Department of Health
An Roinn Sláinte
Männystrie O Poustie
www.health-ni.gov.uk

RESHAPING STROKE CARE

Saving Lives, Reducing Disability

Action Plan

June 2022

Contents

Foreword

Stroke is a leading cause of adult disability in the UK, the fourth largest cause of death, and two thirds of those who survive stroke have a life changing disability.

My Department's consultation document 'Reshaping Stroke Care: Saving Lives, Reducing Disability' proposed a number of commitments to improve stroke services. Over 19,000 responses to the consultation were received, reflecting support for many of the proposed commitments but deep concern about the potential impact on local services from the introduction of Hyperacute Stroke Care.

In arriving at the priorities and actions identified in this paper I have listened carefully to those responses. While I remain convinced about the potential of – and need for – Hyperacute Stroke Care in NI, I am also clear that we cannot at this time move forward with the options outlined in Reshaping Stroke Care. In the context of a changed environment, a new process for the evaluation of options for Hyperacute Stroke Care will be established.

In the time since the Reshaping Stroke Care consultation our health and social care system has been under pressure like never before as we respond to the pandemic. I want to pay tribute to those in the stroke workforce who have continued to strive to provide the best possible treatment and care in these challenging circumstances, and also to those in the Stroke Network who have continued to drive improvements such as the expansion of thrombectomy to a seven day service.

I recognise that the full implementation of this Action Plan will require additional funding over several years at a time when we face a very challenging financial position. Securing this funding will not be easy or straightforward but I have tasked my Officials to explore every opportunity going forward to secure additional funding as the costs of implementation become clearer.

I want to build on these improvements. We can and must do better for stroke patients and carers and, working together, this Action Plan sets out how we will achieve that.

Robin Swann
Minister of Health

Introduction

A stroke occurs when blood supply to part of the brain is interrupted by either a blood clot or a bleed, and surrounding brain tissue is damaged or dies.

There are two main types of stroke:

- Ischaemic, caused by a clot blocking or narrowing an artery carrying blood to the brain. Ischaemic strokes are the most common; and
- Haemorrhagic strokes, caused when a blood vessel supplying the brain bursts.

Stroke is a major health issue in NI with over 3,000 people being admitted to hospital each year and 39,000 stroke survivors living in our communities. It is important that every opportunity is taken to secure excellent care for people after a stroke and give them the best possible chance of a good recovery.

Public Consultation

The Department undertook a public consultation on proposed commitments to reform stroke services set out in the consultation document 'Reshaping Stroke Care: Saving Lives, Reducing Disability' from 26 March 2019 to 30 August 2019. Over 19,000 responses to the consultation were received. The consultation analysis report is available at www.health-ni.gov.uk/reshaping-stroke-care

The Way Forward

Following consideration of the response to the Reshaping Stroke Care consultation and emerging evidence on stroke treatments, this paper sets out the way forward in respect of six priority areas:

- Priority 1: Prevention
- Priority 2: Thrombolysis
- Priority 3: Thrombectomy
- Priority 4: Rehabilitation and Long Term Support
- Priority 5: Hyperacute Stroke Care
- Priority 6: Workforce

A summary of actions in respect of each priority is set out in Annex 1.

Priority 1: Prevention

Stroke prevention is achieved primarily in the community targeting both the high risk general population (primary prevention) and those discharged following a stroke or transient ischaemic attack (TIA) (secondary prevention).

Primary Prevention

Stroke is preventable. Ten modifiable risk factors account for around 90% of the risk of stroke. The most important are high blood pressure (hypertension – estimated to affect 20% of the UK population), high cholesterol, smoking, obesity/diet, atrial fibrillation (AF) and diabetes.[1]

The Department works across the health and social care sector, and with other government departments and agencies, to ensure we create the environment that better supports and empowers people to manage and improve their health and wellbeing. In support of Making Life Better[2], the Executive's 10-year public health strategic framework, the Department is taking forward a number of strategies which seek to reduce and prevent the risk of stroke and heart related conditions such as smoking[3]; obesity, nutrition and physical activity[4]; and alcohol use[5]. The Department is committed to continuing to work with the Public Health Agency and all relevant agencies to improve stroke prevention services.

The Department has endorsed NICE guidance relating to the prevention, diagnosis and treatment of stroke including NG 196 on the diagnosis and management of AF (see Annex 2).

In terms of screening, the Department will continue to be guided by the recommendation of the UK National Screening Committee (UK NSC) which currently does not recommend population screening for AF. The next UK NSC review is estimated to be completed by 2023.

Secondary Prevention

A TIA or "mini stroke" is caused by a temporary disruption in the blood supply to part of the brain. This results in a lack of oxygen to the brain and can cause sudden symptoms similar to a stroke. However, a TIA doesn't last as long with symptoms usually only lasting for a few minutes or hours, fully disappearing within 24 hours. It is estimated that up to 25% of strokes are preceded by a TIA.

