Stroke Action Plan for Europe National Coordinator Meeting
Sofia, Bulgaria - 21-28 January 2024 - Report

We brought together 78 Stroke Action Plan for Europe (SAP-E) national coordinators (NCs) from 39 European countries:

- To meet and engage in person with national coordinators
- For them to feel engaged in the SAPE work
- To energise, inspire and build team spirit
- To share information on success and challenges and practical action with a specific focus on the stroke services tracker (SST), advocacy and regional activities

OPENING MESSAGE, MELINDA ROALDSEN, CHIEF OPERATING OFFICER, SAP-E
Melinda welcomed everyone and shared her personal story of stroke. She discussed the importance of the Stroke Action Plan for Europe, and care and support across the whole pathway of care. We must fight together as the stroke community and shape the best stroke care and treatment in Europe together.

PLENARY 1 SAP-E CHAIRS UPDATE

SST data collection – Hanne Christensen, Chair SAP-E
Hanne thanked the NCs for all the work that everyone is doing on submitting the SST data.

She informed the meeting that the SST data for 2023 is being collected at the moment and that some of the SST data will be published in the European Stroke Journal in May this year. The following data will be published for each country:

- Stroke admissions and 30-day mortality
- KPIs achieved in relation to GDP, economy, expenditure, having a national stroke plan
- Discrepancies between north, south, east and west will be shown.

National coordinators that submit their data will be named as co-authors.

Call to action: New publication ideas are welcome from NCs – more information will be shared when as to how to do this.

Midterm review of the SAPE – Hanne Christensen, Chair SAP-E
Hanne updated the NCs on the SAP-E review and approval process which has been taking place in 2024. We hope to have a final version ready to submit to European Stroke Journal at the end of March.

Key updates:

- Overarching targets – most have been updated to make them more accountable
- KPIs – some have had new sub questions asked

How to monitor and improve quality of entire stroke care continuum – Alès Tomek, Co-Chair SAP-E and Regional Coordinator (East)
Alès discussed the importance of translating research results into best practices, guidelines, and national stroke plans. He emphasised that the quality of monitoring is vital when monitoring these impacts on stroke care and outcomes.

Type of data	Estimates	Incomplete registry	Complete registry	Complete AI analysis of all patient data
What this means for care	Chaos	Standard care	Excellent care	'NSA level' monitoring

He finished by saying that the SAP-E is monitoring data across the whole stroke pathway.

Note:
In this plenary session, several questions were asked about the quality of data being collected through the SST. The data provided by NCs from all countries must be as robust as possible. There was an agreement that all countries must move towards whole population registries.

PLENARY 2 EXAMPLES OF QUALITY OF STROKE UNIT CARE IMPLEMENTATION STRATEGIES – SAP-E NATIONAL CO-ORDINATORS

Stroke unit care in Iceland - Small Stroke Unit Nested Within a General Neurological Department - Marianne Elisabeth Klinke (Iceland)

Marianne, Professor of nursing, informed us about acute stroke care in Iceland. They have 225 stroke admissions per year and advanced stroke services are available. The have five stroke ready hospitals for imaging people are then taken to Reykjavik for stroke services

They use a one-unit stroke surveillance unit with a nurse-to-patient ratio of 1:4, nurses are specifically trained, part of the medical and interdisciplinary team; patients are discharged to the same team and receive rehab

The problems they have include staff shortages, high turnover and staff don't work exclusively on stroke. To help solve this, they are working on four pathways/care bundles: thrombolysis, ischemic, risk of malignant oedema and suspected elevated intracranial pressure, and intracerebral haemorrhage which are used by the nurses and the MDT. An additional weakness they had observed was transition and handover at shifts and the risk to stroke patient care. The pathways ensure comprehensive tasks during these weak periods.

Certification of stroke unit survey results - Paolo Candelaresi (Italy)
The NCs were recently asked to complete a survey on stroke units in their countries. In 2022, 19 countries have implemented implement national or regional system for quality improvement and assessment.

