Scaling Digitally Enabled Neuro Rehabilitation Through Partnership

How ELAROS' autonom-e platform powers the NROL service in Lancashire & South Cumbria

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.

Neuro Rehabilitation Online (NROL) is one of the exceptions. Designed, iterated and piloted by local NHS teams and academic partners across Lancashire & South Cumbria (L&SC) over five years, NROL secured Small Business Research Initiative (SBRI) funding in 2025 to scale from single-trust pilots into a regional, digitally enabled group rehabilitation service spanning Lancashire & South Cumbria, with adoption now extending into the Cheshire & Merseyside ICB footprint.

ELAROS joined the NROL consortium as the digital delivery partner on the SBRI project, adapting its existing autonom-e platform to build additional group scheduling and role-based access control functionality needed to deliver NROL safely and securely across multiple participating NHS organisations.

This case study from ELAROS builds on the two case studies documented by Health Innovation North West Coast on NROL below - from the perspective of the digital infrastructure behind it, and what that means for delivery teams and commissioners considering a similar model for their own population.

Introducing Neuro Rehabilitation Online (NROL) From pilot to practice: Delivering and scaling digital stroke rehabilitation in the NHS – For delivery teams, July 2026

Scaling digitally-enabled stroke rehabilitation through partnership working Case study and guidance – For commissioners, July 2026

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.

NROL
NeuroRehabilitation OnLine

SAME YOU
For brain injury recovery

Lancaster University

NHS
East Lancashire Hospitals
NHS Trust
A University Teaching Trust

The need for an enhanced digital offer

Prior to our joint SBRI project, East Lancashire Hospitals NHS Trust (ELHT) delivered NROL using a combination of Microsoft Forms to capture external referrals from across the region; a bespoke and complex Microsoft Excel-based tool to manage referral status, appointment scheduling and availability for each patient across multiple NHS teams; and Microsoft Teams as the preferred video conferencing platform.

The system worked for East Lancs but was clunky, prone to errors from manual entry and file version control, and difficult to share and scale with other teams who may wish to deliver the NROL service in new regions.

In 2024, ELAROS was supporting all 5 NHS Long Covid services across Lancashire & South Cumbria through its nationally recommended digital platform, autonom-e (formerly known as C19-YRS), when Adam Partington, NROL Operational Lead at ELHT, approached ELAROS to explore a prospective collaboration to streamline the NROL service by automating and consolidating labour-intensive processes into a single shared platform across an ICB region.

In 2025, East Lancashire was awarded an SBRI Healthcare grant which commissioned ELAROS as the digital delivery partner to support a regional pilot and subsequent commissioning of the autonom-e platform for the delivery of neurorehabilitation online (NROL) with support from Health Innovation North West Coast.

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.

