



R O S I A

REMOTE REHABILITATION SERVICE FOR ISOLATED AREAS

**ABI Seminar**  
**20<sup>th</sup> May 2022**

This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 101017606

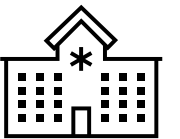


Innovation is the ability to see  
change as an opportunity, not a  
threat.

**Steve Jobs**

# ROSIA Case Example: Catherine

- 48-year-old woman living in Galway
- Works as IT manager for a local mid-sized company
- Mother of 15-year-old daughter, recently divorced
- Survived a stroke – ongoing impairments in mobility, fatigue and cognitive-communication
- Sister moved in to look after her daughter whilst in hospital
- Referred to NRH for ongoing inpatient rehab, admitted months post-stroke
- Initial IDT assessment → rehabilitation plan, long and short-term goals for the next 16 weeks

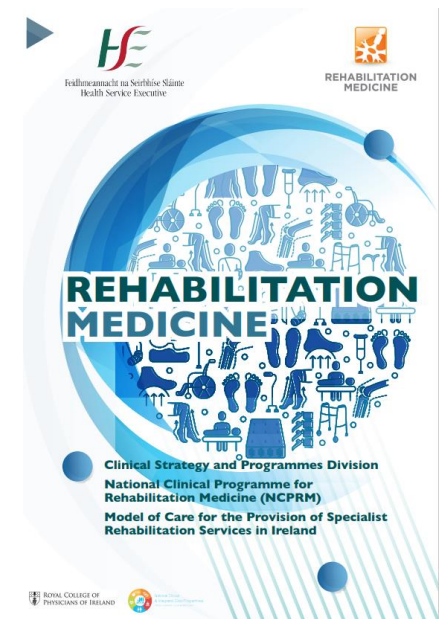
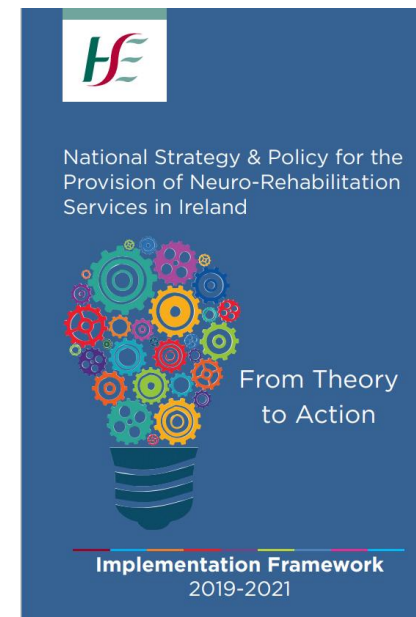


# ROSIA

Who, What, Where, When and Why?

# Background

- Address issues contributing to the ongoing high demand for complex, specialist rehabilitation challenged with short supply
  - Long waiting lists
  - Prolonged length of stay (LOS)
- Patients describe feelings of isolation following discharge home
  - Amplified by geographical isolation
  - Varied resources in remote communities
- ROSIA seeks to build confidence to self-manage complex chronic conditions in the home or community setting