The survey showed:

- That certifications in most countries are not mandatory
- Half held certification
- Many don't have ESO certification
- Only half familiar with ESO certification
- Many said the certification was time consuming and expensive and having a low impact
- Overall, more needs to be done by ESO to promote, simplify the process and motive centres to apply

How to get 90% of people admitted to stroke units - Troels Wienecke (Denmark)
In Denmark, if someone has a stroke, they will call 112 to the emergency medical coordinator centre and an ambulance dispatched. Paramedics assess the patient and contact stroke physician. The ambulance will then either go to stroke unit directly or ER and then stroke unit. 93% of stroke patient are in a stroke unit within 24 hours.

What have they done to achieve this:

- Raising awareness – call 112
- Formalised paramedic education
- Junior doctors are supervised and monitored
- Close collaboration with prehospital, with guidelines in place

PLENARY 3 FOCUS ON STROKE UNITS

What is a stroke unit? What should it be like for the patient? - Melinda Roaldsen, COO SAP-E

A stroke unit is "a dedicated geographically clearly defined area in a hospital where stroke patients are admitted and cared for by a multi-professional team who have specialist knowledge of cerebral function training and skills in stroke care with well-defined individual tasks regular interaction with other disciplines and stroke leadership. This team coordinates care through regular, multidisciplinary meetings".

It has been shown that a stroke unit: reduces deaths and Institutional care, prevents complications and disability.

They should have hardware (building, location, equipment, technology) and software (expertise, knowledge, activities, care)

1. Hyperacute stroke management
    - Recanalisation
    - Management of brain haemorrhage
    - Diagnosis
    - Stroke mimics

2. Early start of secondary prevention
    - Start aspirin
3. High quality nursing
4. Nutrition and hydration
5. Early mobilisation
6. Continuous monitoring
7. Prevent pneumonia
8. Avoid urinary catheters
    - To reduce UTI
9. Prevent thrombosis
10. Education
11. Stroke research

SAP-E has a set of KPIs relevant to acute services

Evaluation of outcome at discharge - Francesca Pezzella, Co-chair SAP-E
Francesca described how we measure the success of treatment on patient outcomes.

There are different types of outcome clinical measurement tools

- Questionnaires
- Patient reported outcome measures
- Clinical rating scales
- Performance based tests
- Physical examination
- Responses

There are also frameworks that can be used:

- Internation classification of functioning, disability and health model (ICF) – is the most common framework for measuring function and disability
- The outcome framework measures hierarchy

Outcome measures at stroke unit discharge:

- Degree of health recovery
- Time to recovery
- Disutility of care or treatment process
- Sustainability of health recovery and nature of recurrences
- Long term consequences of therapy or lack of therapy

Workshop questions:

- What are the outcome measures that you use in your country when a patient is discharged
- Are these outcome measures mandatory by your health authority
- Are these measures collected, reported to the health authority and used to improve stroke services
- Are these measures available for public consultations.

See appendix 1 for a summary of the workshop round ups

World Stroke Organisation, Global Stroke Action Coalition - Bo Norrving (Sweden)

Bo discussed the UN General Assembly meeting September 2025 where they will be discussing non communicable diseases (NCDs) and reviewing the sustainable development goals.

For stroke, sustainability development goal 3.4 is key – reducing premature mortality from NCDs by one third, and treat and promote mental health and well being. Improving stroke and heart disease prevention and care is critical for SDG 3.4 to reach its target.

Global stroke action coalition has been formed by World Stroke Organization – to call for global action on stroke. ESO is a member. The coalition will drive attention on stroke and accelerate country-level and global action ahead of the 2025 UN High-Level Meeting on NCDs and beyond. The coalition will develop a campaign to elevate policy maker awareness of stroke within the global NCD agenda; create a call for global action; and build a community of engaged members to embed commitment to stroke in global health policy.

PLENARY 4 ENSURING QUALITY OF PREVENTION IN YOUR COUNTRIES: CURRENT AND FUTURE/POTENTIAL ACTIVITIES

National Stroke Plan: Why and How will it help you? – Francesca Pezzella, Co-chair SAP-E

Francesca discussed the development of CVD roadmap for Kyrgyzstan. In 2016, began working with the WHO, to review of the acute services in the country. This was done in collaboration with acute coronary syndrome services.

