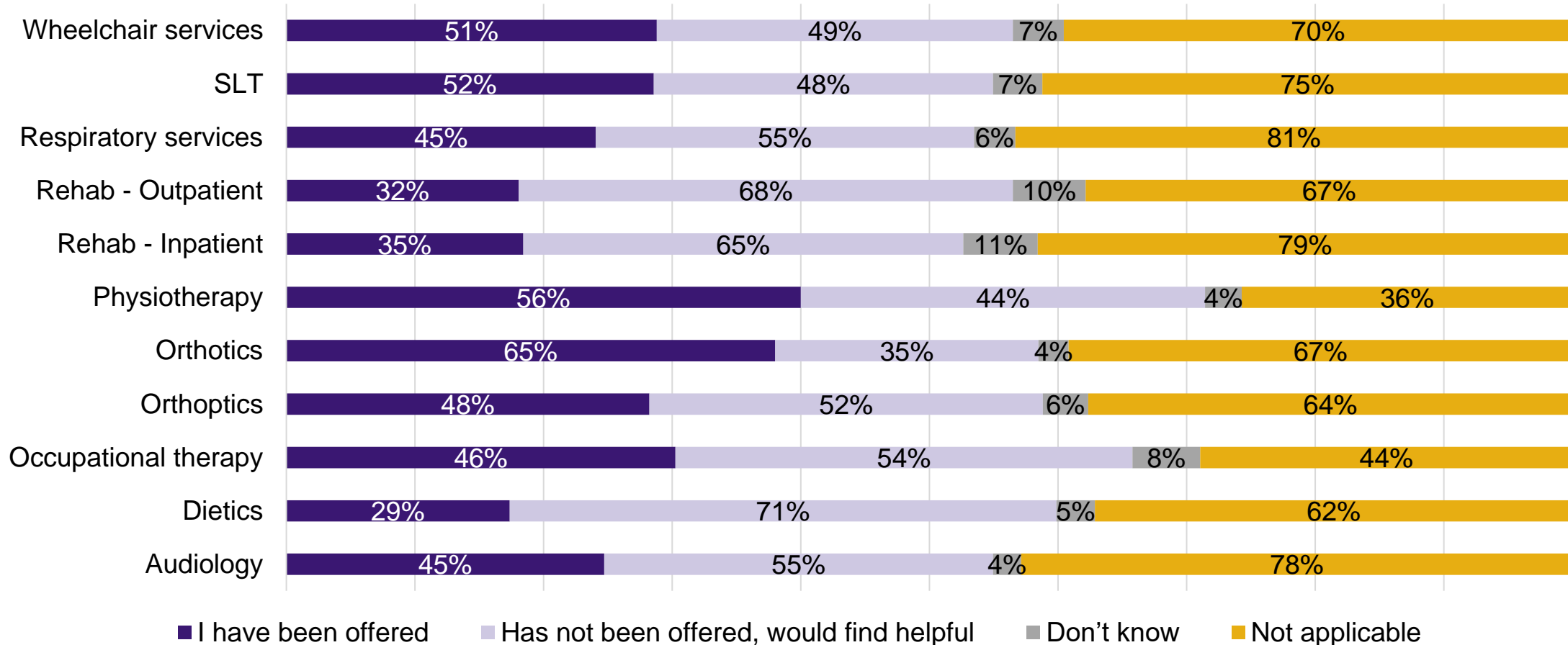
Q. I got the care I needed at home after my hospital visit



.... I have received no advice or ongoing information about the condition.... lack of planning and following through of physiotherapy or other rehab advice... I am relieved to be home, but very much feel that I am now 'on my own'.

# Key services and support are not always offered

Q. Please tell us which treatment and therapies you have been offered, or believe may help you to manage your neurological condition





# Important services and support are not available in all areas of the country, including GM

Basically have just been left to get on with it. No neurophysio available in South Manchester so despite being put on a list there is no chance of getting any support