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## Inpatient Rehabilitation



## Post-Discharge Follow Up



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# ROSIA Project

Pre-Commercial Procurement Project, funded by EU Horizon 2020 Programme

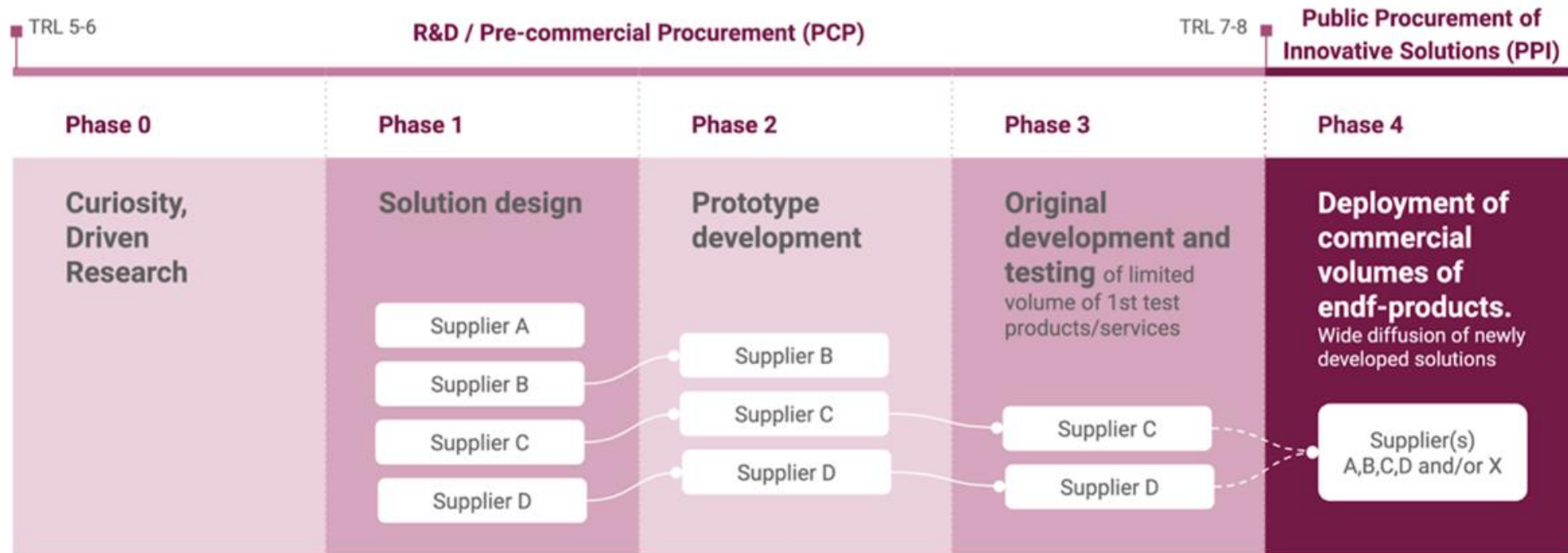
- Budget: €4.9m
- Jan 2021 – June 2025
- 3 Procurers: NRH (Ireland), SALUD (Spain), CHUC (Portugal)
- 7 Conditions: SCI, ABI (incl. Stroke), CVD, COPD, Hip fracture, Joint Arthroplasty, COVID-19
- 12 Partners in ROSIA Consortium
- PCP divided into 3 phases\* of R&D:
  - Solution Design
  - Prototype Development
  - Pilot Testing

\*Following Project completion, product is available for commercial procurement





# Pre-Commercial Procurement





# Project Aims and Objectives

## Aim:

- To improve patient experience by delivering a comprehensive rehabilitation service to patients, enabled by cutting-edge technology, new integrated care pathways and community support

## Objectives:

- Design disruptive technological solutions
- Enable data driven interventions
- Implement a flexible model of personalised ICPs
- Strengthen the role of the community to support the needs of the individual
- To empower patients and/or families
- To generate evidence of value of each component of the model
- To create an open platform
- To develop a sustainable business model
- To improve patient experience



