Stroke Improvement Plan 2023

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Scottish Government
Riaghaltas na h-Alba

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1. Ministerial Foreword

The Stroke Improvement Plan 2023 seeks to build on the previous Stroke Improvement Plan, published in 2014. Since the publication of the 2014 plan, we have made significant progress in many areas of stroke care.

However, stroke remains a leading cause of death and disability in Scotland, and we are committed to doing more to improve outcomes for those who have suffered a stroke.

In The Stroke Improvement Plan 2023 we set out our vision of minimising preventable strokes and ensuring timely and equitable access to life-saving treatment. Additionally, the plan places renewed emphasis on the importance of the provision of holistic care, particularly in the approach to rehabilitation, and ensuring the psychological impacts of stroke are given renewed prominence in stroke care.

I would like to thank the clinical staff and third sector organisations who have contributed their feedback to the development of the Stroke Improvement Plan 2023. I would also like to thank those individuals with lived experience of stroke who have shared their experiences and helped shape the priorities and commitments in this plan.

Underpinning the implementation of this plan will be collaboration between the Scottish Government, NHS Boards and third sector organisations.

I am clear that stroke must remain a priority for Scottish Government and NHS Scotland. Delivering this plan will be crucial to that continued prioritisation.

Jenni Minto, MSP
Minister for Public Health and Women's Health

2. Introduction

Cerebrovascular disease (CVD) develops as a result of problems with the blood vessels supplying the brain. These can include strokes caused by clots (ischaemic) or those caused by bleeding (haemorrhagic). Additionally, some individuals may experience Transient Ischaemic Attacks (TIAs), which are caused by a temporary disruption in the blood supply to the brain.

The onset of a stroke is a sudden, life-threatening medical emergency and urgent treatment of a stroke is essential. The sooner treatment is received, the better a person's chance of making a good recovery and avoiding serious disability.

Over the last decade, the death rate from cerebrovascular disease has decreased by 26%. However, stroke remains a leading cause of death in Scotland. There were 3,836 deaths in Scotland in 2021 where CVD, including stroke, was the underlying cause (Scottish Stroke Statistics).

Despite the decline in death rate, stroke continues to have a marked impact on people across Scotland. Stroke is a leading cause of profound adult disability, and the consequences of a stroke are often long-lasting and almost always life changing. Over 128,000[1] stroke survivors live in Scotland and the effects of stroke are felt by individuals who have suffered a stroke, as well as their friends, families and those with caring responsibilities. The Scottish Government is committed to maximising the number of individuals who survive strokes and to ensuring that stroke survivors have the best possible care and quality of life.

In addition to the long-term impacts of stroke, more people are living with long-term conditions such as cardiovascular disease, neurological conditions, chronic respiratory conditions and diabetes, as captured in the Scottish Burden of Disease data. Each of these conditions requires ongoing treatment and care and has a subsequent impact at each stage of the treatment of, and recovery from, stroke.

In order that those who have experienced stroke are best placed to navigate their stroke journey, stroke care should be provided in line with the principles of realistic medicine. This includes:

[1] Stroke Association - Stroke Statistics

- Listening to and understanding patients' problems and care preferences.
- Ensuring that decision making is shared between patients and their healthcare professionals.
- Ensuring that patients have access to the clear and understandable information required to make an informed choice about their care.

These tenets of realistic medicine, and the provision of care that is person-centred and tailored to the needs of the individual, should be applied by stroke services at all stages of stroke treatment and care.

The Stroke Improvement Plan (2014) set out a comprehensive programme for further reducing the number of deaths from stroke and improving stroke care across the whole patient pathway. The Scottish Government remains committed to further improving stroke care across the entire stroke pathway.

To this end, a refreshed Stroke Improvement Plan is required to build on the work achieved by the previous plan. The Stroke Improvement Plan (2023) builds on the existing Stroke Improvement Plan (2014) and sets out the Scottish Government's priority actions in continuing to improve stroke care. This refresh of the Stroke Improvement Plan takes account of changes in clinical practice, the emergence of treatments and input from those with lived experience of stroke. The Stroke Improvement Plan considers recommendations made in the Progressive Stroke Pathway, produced by the National Advisory Committee for Stroke.

Through this refreshed Stroke Improvement Plan, the Scottish Government recognises the impact stroke has across Scotland. This plan reiterates our commitment to improving stroke care and raising the profile of stroke and its consequences. We have renewed our ambitions, particularly in commitment to life-changing treatment such as thrombectomy and a greater emphasis on the importance of high-quality rehabilitation. We will work closely with all stakeholders, including NHS Boards, clinicians, third sector organisations and those with lived experience of stroke to implement this plan.

3. Scottish Stroke Improvement Programme

The Scottish Government continues to support the Scottish Stroke Improvement Programme (SSIP), a key tool in driving improvement

across stroke care. The SSIP annual national report collates information collected via the Scottish Stroke Care Audit (SSCA), which measures performance in NHS acute hospitals, grouped by NHS Board, against the Scottish Stroke Care Standards. This refreshed Stroke Improvement Plan does not make changes to the current Scottish Stroke Care Standards. However, we will work with Public Health Scotland regarding future changes, such as the inclusion of measures of rehabilitation outcome and measures to assess TIA services.