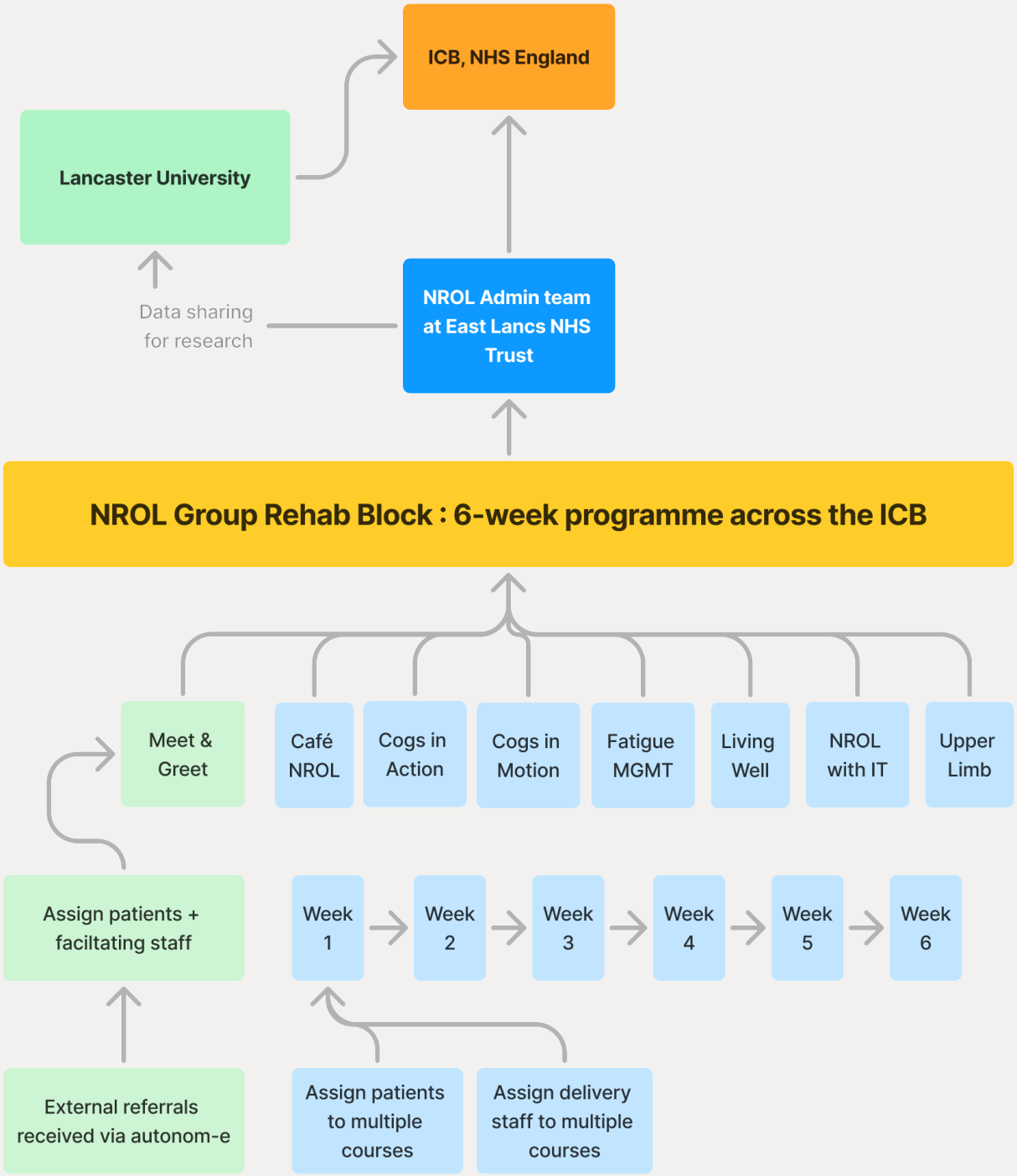
NROL delivers real–time, clinician–led group therapy sessions using video–based technology. Sessions are delivered by a multidisciplinary rehabilitation workforce and are offered as a structured programme (typically in blocks), complementing existing face–to–face rehabilitation rather than replacing 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.

What NROL delivers

- A virtual, 6-week structured multi-disciplinary group rehabilitation programme for patients with acquired neurological conditions, co-ordinated by an operational team on behalf of the region.
- Delivery by 7 delivery teams across 4 NHS Trusts in Lancashire & South Cumbria, with the pathway being lifted and shifted into Cheshire & Merseyside ICB.
- Structured weekly sessions covering fatigue management, cognitive rehabilitation, communication, physical function, emotional wellbeing and self-management.
- Access to increased therapy intensity from home, which would not otherwise be available on a 1:1 basis due to staff constraints.
- Increased workforce utilisation by leveraging specialist skills across a region rather than within a single team.
- The blueprint for regional rehabilitation service provision in new clinical areas such as cardiac, pulmonary, frailty and vocational rehabilitation services.

Neuro Rehabilitation OnLine (NROL)

The following pathway is currently live and operational, supporting patients across East Lancashire Hospitals NHS Trust, Lancashire Teaching Hospitals NHS Foundation Trust, Blackpool Teaching Hospitals NHS Foundation Trust, and Lancashire & South Cumbria NHS Foundation Trust.



The collaborative approach behind NROL

Partners across numerous organisations collaborated to embed the digitally-enabled group rehabilitation model into routine NHS care.

Partner	Role
Participating NHS Trusts from Lancashire & South Cumbria	East Lancashire Hospitals NHS Trust (clinical leadership and operational delivery), Blackpool Teaching Hospitals, University Hospitals of Morecambe Bay, and Lancashire & South Cumbria NHS Foundation Trust.
Participating NHS 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 (digital delivery partner)	Provided and adapted its autonom-e platform for scheduling and patient access to rehabilitation materials and group sessions — building the group scheduling and role-based access control functionality that enables NROL to scale safely across multiple Trusts.

