Introducing Neuro Rehabilitation Online (NROL)

From pilot to practice: Delivering and scaling digital stroke rehabilitation in the NHS

For delivery teams

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NROL Neurorehabilitation Online | In partnership with SAME YOU | HEALTH INNOVATION North West Coast | NHS

NHS East Lancashire Hospitals NHS Trust | SBRI HEALTHCARE | Lancaster University | elaros

NHS context

Across NHS stroke rehabilitation services, there is a persistent gap between national guidance on therapy intensity and what services can realistically deliver within existing workforce and capacity constraints. Community teams are managing increasing demand, wide geographical footprints, staff shortages, and growing pressure to demonstrate productivity and value.

During and following the Covid-19 pandemic, services were required to rapidly adapt delivery models. This created opportunities to explore digitally-enabled approaches to rehabilitation but also exposed limitations. For instance, prior to securing Small Business Research Initiative (SBRI) funding, Neuro Rehabilitation Online (NROL) operated through a series of small-scale pilots (university, charity and trust-led) that demonstrated clinical promise but relied on short-term funding, limiting their sustainability and scalability within the NHS.

This case study shares practical learning from teams involved in delivering and expanding a digitally-enabled rehabilitation model across multiple NHS sites in the North West coast and highlights how they overcame barriers to scaling.

Why the programme started

Clinical teams identified a number of interconnected challenges affecting stroke rehabilitation delivery:

- Insufficient therapy intensity post discharge
- Inefficient patient-facing staff time due to travel and logistics
- Inequitable access across large geographical areas
- Need for clinical-academic partnerships
- Need for investment to bridge the absence of commissioning following early pilots

Early versions of NROL, including Covid-era and single-trust pilots, demonstrated clear patient benefit and clinical acceptability. However, they were not designed for long-term NHS sustainability and lacked a route to commissioning.

The shared aim was simple: **deliver more rehabilitation, to more people, without increasing staff burden.**

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 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.

The NROL model

NROL is a digitally-enabled, group-based neurorehabilitation 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.

How the programme was delivered

Health Innovation North West Coast led a successful SBRI bid which enabled East Lancashire Hospitals NHS Trust to enhance and expand its stroke rehabilitation service through NROL. The funding allowed for increased access to online multidisciplinary group rehabilitation and supported the spread and adoption of the NROL pathway from Lancashire & South Cumbria into the Cheshire & Merseyside ICB footprint.

What worked well

- Delivery teams consistently highlighted the importance of **clinical leadership and ownership**. The programme was clinician-led from the outset. This helped position NROL as legitimate clinical work rather than an optional innovation, and reassured wider MDTs that the model was safe, purposeful, and aligned with patient need.
- The presence of **established clinical–academic partnerships**, which provided both credibility and methodological rigour. These relationships enabled teams to test, adapt, and reflect on delivery in real time, rather than waiting until the end of the programme to evaluate what had worked.
- **Operational coordination** was also repeatedly highlighted as essential. Having a designated operational lead within the NHS created a single point of accountability and helped maintain momentum as the programme expanded across sites and systems. Without this role, teams felt the work would have fragmented into isolated pockets of activity.
- **Regular cross-organisation communication**. The use of digital meeting platforms enabled geographically dispersed teams to maintain momentum, jointly problem-solve, and share learning quickly. Delivery teams valued having frequent, informal check-ins alongside more structured programme meetings, particularly during periods of rapid change.
- **A shared commitment to problem-solving** across NHS, academic, voluntary and commercial partners.
- **Iterative delivery approach**. Teams felt able to adapt session formats, group composition, timetabling and workforce roles in response to feedback, rather than being locked into a fixed model. This flexibility supported ownership and reduced resistance, especially where teams were initially cautious about group-based digital delivery.
- External funding (particularly the SBRI phase) acted as a **catalyst rather than a solution**. It provided legitimacy, pace and protected time to focus on delivery, evaluation and commissioning readiness simultaneously. Importantly, teams described funding as enabling structured collaboration rather than dictating the model.
- **Peer-to-peer learning** emerged as one of the most powerful drivers of engagement. Observing sessions, hearing from colleagues already delivering NROL, and sharing real examples of patient benefit helped normalise the model and build confidence more effectively than formal guidance alone.
- Finally, **patient voice and visibility** played a powerful enabling role. Patient stories, videos and lived experience shared at events and meetings helped shift conversations from “can this work?” to “why wouldn’t we do this?” This human element was often more persuasive than performance data alone.

What was challenging

Despite strong engagement, teams encountered several challenges.
As confidence grew and outcomes became visible, demand from both internal teams and external regions increased rapidly, often without corresponding capacity or funding to support that interest.

The transition between funding phases was particularly challenging. While the SBRI phase provided focus and legitimacy, teams described a period of uncertainty post-funding, where delivery continued but future sustainability was unclear. This created pressure on staff already balancing clinical responsibilities.