The SSIP annual national report also reports on the standards identified in the Stroke Improvement Plan (2014). Working with the Scottish Stroke Improvement Programme, we have made considerable changes to the criteria for assessing the provision of stroke care in NHS Boards, to reflect this refreshed Stroke Improvement Plan. Recommendations made in the Progressive Stroke Pathway have been incorporated into the SSIP review criteria.

Although the overall process of conducting reviews remains largely unchanged, the criteria against which NHS Boards are assessed have been altered to reflect recommendations made in the Progressive Stroke Pathway. The most significant change in the new criteria is a far greater emphasis on the delivery of post-acute care, including rehabilitation.

The reviews conducted in 2022 and 2023 represent the first round of reviews with NHS Boards using the new criteria for assessment, and this process has been treated as an opportunity to provide a baseline of current stroke care provision against the new, more challenging, criteria. We will continually review the information collected during SSIP reviews of stroke services and refine the criteria or the process for collecting data, if required.

Going forward, our expectation would be to see increasing performance against the criteria outlined in the review process. This will require NHS Boards to drive local improvements in their stroke services, in line with our ambitious vision for stroke care in Scotland.

It should be noted that the system of assessing compliance has been simplified to a RED, AMBER, GREEN (RAG) system. Within each aspect of care being assessed, multiple criteria are outlined. This allows us to monitor changes in service delivery within each of the RAG ratings. The revised RAG chart, against which the provision of stroke care provision in each NHS Board will be assessed, is included as an annex to the Stroke Improvement Plan (**Annex A**).

4. Workforce

The Scottish Government understands that the provision of high-quality stroke care, throughout the patient pathway, is highly dependent on having an appropriately skilled workforce, delivering the right care, in the right place, at the right time.

In March 2022, The Scottish Government published the Health and social care: national workforce strategy, setting out a vision for the health and social care workforce to support recovery, growth and transformation of our workforce. The strategy set out numerous actions to help bolster the health and social care workforce, many of which are relevant to stroke care provision.

Understanding the available stroke workforce, and their education and learning needs, is a key component of the SSIP review process and we will continue to assess the impact of the actions from the NHS health and social care workforce strategy on local stroke workforces.

We will engage regularly with NHS Boards through SSIP reviews, to establish where workforce challenges exist. Through the organisational audit component of reviews, we will capture and record data relating to stroke workforce numbers and consider how this might be reported. It is imperative that NHS Boards ensure their stroke workforce is appropriately staffed throughout the patient pathway. These reviews will be used to review staffing levels, seek assurances regarding local stroke workforce planning and reiterate the vital importance of reaching and maintaining appropriate levels of staffing.

Whilst ensuring staffing levels are appropriate is critical, ensuring the skills and knowledge of the workforce is of equal importance. NHS Boards should seek to ensure their stroke workforce reaches, and maintains, an appropriate level of skills and knowledge. NHS Boards should consider whether a dedicated staff member functioning as a stroke trainer will be required in supporting this work.

Several criteria have been included in the revised SSIP RAG chart for NHS Board reviews to provide assurance that the stroke workforce is suitably knowledgeable and skilled. In addition to utilisation of the education training template to demonstrate appropriate competency within the stroke workforce, NHS Boards are now required to demonstrate:

- Evidence of planning to identify training needs for the stroke workforce.
- That all staff working in stroke services complete, as a minimum, the STARS core competency training modules and Advanced modules as required.
- That all staff potentially dealing with hyperacute stroke patients have completed the appropriate training (such as STAT+, STARS Advanced Modules).
- That training is supported by rolling educational plans, comprising blended learning with simulation and web-based training.
- Evidence of regular educational sessions (which may be internal or external) to support shared learning amongst professional groups.
- Evidence of training stroke service staff with a focus on support with having difficult conversations.
- That stroke physicians and radiologists have received up to date training in advanced imaging for stroke.

We will continue to review performance against these criteria and consider whether further work is required to drive the upskilling and education of the stroke workforce.

In addition to ensuring the stroke workforce is suitably staffed, and skills and knowledge are maintained, the stroke workforce should be supported by suitable use of technology-enabled working practices. Reviews of NHS Boards now ask that they demonstrate the appropriate use of information technology to allow the workforce to function as effectively as possible. This should facilitate cross-NHS Board working, networking between clinicians, reliable and prompt access to information and the provision of tailored information to patients.

5. Vision and priority areas

The vision of the Stroke Improvement Plan is to support delivery of the best possible stroke care in Scotland. This means considering the entire stroke pathway, from prevention and awareness raising to the provision of rehabilitation and ongoing support.

Through engagement with clinicians, third-sector organisations and individuals with lived experience of stroke, we have identified the following priorities to deliver this vision. Each priority is supported by

commitments relating to actions that the Scottish Government is taking, or will take, to help drive progress in these areas.

Priority 1: Primary prevention – We will seek to prevent as many strokes as possible, by working to improve the detection and management of underlying risk factors for stroke.

Priority 2: Awareness raising – We will work to understand current public awareness of stroke symptoms, and the action required when they occur, and support the delivery of FAST campaigns.

Priority 3: Hyperacute care – We will optimise delivery of thrombolysis and expand access to the national thrombectomy service, with the aim of a national round-the-clock thrombectomy service.

Priority 4: Early secondary prevention – We will seek to prevent as many additional strokes as possible by optimising the care of those who have suffered a stroke or TIA.