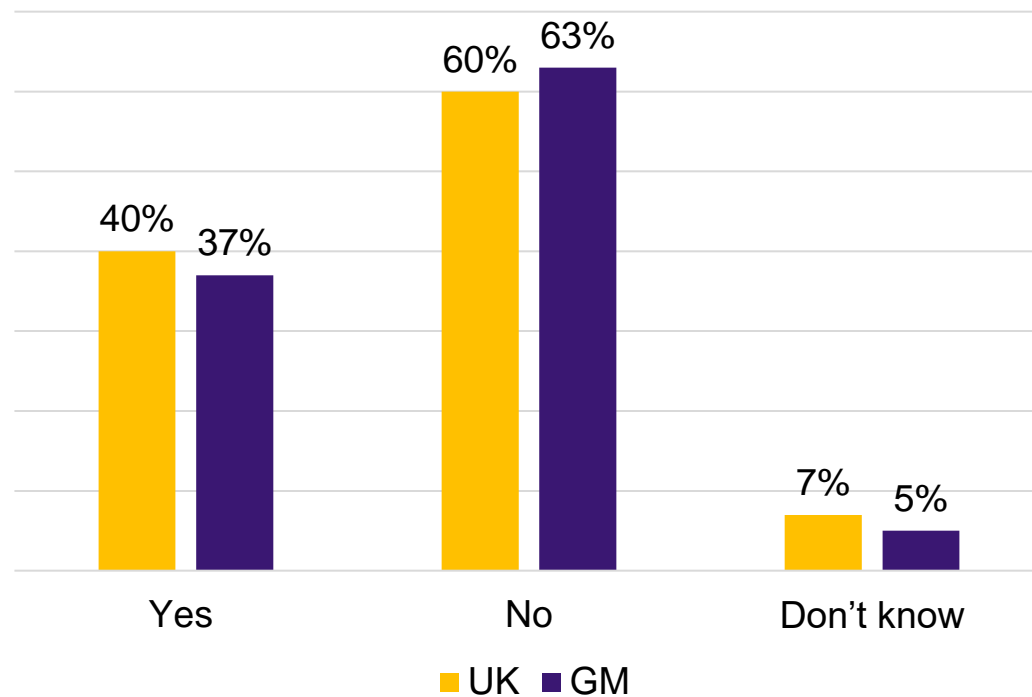
I have been told quite plainly by a consultant that because I live in the Midlands I can't receive any type of rehabilitation or physio for FND as there is no one qualified in this region to work with FND patients, it is very disturbing

All neurophysiotherapy, counselling and hydrotherapy self funded in private sector as not available to me on NHS locally.

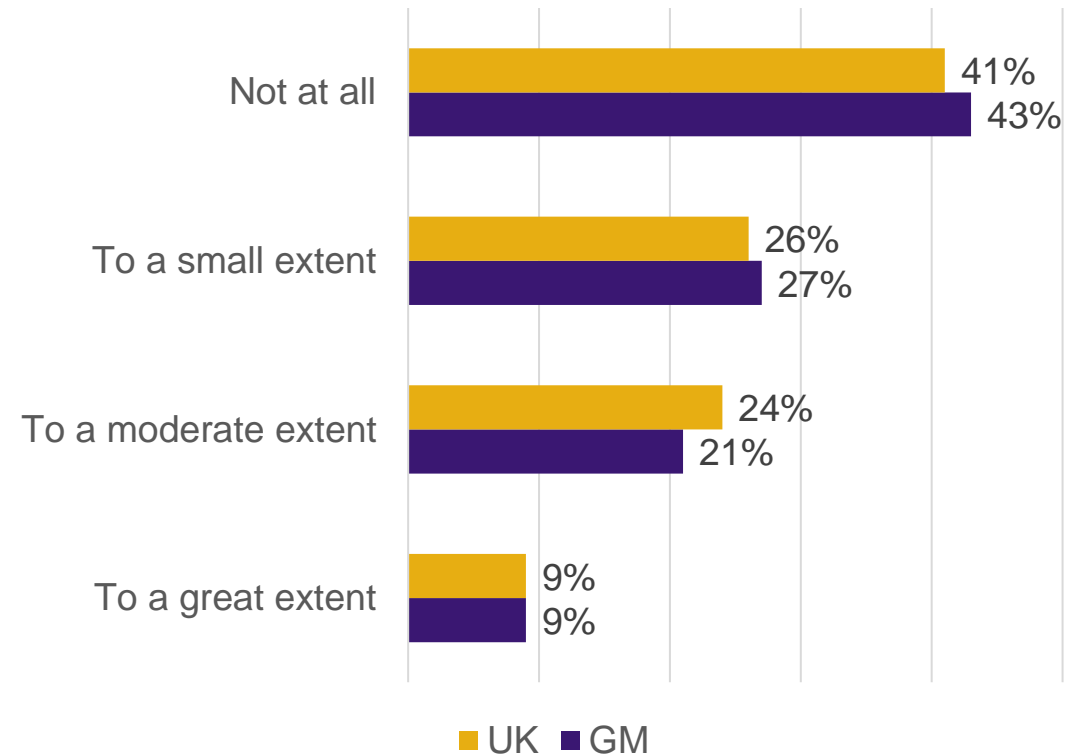
I have to pay privately for my own physiotherapy. No one seems to coordinate my management. I really feel that I would be so much better if my case was looked at via a multidisciplinary meeting. It is me that is having to initiate solutions to my problems. I feel terribly let down