There were also practical challenges linked to scale, including:

- Coordinating staff across multiple sites and disciplines
- Aligning digital platforms with complex NHS workflows
- Managing data capture consistently across systems

Teams also described ambiguity around roles and expectations post-funding, particularly once SBRI milestones were complete. Questions around ownership, responsibilities and future support became more visible at this stage, highlighting the importance of explicitly planning for the post-funding phase.

Finally, it was challenging to navigate commissioning structures during a period of system change. Teams found it difficult to identify decision-makers, align timelines and maintain engagement while continuing day-to-day delivery.
These challenges did not prevent progress, but required ongoing adaptation, prioritisation and honest conversations across partners.

Delivery experience

In day-to-day delivery, NROL demonstrated that digitally-enabled group rehabilitation could be integrated safely and effectively into routine services.

Key delivery insights included:

- Group-based digital rehabilitation sessions increased reach while maintaining quality and patient engagement.
- Patients valued flexibility, convenience, continuity and peer interaction.
- Staff reported better use of clinical time and reduced travel burden.

- No participating trusts disengaged once implementation began, reinforcing confidence that the model was operationally acceptable in real-world NHS settings.
- Referral numbers increased over time as confidence and familiarity grew.
- NROL worked best when framed as part of a hybrid model of care, complementing face-to-face rehabilitation rather than replacing it. This framing helped reduce concerns around risk, quality and equity, and supported broader acceptance across MDTs.

Net zero: Practical learning

While environmental sustainability was not the initial driver, delivery teams increasingly recognised the net zero benefits of digital rehabilitation.

Key learnings included:

- More efficient use of clinical time with reduced travel freeing up staff time for patient care.
- Measuring what was avoided (e.g. travel time, miles driven), not just what is delivered. Annually over 37,500 miles and 1,250 driving hours were avoided by therapists not driving to and from each patient for NROL sessions.
- Translating carbon data into relatable metrics supported engagement.

Teams also reflected on trade-offs, acknowledging the digital footprint of online delivery while noting that this was minimal compared to avoided travel. Overall, NROL was viewed as supporting more sustainable ways of working, particularly when embedded within a broader hybrid service model.

Teams noted that net zero benefits gained credibility when they were captured deliberately, rather than assumed. This learning is now influencing how sustainability is considered earlier in programme design.

Transferable learning for delivery teams

Starting with clinical need rather than technology fundamentally changes engagement. Teams found that focusing on real service pressures such as therapy intensity, access and staff capacity helped colleagues see digital rehabilitation as a solution rather than an imposition.

Delivery, evaluation and commissioning conversations must happen in parallel. Treating these as sequential stages risks gaining momentum. In this programme, learning and data generated through delivery were actively used to inform commissioning discussions, rather than saved for a final report.

Visibility and shared learning. Observing sessions, sharing practical examples and enabling peer-to-peer conversations were far more effective than written guidance alone. Seeing the model in action helped staff understand group dynamics, risk management and patient experience.

Models scale more easily than interventions. Positioning NROL as a flexible model of care, rather than a stroke-specific digital tool, made it easier for leaders to imagine adaptation to other pathways (e.g., frailty, long-term conditions (LTCs)).

Success attracts demand. Planning early for how learning will be shared and how requests will be managed helps protect delivery teams and prevents goodwill being overstretched.

Practical recommendations

- Build implementation assets as you go, rather than retrospectively. These include SOPs, referral prompts, onboarding materials, FAQs, and observation checklists. Small investments early reduce duplication later.
- Document implementation decisions and adaptations.
- Normalise observation and shadowing as part of onboarding. Watching sessions helped staff build confidence quickly, reduced anxiety about digital group work, and improved referral quality.
- Identify and support clinical champions early. Champions play a crucial role in maintaining energy, addressing concerns locally, and supporting peer-to-peer spread as the service grows.
- Engaging commissioners early, before funding gaps emerge, was seen as essential. Teams recommended sharing emerging data, stories, and productivity insights during delivery, rather than waiting for "perfect" evidence.
- Finally, teams emphasised the importance of **protecting staff capacity**. Where possible, delivery teams advised planning explicitly for scale-up activity, dissemination requests, and external engagement, to avoid these being absorbed informally on top of core roles.

What's next

- The model has been approved for substantive funding across Lancashire & South Cumbria
- Get in touch with the North West Coast NROL team if you are interested in adopting the model
- You can support further regional adoption through clinician-to-clinician learning
- There is planning underway to apply the model to other pathways (e.g., frailty, LTCs, cardiac rehab, pulmonary rehab)
- Investigation of ways to reduce duplication by sharing implementation learning openly

Contact

Teams interested in adopting the NROL model can contact **Adam Partington**, NROL operational lead, at adam.partington@elht.nhs.uk

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