Priority 5: Rehabilitation - We will make the provision of high quality, holistic rehabilitation a cornerstone of stroke care in Scotland. Rehabilitation should be person-centred, re-accessible, delivered in the appropriate setting and patient outcomes and experiences measured.

Priority 6: Psychological care – We will ensure that the emotional and cognitive needs of those who have survived a stroke are given the same level of importance as their physical needs and recovery.

Priority 7: Collaborative implementation – We will establish a collaborative forum for bringing representatives of every NHS Board stroke service, as well as third sector organisations, together. This will facilitate the sharing of best practice and identify opportunities for collaborative care across NHS Boards.

5.1. Priority 1: Primary Prevention

Many people in Scotland live with risk factors which place them at increased risk of stroke. Primary prevention refers to interventions taken with the aim of reducing the risk of a stroke in those who have not had a stroke, by addressing risk factors.

The main risk factors for stroke, which are targeted by primary prevention work, are high cholesterol, high blood pressure and atrial fibrillation (a common heart rhythm disorder).

These underlying risk factors can often show no symptoms, meaning individuals may not be aware of their increased risk of stroke and detection can be challenging. Additionally, even once detected and treatment is commenced, these risk factors are often not managed to an acceptable level to minimise risk.

Work is already underway, via the Scottish Heart Disease Action Plan, to improve the detection, diagnosis and management of these risk factors for heart disease and stroke. This work is being led by the Cardiovascular Risk Factor Sub-Group and has three main strands:

- We will collaborate with partners to implement a community-based awareness, prevention and detection programme for high blood pressure and high cholesterol across Scotland, which is person-centred and co-designed.

- We will develop indicators and improve data collection for all three conditions (high blood pressure, high cholesterol, and atrial fibrillation). This will support local quality improvement within primary care and data should also be made available at regional and national level to identify unwarranted variation.

- We will support and invest in the use of proven technology to support detection, tele-monitoring and the provision of tailored support for people with heart disease or cardiac risk factors.

It is important to ensure that work is not duplicated in our attempts to optimise the primary prevention of stroke. We will align stroke policy closely with the work already underway, and assess where additional input may be required to target primary prevention towards stroke.

To ensure that the current work programme is aligned with the needs of stroke prevention, we will ensure that we work collaboratively across policy areas and involve stroke physicians in the ongoing development of solutions in the three strands of primary prevention work. Representatives of the National Advisory Committee for Stroke should engage regularly with the Cardiovascular Risk Factor Sub-Group, to ensure this work has maximal impact.

Actions on wider risk factors for cardiovascular disease, including stroke, are addressed by separate Scottish Government plans. These include:

- Obesity (A Healthier Future: Scotland's Diet & Healthy Weight Delivery Plan 2018)

- Smoking (Raising Scotland's Tobacco-Free Generation: Tobacco Control Action Plan)

- Alcohol consumption (Alcohol Framework 2018: Preventing Harm)

Commitment: Assess the ongoing outputs of primary prevention work commenced through the Heart Disease Action Plan and consider how these can maximise stroke prevention.

Commitment: Ensure the National Advisory Committee for Stroke is represented on the Cardiovascular Risk Factor Sub-Group to help determine solutions and agree actions on detection and management of atrial fibrillation, blood pressure and high cholesterol.

5.2. Priority 2: Awareness raising

Stroke is a medical emergency, and timely access to medical care following a stroke is vital. Ensuring the public can identify the symptoms of stroke, in themselves and others, is critical. It is also important that, having identified new symptoms, there is an awareness of the need to phone 999 immediately. Timely recognition of stroke allows prompt medical assessment and maximises the likelihood of a patient being suitable for effective treatment.

Awareness of symptoms is even more important given the Scottish Government's commitment to expanding access to thrombectomy procedures, and to reducing the time taken for patients to receive thrombolysis treatment. Both thrombectomy and thrombolysis are time-critical interventions. Maximising public awareness will help ensure as

many people as possible have the chance to receive vital treatment that gives them the best chance of avoiding serious disability or death.

National FAST (Face, Arms, Speech, Time) campaigns have been used as the primary method of influencing public awareness of stroke symptoms. The FAST acronym highlights the importance of recognising facial drooping, slurred speech and arm and /or leg weakness and seeking urgent medical assessment.[2]

Since the onset of the Covid-19 pandemic, the public have faced a huge amount of public health messaging, including campaigns delivered in the form of acronyms (e.g., FACTS). It is therefore important to establish whether this public health messaging has impacted the public's awareness and understanding of stroke symptoms, and the actions required if they are identified.

As a further result of the Covid-19 pandemic, lessons have been learned about how to effectively communicate important public health messages. This includes the ability to communicate with groups that may have previously been difficult to reach via traditional communication methods. These lessons will be important in helping to inform future awareness raising campaigns. The Scottish Government will work closely with third sector organisations to support the delivery of FAST campaigns.

Commitment: Establish the current degree of public understanding of FAST, stroke symptoms and the action required, and whether certain at-risk groups require different messaging.

Commitment: Support the delivery of FAST campaigns, working with third sector organisations, and ensure messaging reaches all at-risk groups.

5.3. Priority 3: Hyperacute care

The Scottish Government is committed to ensuring individuals who suffer a stroke have access to the best possible treatment, to maximise their chances of recovering and regaining a good level of function. For some patients, 'hyperacute' care can be provided in an attempt to unblock their artery and reduce subsequent damage to the brain. In such cases, patients who are within the appropriate time window for treatment are said to have hyperacute strokes.