# ROSIA Phase 0

## State of the Art Analysis

- Literature Review
- SCIROCCO Analysis

## Stakeholders' Unmet Needs

- Clinician feedback
- Patient feedback

## Open Market Consultation

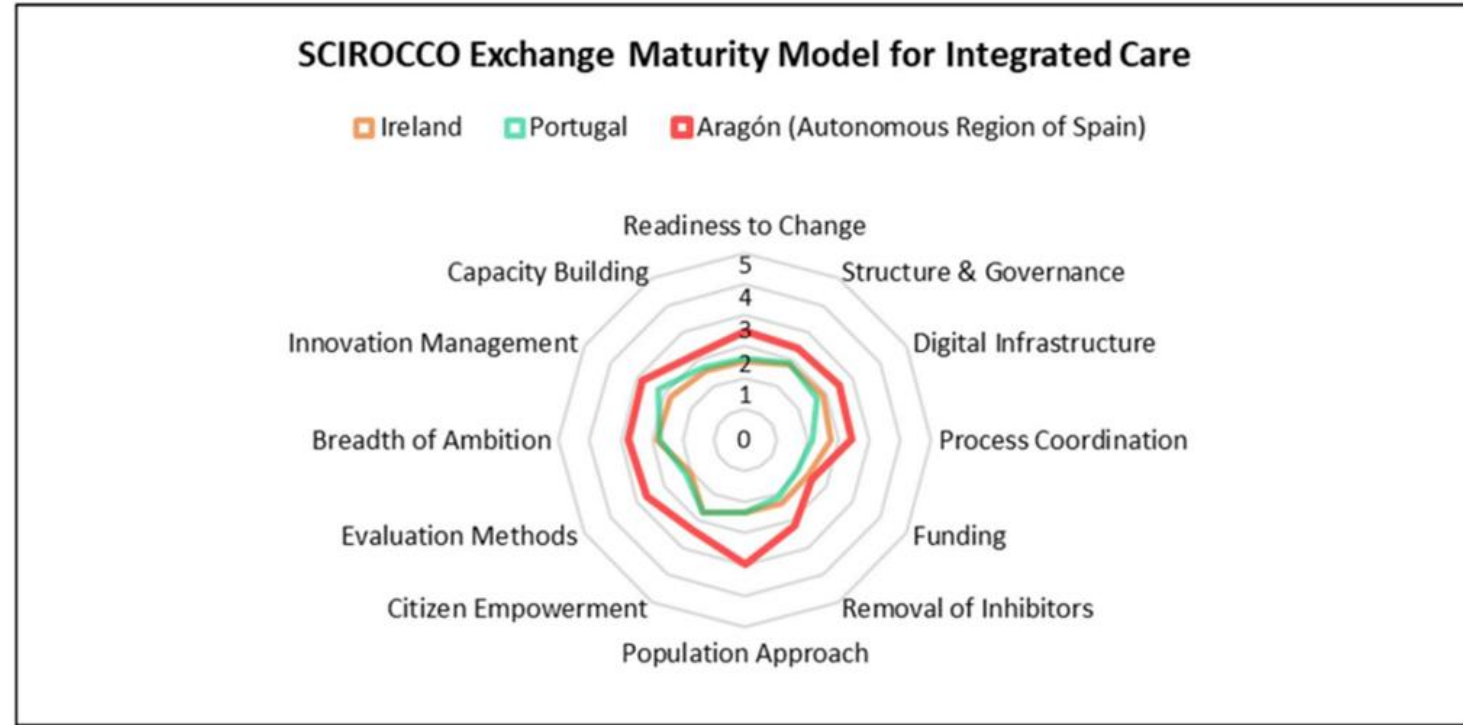
- Questionnaire
- Bilateral meetings



# SCIROCCO Results

Dimensions with low scores were:

- Readiness to Change
- Funding
- Citizen Empowerment
- Evaluation Methods
- Removal of Barriers
- Capacity Building



# SCIROCCO Results

Dimension	Mean	Median	Comments
Readiness to Change	1.5	1	Compelling need is recognized by strategic leaders, but consultation on developing vision and strategic plan has not yet taken place
Funding	1.3	1	Funding is available but mainly for pilot projects and evaluation activities
Citizen Empowerment	1.7	1	Service user and citizen empowerment is important but effective policies and approaches to support empowerment are still in development
Evaluation Methods*	1	1	There is no evaluation of integrated care services in place or in development
Removal of Barriers	1.3	1	Awareness of barriers and constraints exists, but no systematic approach to their management is in place
Capacity Building	1.5	2	Some strategic approaches and operational plans include capacity building activities to support the delivery of integrated care services



# ABI Shortcomings

- Regional hospitals do not have specialists; service hospitals.
- Pressure to discharge users who still need rehabilitation.
- Funding difficulties for home care and rehabilitation for attending people in care homes than to fund home care (especially if many care hours are needed or if there are difficulties to follow-up).
- Delays in rehabilitation produce poorer rehabilitation outcomes.
- Low health literacy and understanding of the person with ABI and their partner about their care and self-management, available support services and how to navigate in the health and care system.
- There is a lack of capacity and competencies to ensure support and training for the person with ABI and their family/carers.
- Lack of community staff: lack of capacity and competencies in the community.
- Geographical dispersion and lack of local services produce an important travel burden for users.
- Difficulties in the implementation of telerehabilitation services in remote areas due to technological, health and digital literacy and cultural barriers.
- Commercially available devices and apps have not been evaluated for neurological conditions or they do not have clinical data quality.
- Poor reporting of clinical implementation parameters related to frequency, intensity, duration, and number of sessions of remotely supervised interventions. Without this specific information, clinical replication of the intervention can be difficult.
- There is a lack of mental health care and support for the person with ABI and their family and carers.
- Lack of access to specialists care and their services can only be provided in hospitals.
- Lack of access to health and care services and hospitalization costs derived from health services.
- Lack of access to measure users' activity levels with minimal invasiveness in their natural environment, even though it has potential advantages over traditional self-reported and clinic-based measures.
- Lack of evidence in relation to cost-condition ratio.



