

# Scaling digitally-enabled stroke rehabilitation through partnership working

## Case study and guidance

**For commissioners**  
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**HEALTH INNOVATION**  
North West Coast



**Lancaster University**



## NHS context

Across the NHS, stroke rehabilitation services face significant challenges: increasing demand, workforce constraints, variation in access and limited capacity to deliver therapy intensity aligned with national guidance. Repeated pilots have demonstrated promise but often fail to translate into sustainable, commissioned services.

This case study describes how a multi-partner collaboration progressed a digitally-enabled stroke rehabilitation model from local delivery to regional scale, generating evidence to support commissioning decisions and wider system adoption. The model is known as neuro rehabilitation online (NROL).

## The challenge

- Limited access to intensive rehabilitation following discharge
- Workforce shortages and travel inefficiencies
- Geographical inequity across large footprints
- Pilot fatigue from other rehab projects without clear routes to commissioning

There was a need for a **scalable, cost-effective model** that improved outcomes without increasing pressure on staff or budgets.

## The NROL model

NROL is a digitally-enabled, group-based neuro rehabilitation service designed to increase access to evidence-based rehabilitation for people following stroke and other neurological conditions.

NROL delivers real-time, clinician-led group therapy sessions using video-based technology. Sessions are delivered by a multidisciplinary rehabilitation workforce and are offered as a structured programme (typically in blocks), complementing existing face-to-face rehabilitation rather than replacing it. It is designed to increase access to intensive rehabilitation, reduce travel and capacity pressures, and support equitable, sustainable delivery as part of routine NHS care.

# The collaborative approach behind NROL

Five partners collaborated to embed the digitally-enabled group rehabilitation model into routine NHS care. The partners and their roles are:

- **Participating NHS Trusts from Lancashire & South Cumbria:** East Lancashire Hospitals NHS Trust (provided clinical leadership and operational delivery); Blackpool Teaching Hospitals NHS Foundation Trust; University Hospitals of Morecambe Bay NHS Foundation Trust; and Lancashire & South Cumbria NHS Foundation Trust.
- **Participating Trusts from Cheshire & Merseyside:** Countess of Chester Hospital NHS Foundation Trust (host site); Cheshire & Wirral Partnership NHS Foundation Trust; NHS University Hospitals of Liverpool Group; Mersey and West Lancashire Teaching Hospitals NHS Trust; Mersey Care NHS Foundation Trust; Warrington and Halton Teaching Hospitals NHS Foundation Trust; Mid Cheshire Hospitals NHS Foundation Trust; Bridgewater Community Health Care NHS Foundation Trust; Liverpool Heart and Chest Hospital NHS Foundation Trust; and Wirral University Teaching Hospital NHS Foundation Trust.
- **SameYou (charity):** Initiated early funding and support, driven by lived experience.
- **Lancaster University:** Contributed academic expertise, specifically implementation science-based evaluation.
- **Health Innovation North West Coast:** Provided programme oversight, strategic development guidance, co-ordination across the system, and support in navigating commissioning processes and securing funding. Workforce coaching alongside a comprehensive patient and public involvement and engagement (PPIE) programme of co-produced surveys and focus groups.
- **Elaros (SME):** Provided a digital platform for scheduling and patient access to rehabilitation materials and group sessions. Adapted and developed the technology to support NHS delivery at scale.

Key features of the collaboration:

- Strong clinical and commercial leadership throughout
- SBRI funding to de-risk development and support evaluation
- Independent academic evaluation alongside delivery
- Phased scaleup (pilot → trust → regional → inter-regional)

The collaboration focused not only on service delivery, but on commissioning readiness, sustainability, and system learning.

# Outcomes and system value

The NROL programme has yielded significant benefits and impact across multiple domains:

- **Patient outcomes and access:** NROL provides more intensive therapy to patients, leading to positive feedback and improved recovery. The online model significantly enhances accessibility, particularly for patients in diverse geographical areas.
- **Efficiency and resource optimisation:** The online delivery model reduces clinician travel time, freeing up valuable clinical hours that can be reallocated to patient care. This efficiency is crucial in a resource-constrained environment.
- **Environmental sustainability (net zero):** By reducing driving miles for both clinicians and patients, NROL significantly lowers the carbon footprint associated with healthcare delivery, offering a more environmentally friendly method of providing care.
- **Scalability and transferability:** The NROL model is not limited to stroke rehabilitation. It has the potential to be "lifted and shifted" for other rehabilitation challenges such as frailty, heart failure, COPD and arthritis. This broad applicability makes it a compelling blueprint for future innovations.
- **Cost-effectiveness:** The model has been shown to be significantly more cost-effective than traditional approaches, being "five times cheaper" while seeing more patients.
- **Strong clinical leadership and collaboration:** The project's success is deeply rooted in strong clinical leadership and effective cross-organisational collaboration. This collaborative spirit has fostered trust, clear communication and a shared vision, overcoming potential challenges like diverging views post-funding.
- **Evidence-based approach:** Continuous evaluation, data collection and peer-reviewed reporting, including patient stories and feedback, provide robust evidence of the programme's effectiveness and credibility (a full evaluation report is available).

## Strategic alignment

The model aligns strongly with NHS priorities:

- **Three shifts** (hospital to community, analogue to digital, treatment to prevention)
- Productivity and workforce optimisation
- Out of hospital care
- Digital transformation

## Net zero and sustainability

Digitally-delivered rehabilitation significantly reduced avoidable travel for both staff and patients. Carbon benefits were captured by measuring activity avoided (e.g., miles not travelled), alongside service outcomes.

Net zero benefits were not the original driver but became a clear additional system gain as scale increased.

## Key learning for commissioners

Commissioners interested in adopting NROL should consider:

- The model has been approved for substantive funding across Lancashire & South Cumbria
- Clinical leadership is critical to adoption and credibility
- Innovation funding must link early to commissioning pathways
- Significant system level productivity benefits are attainable as well as condition specific outcomes
- Value has been demonstrated across multiple ICBs and the model is ready for accelerated regional and national scale
- The model can be positioned as a transferable model of care, not a single condition intervention, offering potential to support adoption across additional pathways (e.g., frailty, long-term conditions)

The collaborative approach behind the NROL programme demonstrates how to move beyond pilots to deliver measurable system value and a scalable commissioning proposition. This collaboration offers a blueprint for successful, cross organisation innovation spread and adoption at pace.

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