[2] ThinkFAST | Symptoms of Stroke

Hyperacute stroke treatment may take the form of a procedure called a thrombectomy, or the administration of medication, known as thrombolysis. The majority of patients who undergo a thrombectomy procedure will also receive thrombolysis. Both treatments are more effective the earlier they can be given.

5.3.1. Thrombectomy

Treatment for hyperacute stroke includes a procedure called thrombectomy, which can supplement medical treatments for stroke. A thrombectomy is a procedure performed in certain cases of hyperacute stroke, where the clot causing the stroke is physically retrieved by a specially trained radiologist. In certain types of stroke, there is good evidence to suggest that thrombectomy is even more effective than the equivalent medical intervention, thrombolysis (clot dissolving medication), at reducing disability.[3]

The Scottish Government has already outlined its commitment to the development of a national thrombectomy service in Programmes for Government (Protecting Scotland's Future: the Government's Programme for Scotland 2019-2020, Protecting Scotland, Renewing Scotland: The Government's Programme for Scotland 2020-2021). Prior to the 23/24 budget, we have invested more than £16m in the delivery of a thrombectomy Service in Scotland. The refreshing of the Stroke Improvement Plan provides an opportunity to outline the progress to date and reassert this commitment to further expansion.

The thrombectomy service model under development in Scotland is a 'hub and spoke' model of care delivery. Three 'hub' hospitals perform thrombectomies and eligible patients are transferred from 'spoke' hospitals across the country.

The expectation is that patients will then be transferred back to their spoke hospital in the days following their thrombectomy procedure. The hub hospitals where thrombectomies are performed are in Dundee (Ninewells Hospital), Edinburgh (Royal Infirmary of Edinburgh) and Glasgow (Queen Elizabeth University Hospital).
Since a pilot service in the North of Scotland launched in November 2020 188 thrombectomies have been performed across the three

[3] Goyal, M. et al. (2016) '*Endovascular thrombectomy after large-vessel ischaemic stroke: a meta-analysis of individual patient data from five randomised trials*', The Lancet, Volume 387, Issue 10029, Pages 1723–1731.

regional hubs. Currently, the ‘hub and spoke’ model is not fully operational - thrombectomy is currently only routinely available for patients who present to hub hospitals within certain time windows.

The Scottish Government is committed to expanding the national thrombectomy service, and to ensure access to this treatment is as equitable as possible. We want as many people as possible, from across Scotland, to have access to thrombectomy when their stroke occurs. We will continue to work with clinical staff, NHS Boards and regions and NHS National Services to expand access to thrombectomy.

Commitment**:** Work with the three thrombectomy hub regions (North, East, West) to maximise access to thrombectomy, driving expansion of hours of service and geographical access with the aim of a national round-the-clock thrombectomy service.

Commitment: Publish a detailed plan for further development of the national thrombectomy service, with a focus on increasing equity of access across all regions, in the second half of 2023.

5.3.2 Thrombolysis

Thrombolysis, a medical treatment for those presenting with hyperacute stroke, remains an important option for patients undergoing thrombectomy as well as those who may not be able to undergo a thrombectomy.

Whereas thrombectomy removes the clot causing the stroke, thrombolysis breaks down the clot using medication. Like thrombectomy, thrombolysis is a time-critical treatment, and it is vital that eligible patients receive it as quickly as possible.

We continue to measure the delivery of thrombolysis via the SSCA standards. The time taken for patients to receive thrombolysis is one of the key standards included in the audit, with data collected relating to every patient receiving this treatment. In 2021, 933 patients in Scotland received thrombolysis treatment (Scottish Stroke Improvement Programme 2022 national report).

It is essential that stroke services strive to meet the SSCA target for administering thrombolysis treatment. We will use the SSIP reviews with NHS Boards to reiterate the importance of reducing delays in thrombolysis administration and ask them to produce plans for improving

their performance against this standard. Where not already in place, NHS Boards should be developing tele-networks which allow the remote assessment of patients to determine their suitability for thrombolysis.

Commitment: We will work to attain improvements in the time from stroke onset to thrombolysis treatment. We will work with NHS Boards struggling to achieve the target and develop plans for meaningful improvement in performance. Where NHS Boards are performing well against the standard, we will identify novel approaches and share best practice.

5.3.3. Pre-hospital care

Both thrombectomy and thrombolysis rely on the timely identification and ambulance transfer of eligible patients. The pre-hospital system of care is vital to providing urgent care for patients with hyperacute stroke. In order to maximise the number of patients eligible to undergo thrombectomy or thrombolysis, it is important to ensure pre-hospital processes are optimised.

The Scottish Ambulance Service (SAS) plays a key role in the delivery of hyperacute therapy to patients with stroke. Patients must be correctly identified as having a hyperacute stroke in the community and rapidly transferred to hospital for assessment. At the same time, it is important to determine the patients for whom other pathways of care are more appropriate, while making effective use of the ambulance service system resource as a whole.

The timely and accurate identification of hyperacute stroke patients has been identified by SAS as a key stage in the process. In order to maximise the effectiveness of identification of hyperacute stroke cases, an innovative approach is required.

The Scottish Government will support SAS in undertaking work to trial the use of video technology in assessing hyperacute stroke. This will involve an appropriately trained clinician holding a live video call with the patient, prior to the dispatch or arrival of the ambulance on scene. It is hoped this approach will allow hyperacute strokes to be identified with greater accuracy than is currently possible.