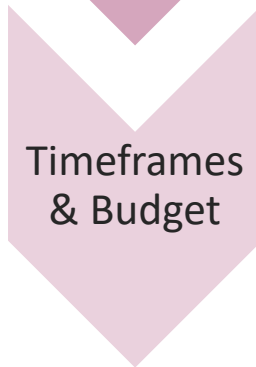
# OMC Conclusions



- Understanding of the complexity of the ROSIA challenge at times unclear
  - Clarity in tender documentation



- Challenge to design a solution for 7 all conditions
  - Listed mandatory conditions per procuring site



- Suggested extensions for all phases
- Suggested increased budget for all phases



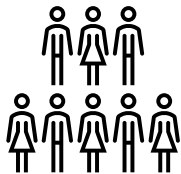
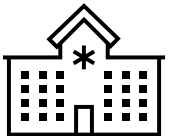
# Catherine's Case

Discharge and Follow Up with ROSIA



# ROSIA In Practice: Catherine

- Goal setting completed with OPD team
- OPD prescribe apps from ROSIA catalogue
- Appointments scheduled on ROSIA platform
- Enrolled into peer support groups
- Access to specific, tailored educational resources
- Completes HEP and telerehabilitation
- Referrals made in local community – role based ROSIA access
- Dashboards display goals and outcomes



# ROSIA Potential Benefits

- Access community and family support
- No disruption to routine to attend appointments far from home
- Rehab available on-demand
- Tailored to individual
- Increase confidence to self-manage and use ROSIA independently
- Reduced no-shows or wait times
- Patients less fatigued/frazzled for appointments
- Adherence and progress tracked and displayed on dashboards
- Decreased waiting lists for OPD services – could affect LOS
- Skills sharing between rehabilitation and rural centres



It takes a village...



# Telerehabilitation

Treatment technique or tool?

# Telehealth During COVID-19

## How has COVID-19 changed the outlook for telehealth?

### 1 Consumer

Shift from:



**11%**

use of telehealth in 2019

To:



**76%**

now interested in using telehealth going forward

While the surge in telehealth has been driven by the immediate goal to avoid exposure to COVID-19, with more than 70 percent of in-person visits cancelled,<sup>1</sup> 76 percent of survey respondents indicated they were highly or moderately likely to use telehealth going forward,<sup>2</sup> and 74 percent of telehealth users reported high satisfaction.<sup>3</sup>

### 2 Provider

Health systems, independent practices, behavioral health providers, and others rapidly scaled telehealth offerings to fill the gap between need and cancelled in-person care, and are reporting