How autonom-e powers NROL

Autonom-e provides the digital infrastructure to streamline NROL in Lancashire & South Cumbria — referrals, scheduling, governance and reporting layer that lets a 6-week, multi-disciplinary group programme run reliably across several Trusts at once. Its core capabilities include:

Capturing external referrals

- Secure patient-facing app on iOS, Android and web.
- Configurable referral forms for acute stroke, neurology, community rehab and GP routes.
- Professional referral route for patients unable to self-refer due to cognitive, communication or physical impairment.
- Self-referral and PIFU (patient-initiated follow-up) re-entry routes for post-discharge patients.

Assessment & triage

- Over 70 validated PROMs, including NROL-specific bundles.
- Triage dashboards that help to stratify patients by condition, referral source, & PROM scores

Group programme scheduling

- Blocks of group therapy sessions scheduled in advance across a 6-week programme.
- Multiple patients and named multi-disciplinary facilitators assigned to each session, with automated reminders sent to patients ahead of time.
- Support for face-to-face and virtual delivery (Microsoft Teams, Zoom, Google Meet).

Remote monitoring & self-management

- Automated reminders to increase adherence to PROMs and appointments
- A configurable library of rehabilitation education and self-management resources for NROL, produced by Lancashire & South Cumbria and co-designed with patients

Clinical reporting & service analytics

- Cohort-level outcome data exportable for SSNAP and BSPRM audit and service evaluation.
- Anonymised dashboards for completion rates, attendance and outcome trends
- Cost-effectiveness modelling data to support business cases and commissioning decisions.

A unified digital platform for participating teams

- All participating NHS teams have access to autonom-e with access to their local cohort
- Delivery therapists have role-based access to group cohorts requiring therapy provision
- Operational teams have oversight over the region to co-ordinate therapy sessions and outcomes

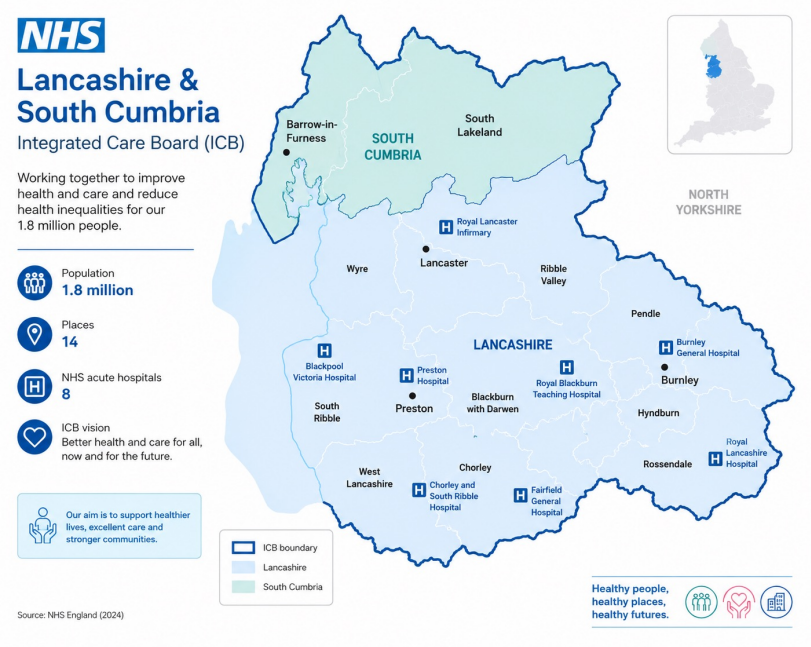
Addressing the workforce gap

One specific challenge the ELHT asked ELAROS to solve was information governance, not just video conferencing: how do you let a physiotherapist employed by one Trust safely run a group session for patients under the care of multiple other Trusts?

Without role-based access control and a shared patient record, cross-team clinical sharing of this kind is very difficult to manage safely — Trusts cannot share easily patient records, coordinate MDT sessions across organisational boundaries, or maintain information governance without appropriate RBAC, appropriate consent from patients, and the group scheduling system to underpin it.

Autonom-e consolidated the necessary tools required by regional teams to streamline and automate complex, manual processes across multiple software into a unified platform; enabling a single specialist from one Trust to deliver group therapy to patients from every participating Trust in the region, turning scarce specialist capacity into shared capacity and multiplying clinical reach without multiplying headcount.