Scottish Government will support work with SAS to explore the feasibility of this approach and work to understand how this can be incorporated into hyperacute stroke care pathways.

Commitment: Support Scottish Ambulance Service in exploring the feasibility of using video call technology to more accurately diagnose hyperacute stroke.

5.4. Priority 4: Secondary Prevention

Secondary prevention is the detection of stroke risk factors after stroke or transient ischaemic attack (TIA) has occurred, to reduce the risk of a subsequent stroke occurring. When patients present with a TIA, this represents a vital opportunity to detect underlying risk factors and commence the appropriate treatment.

As part of the refresh of assessment criteria for SSIP reviews, NHS Boards are now being asked to evidence the measures being taken to improve secondary prevention of stroke.

NHS Boards will now have to provide evidence that:

- All patients have a 12 lead Electrocardiogram (ECG) to detect persistent atrial fibrillation.
- There is a documented pathway demonstrating clear criteria for prolonged ECG monitoring.
- Selected patients with ischaemic stroke or TIA have prolonged ECG monitoring to detect paroxysmal (intermittently occurring) atrial fibrillation.
- Remote and ambulatory blood pressure monitoring are available where required.
- For ischaemic events, antiplatelet agents are commenced immediately (as per local guidance, including any necessary investigations).
- Local guidelines recommend which secondary prevention medication to prescribe but also outline situations where medication, such as anticoagulants, should not be stopped.
- Secondary preventative medications are immediately available e.g., from ward stock, hospital pharmacy or written prescription to take straight to a 24/7 chemist.
- There is a pathway for detection and treatment of Patent Foramen Ovale (a heart condition that increases the risk of stroke).

In many cases TIA services will represent the means of initiating this secondary prevention. The SSIP review also now requires NHS Boards to demonstrate their approach to the early assessment and diagnosis of TIAs. In addition to this, a TIA bundle is being developed through the SSCA to empirically measure the performance of TIA services.

Through the SSIP, we will monitor how effectively NHS Boards are delivering the required standards of secondary prevention. If there are persistent challenges in delivering adequate secondary prevention, we will work with NHS Boards to establish how the delivery of secondary prevention can be optimised. It will also be vital for NHS Boards to consider how their stroke services liaise with primary care providers, such as GPs, to delivery optimised secondary prevention.

Commitment: NHS Boards will now be asked to provide evidence of the pathways in place to ensure appropriate secondary prevention detection and management of risk factors.

Commitment: Scottish Government will assess the delivery of secondary prevention measures across NHS Boards through the SSIP reviews and a TIA bundle. Where shared challenges are identified, we will work to further optimise the delivery of secondary prevention of stroke.

5.5. Priority 5: Rehabilitation

Stroke is a leading cause of disability in Scotland. Many people who have suffered a stroke will require the input of hospital and community rehabilitation services. As outlined in the Progressive Stroke Pathway, rehabilitation should be based around a holistic biopsychosocial approach. This approach to rehabilitation seeks to understand the interactions of a diverse range of factors (biological, psychological and social factors) when providing care. Such a model helps ensure that goals and interventions are tailored towards the preferences and needs of every individual.

Stroke rehabilitation services should be underpinned by a holistic rehabilitation model [4], which places the patient at the centre of the rehabilitation process. This model outlines the need for holistic assessment, interventions where individuals and practitioners work

[4] Williams, L., Hamilton, J. & Evans, J.J. (2021) A holistic model of stroke rehabilitation (Unpublished document)

jointly towards agreed goals, the importance of appropriate evaluation and a rehabilitation infrastructure that provides co-ordinated care.

Through engagement with the National Stroke Voices lived experience group, where stroke survivors are actively encouraged to share their experiences of stroke care, it is clear that many patients are already receiving a high standard of rehabilitation following a stroke.

> *"*I had some excellent therapists who helped me with my recovery and treated me like a person rather than a process."
>
> National Stroke Voices member

However, these experiences are not universal and within Scotland there is considerable variance in the level of rehabilitation input received by stroke patients.

> "The whole jigsaw of stroke rehabilitation is a unique experience for stroke survivors. I think my stroke rehabilitation was determined by my GP, as I walked out of the stroke unit showing no physical signs."
>
> National Stroke Voices member

5.5.1. Approach

The Scottish Government's rehabilitation strategy, Rehabilitation and Recovery: A Once for Scotland Person-Centred Approach to Rehabilitation in a Post-COVID Era outlines Six Principles of Good Rehabilitation, which states that rehabilitation services should be:

1. Easy to access for every individual
2. Provided at the right time
3. Realistic and meaningful to the individual
4. Integrated
5. Innovative and ambitious
6. Delivered by a flexible and skilled workforce

These principles provide an overarching framework for understanding good rehabilitation in Scotland. However, there is a need to outline how these principles will be applied in the context of stroke rehabilitation.

To address this, we are implementing a series of changes to ensure that NHS Boards understand the Scottish Government's expectations of their stroke rehabilitation services. This work has seen significant input from the lived experience of the National Stroke Voices Group.

The principles of our vision for holistic stroke rehabilitation is a service that:

- Is delivered in the appropriate setting for individuals' needs.
- Is person-centred and tailored to the unique needs of every individual.
- Provides opportunities for everyone who has experienced a stroke to re-engage with services after their discharge from hospital.
- Utilises patient rehabilitation experiences and outcomes to inform future policy decisions.