An example of issues faced by stroke patients - in public sector, a no scanning of someone presenting with a stroke at hospital would take place. Any CT and MRI had to be arranged by the family in the private sector.

A road map was developed covering medical contact, ambulance service, the stroke unit, intervention, quality monitoring, rehabilitation and secondary prevention. A mix of using guidelines and implementing what was available and possible in the country. The Essentials of stroke care was a critical tool in developing this roadmap.

From 2019 t0 2023 – the situation and the quality of care has improved because of the publication of the road map.

PLENARY 5 LIFE AFTER STROKE PROGRAMMES

LAS in England - Jattinder Khaira and Sarah Belson (England)
Jattinder opened by saying that life after stroke starts in the hospital. In England, NHS England has developed a model of best practices – the national stroke service model. It enables people to manage their condition as independently as possible.
The national clinical guidelines for stroke have no specific section for life after stroke but it is covered in the sections on follow up and longer support, the rehabilitation and the social integration.

One of the organisations that people are referred to is the Stroke Association UK. Sarah discussed the life after support that the Stroke Association delivers in the community – the

model optimises health and wellbeing, is accessible and inclusive to all affected by stroke. Initial contact can be made in the ward, then a personalised needs assessment, goal setting and review. the length of the service depends on needs and funding available.

The Stroke Association have asked for feedback on their service, for example:

- Carers – understand more about stroke
- People feel more confident of looking after their health
- Reduce residential care and better secondary prevention

Sarah also described the challenges faced in delivering the service such as health inequalities (postcode lottery, cost of living), lack of workforce, funding gaps

Austrian post stroke disease management - Stefan Kiechl and Wilfred Lang (Austria)
Wilfred presented the concept of post-stroke disease management in Austria that was based on efficacy trial published in 2020 (Willeit et al. EclinicalMedicine 2020).

The stroke card care is a disease management programme by a multidisciplinary stroke team that comprises a standardised 3-month visit targeting risk factors, post-stroke complications, comorbidities, detection of cardiovascular warning signs, rehabilitation, patient education, counselling and self-empowerment.

The programme is currently supported by a web-based patient portal for patients.
Based on proof of efficacy (reduction in recurrent CVD events at 12 months and better quality of life), the programme has been reimbursed since 2022.

LAS programmes in the Netherlands - Bert Vrijoef (Netherlands)
Bert was there representing the Dutch stroke knowledge network. He noted that when it comes to life after stroke services, one size does not fit all and that services need to be provided from a patient point of view. He suggested the professionals and the stroke survivor need to start with matched care – ambition, intensity of care and targets.

A life after stroke programme should include the following domains: communication, mobility, self-care, human interactions social relationships, education

The knowledge network has developed a document for people with acquired brain injury and health care professionals. It is to be presented to the government. It outlines standards of care in a person centred – integrated care network and describes three pillars:

- Pillar one – interaction, info sharing, shared decision between person with stroke, their carer and HCP -
- Pillar two – collaboration between HCPs
- Pillar 3 – collaboration between organisation in what they call the integrated care networks

The success of this integrated network approach will be measured by:

- Scientific studies – eg PREMs
- National assessment of networks
- National set of disease specific indicators – structure, process, outlines (clinical and proms) shared decision making

They already have results from this way of working:

- 93% said they felt more independent
- 50% said getting back to work improved
- 50% said their day-to-day activities improved

On going challenges included: the need for a good set of indicators; encouraging people to think not just about treating the disease but about good quality of life; access to high quality care including implementing a stroke plan in the Netherlands.

Life After Stroke in Europe - Bo Norrving (Sweden)
Bo gave us the background story of the history of life after stroke and the SAP-E
And he talked about the complexity of life after stroke, and that professionals and SSO need to work together, along with people with lived experience, to deliver better care and support.

He said that good planning for life after stroke needed agreement on:

- Structured follow up
- Post stroke checklist
- Participation/inclusion
- Support

He informed the meeting that the new SAP-E has more information and guidance but we still need to know more, for example what is important to patients and carers, what is the organisation and model of life after stroke, and how can countries afford and sustain it.