**50–175x**

the number of telehealth visits pre-COVID.<sup>4</sup>



In addition, **57%**

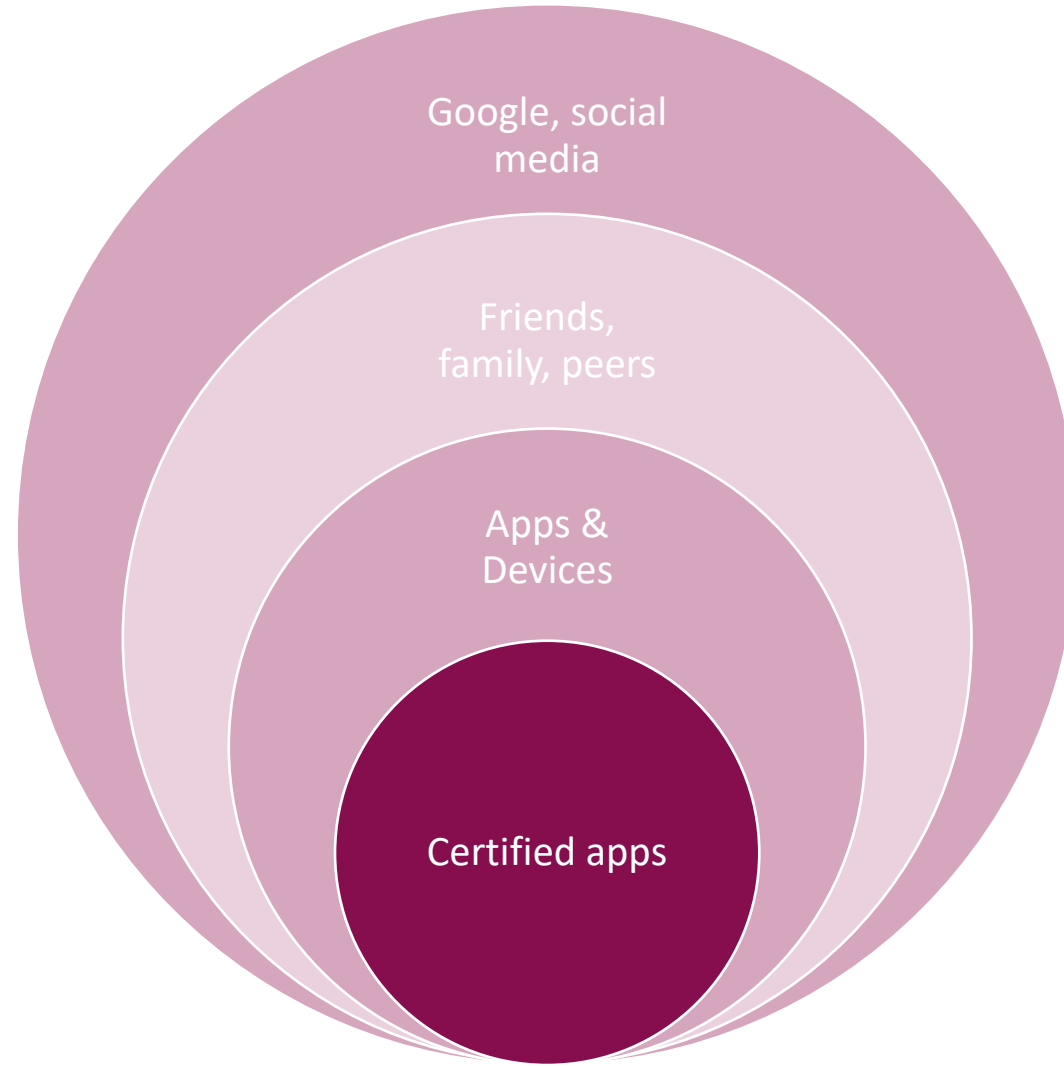
of providers view telehealth more favorably than they did before COVID-19 and