# There is a significant mental health and wellbeing impact, but needs are not being met

Q. Have you been asked about your mental wellbeing by an HCP in the last 3 years?



Q. To what extent do you feel your mental wellbeing needs are being met?



# What did respondents tell us?


## Summary

- Rehab makes a real difference
- Many experienced delays to treatment and care in the last year
- People reported challenges accessing necessary support after hospital stays
- Key services and support are not always offered or available
- There is a significant mental health and wellbeing impact, but needs are not being met

# What next?

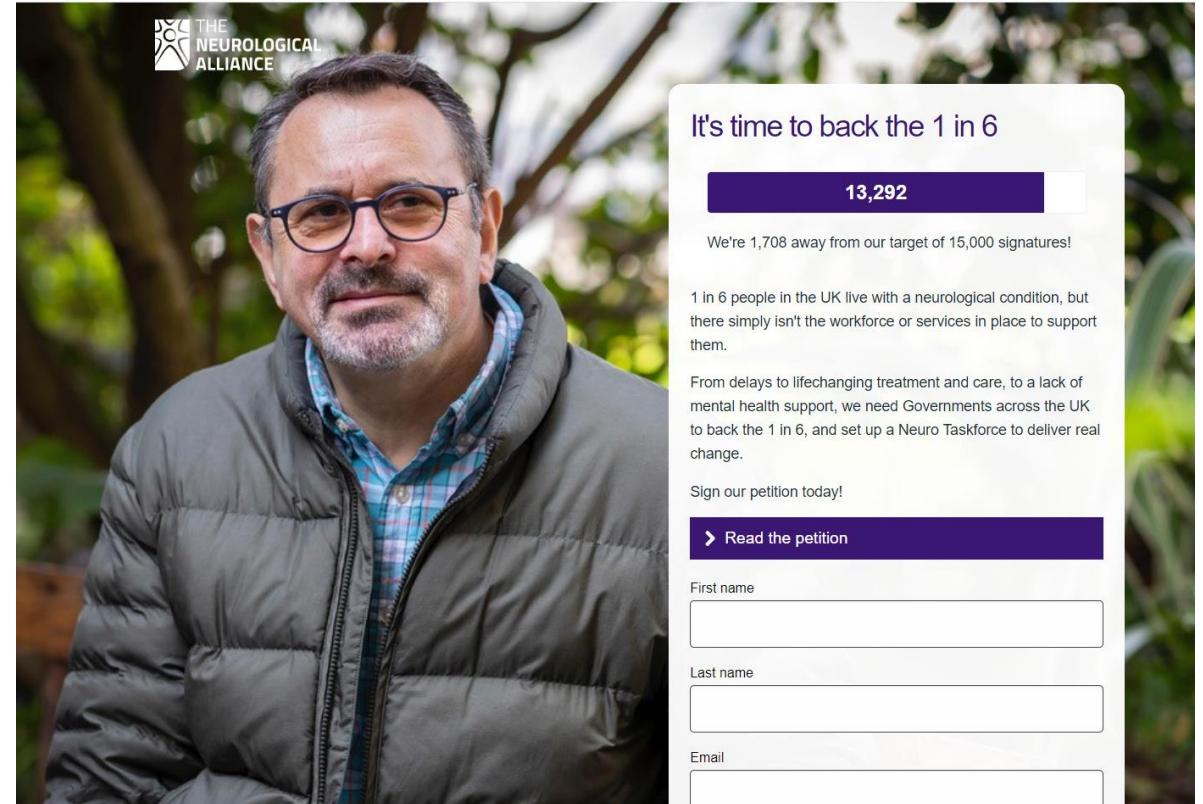
Together with 4 UK Neuro Alliances, over 100 organisations and over 13,500 people – we're calling on UK Governments to #BackThe1in6 and set up a Neuro Taskforce to deliver real change!

## #BackThe1in6 Campaign

- Highlighting common challenges
- Spotlighting cuts of the data 
- Parliamentary debate application

## Sharing findings and recommendations

- Engaging with NHS England and others
- Using data to support service improvement – including here in GM!
- Scoping an ICS data tool



THE NEUROLOGICAL ALLIANCE

It's time to back the 1 in 6

13,292

We're 1,708 away from our target of 15,000 signatures!

1 in 6 people in the UK live with a neurological condition, but there simply isn't the workforce or services in place to support them.

From delays to lifechanging treatment and care, to a lack of mental health support, we need Governments across the UK to back the 1 in 6, and set up a Neuro Taskforce to deliver real change.

Sign our petition today!

> Read the petition

First name

Last name

Email

<https://tinyurl.com/BackThe1in6>





# Thank you

Happy to answer any questions

# We are stronger together.



@NeuroAlliance



The Neurological Alliance



neurological\_alliance



The Neurological Alliance

# Connect with us.