Life after stroke workshop questions:
Essential components
- what services and support should a national LAS programme include
- how should these services and support be identified

Access and delivery
- Who should delivery these services
- How can they be made accessible to all

Measuring success
- What outcomes should be used to assess the success of the programme
- How should they be measured

See Appendix 2 for the summary of the workshops

See Appendix 3 – for Life after stroke highlights from the country round ups

DAY 2

Plenary 1 Regional SAP-E activities – Achievements that have significantly advanced the implementation of the SAP-E

In this session, the SAP-E national coordinators gave a quick-fire overview of their key achievement in 2024. All countries reported. Slides are available online.

Plenary 2 Race to the finish: How to achieve the SAP-E targets

Dimitar Maslarov (Bulgaria)
Gave an overview of the stroke care work across the whole care pathway being carried out by both the neurology society and the SSO in Bulgaria – against the SAP-E KPIs

Key highlights:

- The National Stroke Treatment Plan has been developed, submitted and accepted by the Ministry of Health (24.04.2024)
- Key activities related to stroke treatment have been implemented in the 2030 National Health Strategy.
- A significant number of stroke units have mandatory access to CT/MRI, vascular imaging, ECG, long-term ECG-monitoring, dysphagia screening, and blood tests during stroke unit admission.
- Most stroke units have capability for early rehabilitation – and they received reimbursement for early and late rehab of stroke
- Large percentage of stroke patient receive secondary prevention
- Increased activities of the Association for Stroke and Aphasia stroke support organisation - launched permanent informational activities dedicated to stroke awareness; An interactive tool for educating the population about stroke (adapted for all ages) was created; First study of unmet needs of stroke survivors with aphasia was successfully conducted υ Development, launch and distribution of a mass, free stroke Infobot tool within the Viber platform which includes all topics regarding stroke prevention, acute treatment and support for stroke survivors.
- The WSO post stroke check list has been translated into Bulgarian and distributed to GPs

Development of a stroke unit network in the Republic of Moldova - Stanislav Groppa (Moldova)
Before the network was launched, stroke care in Moldova was dependent on individual hospital and centres. Stroke care was fragmented and not coordinated resulting in significant variation across the country. There was a lack of specialisms (such as thrombectomy and thrombolysis) and limited training. Patient outcomes were poor.

In January 2024 the network was launched and now consists of one comprehensive stroke centre, 11 MDT stroke centres and primary care centres. They also launched a public awareness campaign to recognise stroke symptoms. They did this with the Ministry of Health and have also promoted in schools and colleges.

This has resulted in improvements in care such as more thrombectomy and thrombolysis, reduce door to needle time. There are still challenges to overcome such as funding, resistance to change and geography barriers

How to achieve the SAP-E targets - Mia von Euler (Sweden)
In Sweden, they have guideline and pathway of care programmes for stroke which are approved and are being used. They monitor their programmes through their registry and publish yearly reports and pathway of care reports for patients. They have national stroke competence education programmes which are free of charge. They also have feedback systems and benching marking.

They have a good national working group and patient organisation.

There are areas they want to improve on such as swallowing assessment and follow up (short and long term).

Development of an EU cardiovascular plan - Arlene Wilkie (SAFE)
Arlene described the work that ESO and SAFE had done in 2024 with the European Alliance for Cardiovascular Health. As a result of the two year long campaign by EACH – the EU Council of Ministries agreed Council Conclusions on improving CVH and the new EU Commission Health Commissioner has stated that there will be an EU CVH plan.

This hopefully will have a positive effect on the members state countries in that there will be a focus on CVH form the Ministries of Health. SAFE/ESO will prepare information over the coming months for SAP-E NCs to use to raise the profile on stroke during CVH and also stroke plan discussions.

The importance of being involved in brain initiatives was also discussed. Arlene shared information on the brain health initiatives that are beginning to get some traction with their call for an EU Brain Health Plan. Organisations such as the European Brain Council and the European Academy of Neurology are leading the work on this. SAFE and ESO are both strategic partners in the EAN Brain Health Mission. Dr Barbara Casolla from ESO had recently been voted as an ESO representative to its steering committee.