Much of the action taken in our drive to improve the quality of rehabilitation offered to patients who have suffered a stroke builds on the recommendations made in the Progressive Stroke Pathway, authored by the National Advisory Committee for Stroke.

The rehabilitation recommendations made in the Progressive Stroke Pathway have been included in the refreshed criteria against which NHS Boards are assessed during their SSIP reviews. This ensures that the quality of rehabilitation provided is being given far greater prominence when NHS Boards are assessed on their provision of stroke care.

This approach will allow us to use evidence from reviews to recognise and share best practice across NHS Boards. We will also be able to monitor for improvements and identify areas of significant challenge in the delivery of our vision of stroke rehabilitation.

In addition to the criteria outlined below, stroke services are being asked to demonstrate a variety of rehabilitation pathways to demonstrate support in all aspects of rehabilitation care. The full list of criteria stipulating what NHS Boards will now be asked to evidence to demonstrate their provision of stroke rehabilitation are attached alongside this plan (**Annex A –** section 9 onwards).

5.5.2. Rehabilitation in an appropriate Setting

In line with recommendations made in the Progressive Stroke Pathway, and the principles of realistic medicine, stroke services should deliver

care in the most appropriate setting. This may be in an inpatient setting, or delivered in the community, and may involve NHS staff, social care and third sector organisations working in partnership to deliver care.

Changes made to the SSIP review criteria mean NHS Boards must now demonstrate that stroke rehabilitation services are offered in a variety of settings, and at a range of intensities, as required by patients.

Where inpatient stroke rehabilitation is delivered, this should occur in a stroke rehabilitation unit and be delivered every day, including weekends, where required. NHS Boards should also be able to demonstrate their commitment to the provision of community rehabilitation with community rehabilitation teams consistently providing appropriate input and clear referral pathways for this service. This should be supported by evidence of the consistent appropriate use of early supported discharge teams.

In line with the holistic rehabilitation model, stroke services should be able to demonstrate coordinated, interdisciplinary working to facilitate the most appropriate provision of care. NHS Boards should also be able to demonstrate that clinical and service leadership places an equal focus on hospital and community rehabilitation pathways.

5.5.3. Person-centred approach within rehabilitation

The Progressive Stroke Pathway recommends that everyone who has had a stroke should expect “high quality, evidence-based, person-centred stroke rehabilitation”. This rehabilitation should be delivered in a way “which reflects their needs and preferences.”

This vision of stroke rehabilitation, that is person-centred and tailored to the needs of the individual, aligns with the Scottish Government’s rehabilitation strategy, Rehabilitation and Recovery: A Once for Scotland Person-Centred Approach to Rehabilitation in a Post-COVID Era, and with the principles of realistic medicine.

Person-centred care, where people are treated as individuals, provides care that treats them with dignity and compassion. This care approach is enabling and collaborative, and respects an individual’s needs and values. This person-centred approach to stroke rehabilitation is fundamental to our vision of holistic stroke rehabilitation, as it ensures that the needs and goals of the individual receiving stroke rehabilitation are foremost in the minds of those providing care. No two stroke

journeys are the same, and we will strive for a rehabilitation framework that recognises this.

In demonstrating that their stroke service infrastructure supports the incorporation of effective person-centred care into holistic rehabilitation, NHS Boards will be asked to evidence regular staff training and the use of reflective practice focused on the delivery of a person-centred approach. The Scottish Government is also asking stroke services in every NHS Board to demonstrate that local quality improvement initiatives, drawing on the experiences of those who have experienced the rehabilitation service, support the delivery of person-centred care.

In implementing this person-centred approach to the delivery of stroke rehabilitation, NHS Boards are now being asked to demonstrate that person-centred care is built into their stroke rehabilitation. This should be done through the use of supported self-management and goal-setting. The person-centred approach should also be provided to those requiring longer-term care following their stroke.

NHS Boards should also consider how to utilise these approaches in engaging with those with caring responsibilities. These individuals are likely to have experienced a major change in their life circumstances, along with the individual who had the stroke, and will likely require a person-centred approach to support them in their caring responsibilities.

5.5.4. Supported Self-Management

As part of the provision of person-centred care, every individual who has experienced a stroke should be provided with rehabilitation in line with the principle of supported self-management. This involves supporting people to develop the confidence and ability to manage the impact of their stroke, in a way that is meaningful for their own lives and provides them with the skills to make decisions about their own health and social care needs.

In the review process, NHS Boards will be asked to demonstrate the implementation of stroke rehabilitation that promotes supported self-management. NHS Boards should be able to demonstrate interventions are available across the stroke pathway, in a variety of formats such as online support, individual and/or group sessions and the incorporation of peer support.

We expect NHS Boards to demonstrate that their stroke services signpost individuals to community and third-sector partners providing supported self-management. Any follow-up provided to individuals after their stroke should review their progress and support the concept of supported self-management.

5.5.5. Goal-Setting

NHS Boards should be able to demonstrate that their stroke services make use of goal-setting, where individuals are involved in setting meaningful personal goals in their rehabilitation process. This approach should be available in every environment, from hospital rehabilitation to the community setting.

NHS Boards should implement a stroke rehabilitation structure that supports goal-setting. This should include regular goal review meetings with each person who has had a stroke and include their family as required. Accessible information about goal setting and accessible records of personal goals and plans should be maintained for all those undertaking stroke rehabilitation.