The NROL Operational Team sits at the heart of the service, overseeing referrals, therapy co-ordination, delivery and reporting to ICBs and NHS England for commissioning oversight.



Outcomes and system value

The significant benefits of NROL have been documented in detail in Health Innovation North West Coast case studies and Lancaster University's Mixed Method Evaluation Report and Health Economics Report as part of the SBRI grant, alongside publications from prior to the project. These are summarised below:

- **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):** over 37,500 miles and 1,250 driving hours avoided annually by therapists not travelling to and from each patient for NROL sessions.
- **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).

Outcomes from the initial deployment of autonom-e platform

Following the initial rollout of autonom-e platform to deliver the first 6-week block of therapy to 70 patients

- **85 staff hours saved** by the NROL operational team co-ordinating each block of therapy
- The app had been used by 81% of patients and was described by patients as an asset that **enhances motivation, engagement, and access to rehabilitation**
- **35% more patients** are expected to be seen in the first year following digital implementation
- **89% of patients** felt NROL sessions were an important part of their rehab
- **94%** rated NROL good or very good
- **89%** felt joining online was easy
- **86% of NHS staff** rated their experience of using the platform as 4-5 stars
- **Staff experience:** 86% of the Lancashire NROL team surveyed rated their overall experience with autonom-e 4 or 5 stars.

NROL Patient quotes

"The app was so straightforward and easy to use, probably one of the easiest apps I've had to us. Everything is pretty self-explanatory."

"I think it's quite a clean looking interface. It's in rows. I can see when all my appointments are easily."

"It's laid out well and easy to find what you're looking for"

"The knowledge and information through the app is helpful"

Staff feedback

"The app is fairly easy and straightforward to use and means I can see the group sessions I am running and which patients are in the session much quicker than using the old spreadsheet and filters system."

"Training demonstrated useful features, such as finding info for referring therapist/trust as a point of contact, should the treating SLTs require feedback on patient presentation in group therapy."

Why autonom-e: assurance and evidence

Assurance	Detail
NHS validated	Developed with NHS Trusts; DSPT & DTAC compliant; previously nationally recommended by NHS England for Long Covid
Independently assured	CE and CE+ certified; ORCHA-approved for clinical safety, usability and data privacy; secure hosting on AWS; working towards ISO27001.
Evidence based	The NROL neuro-rehab offer was co-designed, implemented, validated and commissioned across Lancashire & South Cumbria ICB, with independent academic evaluation from Lancaster University.
Nationally recognised	Previously commissioned nationally by NHS Scotland; recognised in NICE guidelines; recommended by the British Society for Rehabilitation Medicine.
Award-winning	AHSN Network & NHS Confederation 'Outstanding Collaboration with Industry' (2022); BMJ Clinical Leadership Team of the Year (2021); Medipex NHS Innovation Award (2021).
Research-backed	Deployed to support NIHR-funded studies including the £3.4m LOCOMOTION study and £1.2m HERITAGE study at the University of Leeds, £1.2 million Rosetta Stone study at Imperial College, and the £500K SBRI NROL grant with East Lancashire Hospitals NHS Trust.

What's next

- The NROL model has been approved for substantive funding across Lancashire & South Cumbria, which has commissioned ELAROS as the digital delivery partner through its autonom-e platform.
- Adoption is spreading into the Cheshire & Merseyside ICB footprint.
- Planning is underway to apply the same platform-enabled model to other pathways, including frailty, long-term conditions, cardiac rehabilitation and pulmonary rehabilitation.

autonom-e is available now to configure and deliver NROL for your ICB or Trust, on the same NHS-validated autonom-e platform already proven across 65+ health organisations. Because the platform, governance model and referral-to-outcomes workflow already exist, a new service can be configured and onboarded far faster than building a digital pathway from scratch.

NROL Contact and information

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

This case study draws on 'Scaling digitally-enabled stroke rehabilitation through partnership working' and 'Introducing Neuro Rehabilitation Online (NROL)', both published by Health Innovation North West Coast (July 2026) and commissioned/funded by SBRI Healthcare, an NHS England initiative delivered in partnership with the Health Innovation Network; and pilot study conducted by ELAROS. Figures and quotations are reproduced from those published sources.

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