Plenary 3 - Concluding remarks - Hanne Christensen, SAP-E Chair
Hanne thanked all SAP-E NCs for their hard work and dedication to implementing the SAP-E in their counties. The last few days represent the largest gathering of SAPE NCs, demonstrating increasing support for the SAPE in Europe.

She discussed how the NCs can join in the race to meet the SAP-E targets by 2030:

- Get the declaration signed and focus on national stroke plans that are funded and implemented
- Carry out quality and outcome assessment
- Work on all domains of care to reduce inequalities of care
- Additional call to action: please submit SST data if you have not done so already

Next meeting: Date and Location to be announced.

Appendix 1 Stroke unit workshop

The following is a summary of the discussion points after the workshops:

Stroke unit definition

- Participants agree that a stroke unit is not IVT (EVT) only, but full acute stroke care (monitoring, acute rehabilitation, early starting of secondary prevention) should be provided in the stroke unit
- In most countries acute stroke patients are admitted to the emergency department. In Sweden, for example, some patients admit directly to stroke unit. In England, for example, most patients are admitted to a stroke unit.

Health service certification

- Quality certification of health service:
  - is not mandatory in all countries (2 out of 9 in one workshop group)
- Specific legislation concerning quality of care and health service certification:
  - is not mandatory in all countries (1 out of 9 in one workshop group)
- MOH administers and enforce legislation, issue certificates etc.
- Stroke service and national (international) stroke service certification:
  - is not mandatory in all countries (2 out of 9 in one workshop group)

Stroke unit certification

- The most of countries are familiar or somewhat familiar with ESO certification of stroke unit
- From all represented countries in one group, only one Italian center has ESO certificate
- The main challenges regarding ESO accreditation program are that it is time consuming and has a low impact on everyday practice
- Participants agree that the main benefit of holding an ESO stroke service certification is improvement of quality of care
- In one group, 3 centers participate in SITS register, 4 – in RES-Q register, 1 – in National and one center doesn't participate in any register. Participation in international registries is not mandatory in all countries.

Example of the most important factor in ensuring high-quality stroke care

1. Compliance with guidelines
2. Staffing level
3. Resources and technology availability
4. Patient feedback

Example of measuring outcomes after discharge from the stroke unit

- In hospital mortality
- Modified Rankin Scale:
- Outcome measures
  - Mortality
  - NIHSS (δ) – or more European stroke scale (ESS or SSS)
  - mRS (δ)
  - Barthel's Indeks (not for all)
  - PROMs (13 pages) – in Sweden – after 3 months
  - Other measuresž
    - Lenght of hospitalisation
    - DTN, DTG, etc

        - When to measure?
            - On disharge, 30 days, 3 months,
            - Follow-up issues
- Reports of outcome measures
    - Make public
    - Annual
    - Quaterly
- Public availability
    - Full for example SNAP/UK , Sweden
    - Partial - mostly – related to Public Health Institutes
    - Coverage - local, regonal, national
    - Media involvement – carefully.
    - The reporting of outcomes on discharge is not mandatory in all countries (3 out of 6 in one workshop group)
- Not all countries collect outcome measures (2 out of 6 in one workshop group)
- In Sweden and England, the outcome data are open; in Georgia and Azerbaijan – available on requested.

Additional points
- The ESO definition of stroke unit is appropriate and could be used
- 30 day or 3 months outcome data should be used as indicator of quality of care
- The mortality, mRS and perhaps scale of cognitive impairment should be used as outcome

Appendix 2 Life after stroke programme workshop

Essential components

1. Integrated patient-centered care pathways – should start just after the patient is stabilized:
    - Well planned transition between acute care, rehabilitation, long-term and palliative care.
    - Transition plan should be created by a multidisciplinary team to cover all aspects and a doctor be included to give it the status of a 'prescription'.
    - Implement a road map, involving the patient and care givers from the beginning.
    - A post stroke check list should be used.
    - Clear guidelines for individualised care plans; tailored talks.