5.5.6. Re-accessing services

For many people who have suffered a stroke, their requirements are likely to change following discharge from hospital. Symptoms that cause individuals the most concern in the immediate aftermath of their stroke may be very different to those which manifest weeks or months after their discharge from hospital.

It is vital that everyone who has suffered a stroke feels empowered to re-engage with stroke services. We are asking NHS Boards to ensure that their stroke services are set up to facilitate direct re-access to services, and that patients can self-refer. This will be assessed in NHS Board reviews through the SSIP.

A critical part of ensuring those who have suffered a stroke are able to re-access services is providing the opportunity for a review of their progress. This allows individuals to share concerns and for healthcare professionals to assess whether further support may be required.

The Scottish Government is now asking stroke services in all NHS Boards to offer a formal review everyone who has had a stroke. This

should take place six months after the stroke event and allow re-referral into stroke services where required.

The utilisation of six-month reviews will be assessed during NHS Board reviews. NHS Boards are required to evidence that these reviews are carried out by a healthcare professional with relevant knowledge and experience of stroke and who is familiar with the person being reviewed.

5.5.7. Rehabilitation data

The SSCA already collects a wealth of data relating to the provision of acute stroke care. These data allow us to assess the variance in stroke care across Scotland and helps drive improvements in stroke care. This approach to quality improvement has shown improvements in stroke care provision and helped to identify areas of particular challenge in care delivery.

The rehabilitation criteria mentioned above will be assessed through the SSIP review meetings to assess service provision. Data relating to the delivery of rehabilitation and the experiences and outcomes of those who have experienced a stroke are harder to quantify and collect. However, the Scottish Government believes we should strive to develop ways in which we can measure the provision of rehabilitation.

Our ambition is to implement measures of rehabilitation, which reflect the experiences and outcomes for those who have had a stroke. We will work with Public Health Scotland to explore how we can capture this data and use it to inform quality improvement. This should also include capturing data reflecting the number of patients being offered six-month reviews, community rehabilitation referrals and re-engagement with services.

Commitment: NHS Boards required to demonstrate a service structure that supports the delivery of rehabilitation in a variety of settings, appropriate to patient need.

Commitment: NHS Boards will be required to demonstrate the provision of person-centred stroke rehabilitation.

Commitment: NHS Boards will be required to evidence appropriate pathways for patient-led direct re-access to stroke rehabilitation and offer a review to everyone who has suffered a stroke, six months after their stroke.

Commitment: We will work with Public Health Scotland to develop measures of patient experience and outcome relating to rehabilitation, with the aim of developing these by the end of 2024.

5.6. Priority 6: Psychological care

The Scottish Government's Mental Health Strategy (2017-2027) seeks to achieve "parity between mental and physical health" and this ambition is fundamental to our vision for stroke care.

Psychological symptoms are common following a stroke and may range from the expected distress arising from a life-changing event to severe symptoms impacting on ability to function. These symptoms can be cognitive (including the mental processes such as thinking, attention, language, memory and perception) or can be related to mood and emotions. 9 out of 10 stroke survivors report at least one cognitive effect of stroke.[5] Depression and anxiety are both common consequences of stroke, which can impact upon an individual's psychological state and emotional wellbeing. Depression and anxiety disorders may affect a third of people with stroke and frequently persist long-term.[6]

Engagement with clinicians, third-sector stakeholders and those with lived experience of stroke, suggests an imbalance between the prioritisation of physical and mental wellbeing. The potentially devastating physical impact of strokes is well understood, and often immediately obvious. However, the impact on an individual's mental wellbeing may either go unnoticed or be perceived as a secondary concern.

> "My mental health was badly impacted by my stroke. There were no discussion around looking for signs of the impact on my mental health. This had a big impact on my family as well."
>
> National Stroke Voices Member

[5] Stroke Association - Lived experience of stroke report
[6] Hackett, M et al. (2005) *'Frequency of Depression After Stroke: A Systematic Review of Observational Studies',* Stroke, Volume 36, Issue 6, Pages 1330-1340

Our vision is of a stroke service where the emotional and psychological care of those who have survived a stroke is given the same level of importance as their physical symptoms and recovery. This will require engagement with NHS Boards, clinical psychologists, stroke staff and third sector organisations, to ensure a coherent approach to providing care.

5.6.1. National Model of Psychological Care in Stroke (Scotland)

Through the work of the Scottish Stroke Psychology Forum, a tiered model of stroke care, the National Model of Psychological Care in Stroke (Scotland), has been developed. This model provides a framework for the provision of psychological care for those who have suffered a stroke. The model outlines four tiers of psychological care provision, according to the severity of symptoms present and clinical input required. A table outlining the National Model of Psychological Care can be found at SSPF Improving Psychological Care for Stroke in Scotland Oct 2020.pdf.

Level 1, the lowest tier of the model, relates to awareness and recognition of patients' cognitive and emotional needs, and is applicable to all health and social care staff. This includes a recognition that emotional distress and cognitive difficulties are common following stroke.

Level 2 represents patients with mild to moderate difficulties including emotional distress and cognitive difficulties. These can be addressed with enhanced psychologically informed practice by non-psychology stroke specialist staff, within the limits of their own professional competency. This should be done in regular consultation with a clinical psychologist with expertise in stroke or a clinical neuropsychologist.