**64%**

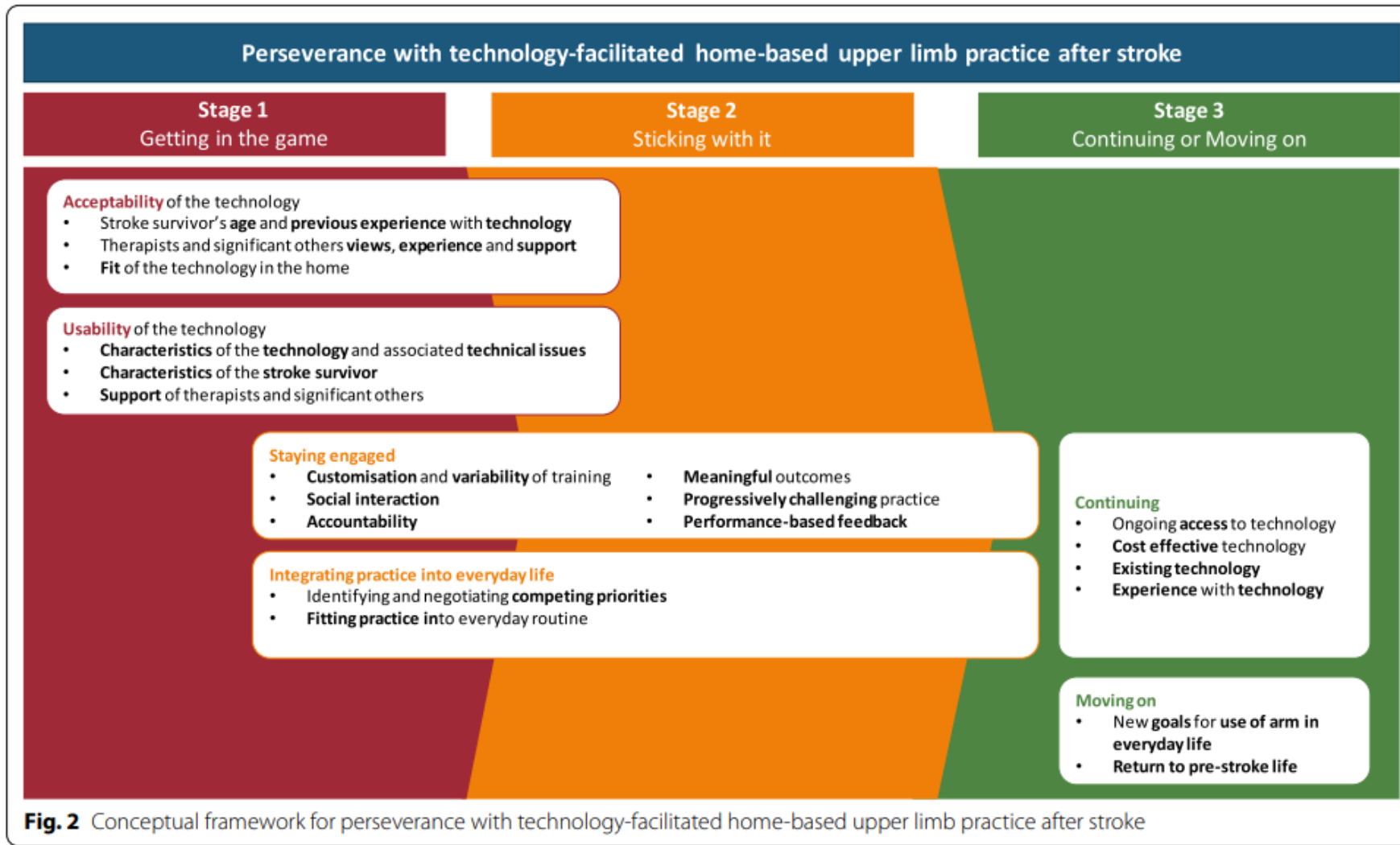
are more comfortable using it.<sup>5</sup>

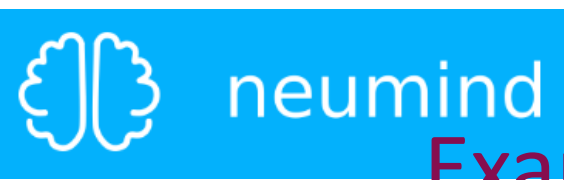


# Sources of Information/Support for Patients



# Perseverance with Telerehabilitation





# Examples of Current Technology/Initiatives



The mobile platform for assessment and training of hand and arm functions



**REPS Recovery Exercises** 17+  
Post Stroke  
Kate Scrivener  
Designed for iPad  
★★★★★ 5.0 • 2 Ratings  
Free



**iReadMore** 4+  
Word Reading Therapy  
Alex Leff  
Designed for iPad  
★★★★★ 5.0 • 4 Ratings  
Free · Offers In-App Purchases



**Angles - Video Goniometer**  
Nathaniel Cochran  
Designed for iPad  
★★★★★ 5.0 • 4 Ratings  
\$0.99



**Clock Yourself** 12+  
A brain game that moves you  
Next Step Allied Health  
Designed for iPad  
#74 in Health & Fitness  
★★★★★ 4.9 • 35 Ratings  
\$1.99

**RECOGNISE™**

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Research | Projects

# The SWAN game-based approach to learning foundational number language

SpeechFirst 



Sit in your best position for speaking.

Next



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# Telerehabilitation as a Tool to Implement EBP



# How Can I Help?

## Be a champion of ROSIA and Telerehabilitation

- Sign up to ROSIA newsletters/Twitter
- Continue to use telehealth or advocate for its use
- Look at technology as part of our therapy prescription, not a therapy on its own
  - Tool to support, not replace therapists and clinical reasoning
- Access useful resources (e.g. <https://www.rrc.life>)

Be person-centred and think of our patients, their values and what's meaningful to their rehabilitation – Catherine doesn't care about costs of bed days or MCID of OCMs...



What must be always preserved is  
the spirit of the work; its life will  
depend on the generations that  
transmit this spirit and bring it to life.

**Antoni Gaudí**

Web:

Co-funded by the  
European Union



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