These pathways, transition and care plans should include:

1. Rehabilitation services
    - Multidisciplinary therapies (physical, occupational, speech therapy).
    - Cognitive and psychological support.
    - Access to advanced technologies like robotics and virtual reality for rehabilitation.

2. Psychosocial support
    - Counseling for emotional well-being and mental health.
    - Peer support networks and caregiver support programs.

3, Community reintegration
    - Employment and vocational training programs.

- Access to adapted transport, housing and social activities.

4. Health promotion and prevention
   - Secondary prevention programs for lifestyle changes (nutrition, exercise, smoking cessation).
   - Medical follow-up and routine screening for recurrent stroke risks.

5. SSO helping in education and self-management
   - Patient and family education on stroke recovery and prevention.
   - Digital tools and mobile apps for self-monitoring and progress tracking.

6. Technology integration
   - Telehealth for remote consultations and follow-ups.
   - Wearable devices for real-time monitoring of vitals and recovery metrics.

7. Data collection and research
   - Establishing national stroke registries.
   - Encouraging clinical trials for innovative therapies.

Who should deliver these services?

The transition and care plan should be delivered by:

a. nurse
b. stroke physician or stroke specialist
c. AHP

The coordination of the plan should be delivered by a stroke care coordinator

a. nurse
b. stroke physician or stroke specialist
c. AHP
d. Family doctor

The services in the plan should be delivered by:

1. Healthcare professionals
   - Stroke physician or stroke specialist, physiatrists, nurses and primary care physicians
   - Physical, occupational and speech therapists
   - Psychologists, neuropsychiatrists and social workers
   - Nutritionists

2. Community-based organisations
   - Nonprofits specialising in stroke recovery
   - Support groups and advocacy organisations

3. Caregivers and families
   - Trained informal caregivers for daily support
   - Education programs to equip families with caregiving skills

4. Technology providers

- Companies developing rehabilitation tools, wearables and telemedicine platforms

5. Policy makers and health administrators
   - National health services and local authorities to ensure equitable access to care

Making life after stroke services accessible to all

- National stroke plan
- National guidelines for life after stroke, including participation of SSO and stroke survivors
- Use of post stroke checklist
- Use of discharge and care plans
- Initiatives from government or community for re-intregrating them in community
- Public education
- Reimbursement

Outcomes to be measured

Clinical outcomes
- Reduction in recurrent stroke incidence.
- Efficacy of secondary prevention
- Improvements in functional independence (e.g., mobility, communication).
- Mortality rates and stroke-related complications.

Quality of life
- Rate of access to life after stroke programme
- Patient-reported outcome measures (PROMs, PREMs).
- Psychological well-being and reduction in depression/anxiety rates.

Rehabilitation success
- Recovery of motor, cognitive, and communication skills.
- Return to work or meaningful activities.

Health system metrics
- 30-day readmission rates and healthcare utilisation.
- Cost-effectiveness of interventions.

Community reintegration
- Rates of social participation and independence in daily activities.
- Employment or education re-engagement post-stroke.

Program reach and equity
- Accessibility of services across geographic and socioeconomic groups.
- Satisfaction levels among patients and caregivers

Appendix 3 Additional information on the new Estonia life after stroke/stroke navigator programme

Estonia

The article about developments of stroke care is published here: https://pmc.ncbi.nlm.nih.gov/articles/PMC9923126/

In Estonia, all healthcare is provided through a reimbursement scheme by a single payer – the Estonian Health Insurance Fund (EHIF): https://www.tervisekassa.ee/en/people/health-insurance

The Estonian Stroke Initiative (ESI) was founded as a subsociety under the Estonian L. Puusepp Society of Neurologists and Neurosurgeons (ENNS) in 2008. After years of negotiations with stakeholders, it was finally agreed between the Minister of Social Affairs, EHIF, the Union of Estonian Medical Emergency, and all acute care hospitals that:

1. From September 1, 2019, all patients with acute onset of stroke should be admitted directly to stroke-ready hospitals containing stroke units or stroke centres.
2. All stroke patients should be managed in stroke units or stroke centres.
3. Access to post-stroke rehabilitation should be increased.