Level 3 represents patients with moderate symptoms of psychological distress or mental health condition. Care at this level should be provided by professionals with accredited training in mental health. Consultation should also take place with a clinical psychologist with expertise in stroke or a clinical neuropsychologist.

Level 4, the highest tier, represents patients with severe and/or persistent disorders of mood and/or cognition. In the model, these patients require complex care which should be overseen by clinical psychologists with an expertise in stroke or a clinical neuropsychologist.

Psychological care is the remit of all staff, and this is differentiated within the tiered care model. Through the Scottish Stroke Improvement Programme (SSIP) review process, we are now asking every NHS Board to evidence implementation of psychological care in line with the tiered model. As this represents new assessment criteria for NHS Boards, we will use the first round of reviews to assess the implementation of the model.

These findings will inform how the Scottish Government might support the most effective implementation of the model. Once we understand how NHS Boards are currently implementing the model, we will explore how this can be improved, engaging with stakeholders involved in the process.

We will also consider how to make the best use of the limited number of clinical psychologists and neuropsychologists available to support staff in this process and actively encourage NHS Boards to establish and recruit to these posts where possible.

Commitment: Assess the current ability of NHS Boards to implement the National Model of Psychological Care in Stroke (Scotland). This will take place in the next round of NHS Board reviews.

Commitment: Engage with stroke staff, psychologists, patients, mental health and wellbeing policy team and third sector organisations to support implementation of the model and develop a stroke workforce that feels educated and empowered to engage with patients regarding their emotional and psychological wellbeing.

5.6.2. Awareness and resources

All staff have a significant role to play in the detection, support and further referral of individuals experiencing emotional and psychological consequences of stroke. It is therefore necessary to ensure that all staff are aware of the psychological and emotional impacts of stroke. In addition, it is vital that staff are aware of resources that they can signpost individuals to, to provide support and information relating to psychological and emotional wellbeing. These may be stroke-specific or relate more generally to support for emotional and psychological wellbeing.

Awareness of the emotional and psychological consequences of stroke amongst those affected by stroke, both those who have suffered stroke

and their wider support network, is equally important. A recurring theme of experiences from the National Stroke Voices group was the lack of awareness of psychological symptoms, and available support relating to the emotional wellbeing after stroke.

The Scottish Government will undertake an exercise mapping the available resources, for both stroke staff and those affected by stroke, to understand the current provision. This will involve working with clinical psychologists, the mental health and wellbeing policy team, third sector organisations and healthcare educators to establish the resources currently available, and their relevance to stroke. This will also include the resources available to carers, to support them as they navigate the altered roles and responsibilities caring for someone who has suffered a stroke brings.

This work will allow us to identify potential gaps in the current provision of information and support resources relating to the emotional and psychological wellbeing in stroke. The Scottish Government will then implement a strategy to raise awareness of these common consequences of stroke, both within staff groups and the wider population.

Commitment: Map the current provision of psychological and emotional wellbeing resources available, both for stroke staff and those affected by stroke.

Commitment: Develop strategies for raising awareness of the emotional and psychological impact of stroke on mental wellbeing, and the availability of resources available to provide support. This should be targeted at the stroke workforce and those affected by stroke and developed in collaboration with third sector organisations.

5.7. Priority 7: Collaborative implementation

The Progressive Stroke Pathway recommends that NHS Boards should work collaboratively with other NHS Boards in the delivery of stroke services. We have seen the importance of this as we continue to work on expanding the national thrombectomy service, where treatment pathways span geographical areas and NHS Boards.

Whilst a degree of collaboration at NHS Board level will already occur, Scottish Government's ambition is to drive further collaboration. Importantly, this should involve the key contributors to the planning and delivery of stroke services. These individuals are best placed to recognise the challenges, and opportunities, involved in stroke care. Third sector organisations should also be represented in this collaborative forum. It is vital that NHS Boards are fully aware of the support that third sector organisations can provide in delivering stroke care across boundaries.

To drive collaborative, and cross-boundary working, a forum will be set up for regular engagement between stroke services from every NHS Board. This forum will provide a vehicle for identifying common challenges in the delivery of stroke care, sharing novel approaches or best practice, identifying opportunities for working across NHS Board boundaries and linking with partner organisations involved in the delivery of stroke care. NHS Boards should feel empowered to identify areas of challenge where support may be required from other NHS Boards to improve the delivery of their services.

This forum for collaborative stroke work should produce tangible actions, be focused on developing solutions to challenges and have a term of reference that requires engagement from all NHS Boards. In developing this forum, we will work with NHS Boards, third sector organisations and stroke staff to establish the most effective model to adopt to ensure collaboration and delivery of meaningful outputs.

In order to maximise the effectiveness of such a forum, it is critical that the appropriate individuals from stroke services in each NHS Board are involved in the process. To ensure accountability for services, and to help drive engagement with the forum, we are asking every NHS Board to provide an accountable individual for the delivery of stroke services.

Commitment: Every NHS Board asked to provide an accountable individual from their senior management team to be responsible for the delivery of stroke services in that area across the entire pathway.

Commitment: A collaborative engagement forum will be established represented by stroke services from every NHS Board and third sector organisations, to drive improvement work and identify opportunities for collaborative care.

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Any enquiries regarding this publication should be sent to us at

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Edinburgh
EH1 3DG

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