In 2020, an innovation project funded by the EHIF focusing on improving life after stroke – rehabilitation, social support, returning to work, and patient quality of life – was initiated in four (out of 6) larger hospitals with stroke units. The aim of the project is to improve patients' quality of life by developing a more integrated care pathway from the patient's perspective.

https://www.tervisekassa.ee/en/uudised/philips-nordic-healthcare-group-and-meditsiinigrupp-will-support-stroke-patient-pathway

https://www.ichom.org/nordic-healthcare-group-blog/making-vbhc-real-experiences-from-estonian-stroke-patient-pathway-pilot-presentation-at-the-ichom-2022-conference/; https://www.ichom.org/nordic-healthcare-group-blog/better-quality-of-life-for-stroke-patients/

The pilot successfully ended in 2022: https://www.tervisekassa.ee/blogi/insuldi-juhtprojekt-loppenud-milles-veendusime-ja-kuidas-edasi

During the project, the task of the stroke coordinator is to ensure the smooth transition of the patient from one stage of treatment or institution to another, mediating information about possible and necessary services. The coordinator's role also includes providing the patient's general practitioner with information about the time of the patient's stroke and other relevant details.

In the project, the coordinator's tasks also included activities aimed at preventing recurrent strokes in collaboration with the patient and their relatives, which helped reduce repeated hospitalisations and the unreasonable use of emergency medical services.

After the project, the Service Manager of the Health Insurance Fund said: "The service of the stroke pathway coordinator proved to be a key solution during project trials – it significantly improved communication and role distribution among parties at all stages of treatment and helped improve the flow of information. Hospitals involved in the development projects observed during testing that patient access to services became smoother thanks to the coordinator, and this also reduced the workload of doctors." https://www.tervisekassa.ee/blogi/insuldi-juhtprojekt-loppenud-milles-veendusime-ja-kuidas-edasi

After the project, the standard of stroke pathway was developed by the EHIF together with stroke experts, stroke nurse, stroke coordinator, rehabilitation doctors and general practitioners. As a result, starting from January 1, 2025, a nationwide treatment pathway for patients diagnosed with ischemic stroke (stroke treatment pathway) was implemented, defining the standard for patient management and related role guidelines. This standard was implemented in all six larger hospitals with stroke units, and the stroke coordinator and stroke nurse services are continuously reimbursed by the EHIF. Additional role guidelines are directed at stroke nurses, stroke coordinators, and general practitioners.

During the patient's hospital stay, the stroke coordinator will contact the patient or their relatives if the acute stroke team has assessed the need for the coordinator's service based on the patient's condition. The role of the stroke coordinator is to support the patient and their relatives in planning the post-hospitalisation period, which includes supporting and coordinating the implementation of the treatment plan, as well as identifying and planning appropriate support and additional services: https://www.tervisekassa.ee/media/803/download?inline

The coordinator service is provided to patients who have at least one of the following conditions and/or circumstances that complicate recovery:

- Multiple comorbidities
- Weak support network
- Memory and mood problems
- Previous poor treatment adherence

Additional LAS notes from the regional group updates

- Portugal - mentioned the support groups.
- Northern Ireland – standardised regional service model for long term support; Netherlands strengthened integrated care networks including teaching. programmes of invisible symptoms in primary care/targeted at GPs; Funding achieved for stroke connect.
- Germany - funding received for another pilot to implement stroke navigator and governance in after care and development of a new guideline in stroke after care – in collaboration with the German stroke society and the SSO.
- England – SQuIRE projects showing collaboration between SSOs and the NHS.
- Sweden – guideline approved for regular follow up on the need of rehab/ESD – prob is implementation.
- Finland – post stroke checklist implementation.
- Denmark – aphasia guideline established.
- Catalonia – LAS will define a model of integrated healthcare.

- Bulgaria – unmet needs research project and translated the post stroke checklist.
- Austria – roll out of stroke card – development of post app; and book on LAS)).