[1] The Burden of Stroke in Europe (Stroke Alliance for Europe)
[2] https://www.health-ni.gov.uk/topics/health-policy/making-life-better
[3] https://www.health-ni.gov.uk/tobacco-control-strategy-and-reports
[4] https://www.health-ni.gov.uk/articles/obesity-prevention
[5] https://www.health-ni.gov.uk/publications/substance-use-strategy-2021-31

Currently, all Trusts provide a five day assessment service. Patients who experience TIA symptoms at weekends may be admitted until assessment can be carried out at the beginning of the following week.

An audit of TIA services was completed in May 2021. Guidelines from the National Institute for Health and Care Excellence (NICE) state that all patients with a suspected TIA should be seen within 24 hours of symptom onset. However, the audit indicates that just over 1/3 of patients in NI underwent specialist assessment within 24 hours.

Reasons for this include delays in referral for assessment with referrals for those attending Emergency Departments (ED) happening more quickly than those who attended their GP and late presentation by patients (the audit identified a median time to first clinical contact for those patients with symptoms of 32 hours). For this reason the FAST campaign was rerun in 2022 and the need for further promotion will be kept under review.

Building on the work of the audit HSC Trusts will be asked to develop plans for a 7 day service by October 2022, with a 7 day service in place by Summer 2023.

Action: We will identify a regional model to ensure 7 day access to specialist TIA assessment within 24 hours of symptoms to be implemented by Summer 2023

Priority 2: Thrombolysis

Thrombolysis is a procedure which uses medication to dissolve a blood clot. It is estimated that up to 20% of stroke patients could benefit from thrombolysis. In Northern Ireland, the 12 month average rate of thrombolysis at December 2021 was 14%.

The Stroke Sentinel National Audit Programme (SSNAP) measures the performance of stroke services across a number of domains, including thrombolysis, on a scale ranging from A-E (A being the best performance). While the Royal Victoria Hospital and South West Acute Hospital are typically rated A or B for thrombolysis, there remains considerable variation across the additional six hospital sites which provide thrombolysis.

While performance at some sites has continued to vary since the consultation on Reshaping Stroke Care was undertaken, progress has been made in another key factor - the time from a patient attending hospital to administration of thrombolysis. The 'Door to Needle' time has reduced from 46 minutes in 2018/19 to 42 minutes.

While protocols are in place to ensure patients attending hospital receive prompt clinical assessment, there are a number of reasons as to why the thrombolysis rate may vary. As a time dependent treatment, current guidance recommends that thrombolysis can be provided up to 4 ½ hours after a stroke. Strokes can occur during sleep resulting in the time of the stroke being uncertain. In addition, some patients may not recognise the symptoms of a stroke, or may be reluctant to contact emergency services, leading to delayed attendance potentially beyond the point at which thrombolysis is recommended.

Going forward, it is critical that we identify the main reasons why people who may benefit do not receive thrombolysis. We will undertake an audit and develop a programme of work to ensure that everyone who is eligible for thrombolysis within guidelines will have timely access to it.

Action: By Summer 2023, we will ensure that all patients who would benefit from thrombolysis within guidelines will receive it

Priority 3: Thrombectomy

Thrombectomy is a procedure which involves the insertion of a specially-designed clot removal device through a catheter into a blocked artery to remove a clot. Approximately 1 in 10 stroke patients would benefit from thrombectomy. The thrombectomy rate in NI, at just under 5%, compares favourably with the rate in England of just under 2%.

At the outset of the Reshaping Stroke Care consultation thrombectomy was available Monday – Friday 08.00am – 5.00pm. Despite pressures arising from the pandemic, the Stroke Network, working closely with the Belfast Trust, successfully expanded thrombectomy to a seven day service in April 2020. This expansion has benefitted stroke patients from all HSC Trust areas, including 31 patients at weekends during 2021 who would otherwise not have benefited from this potentially life changing treatment.

The Belfast Trust is currently taking forward a process to identify the requirements in terms of workforce, bed space, funding and other factors to enable us to take the next step in increasing access to thrombectomy by moving to a 24/7 service.

Artificial Intelligence (AI)

Stroke identification is time critical. Patients require prompt identification, rapid access to brain imaging such as Computed tomography (CT) scans or CT Angiography (which combines a CT scan with an injection of a special dye to produce pictures of blood vessels and tissues) and urgent decisions on suitability for intervention with thrombolysis or thrombectomy. Advances in technology such as CT perfusion (a dynamic, contrast-enhanced study which can help identify dying brain tissue which may recover) can play a key role in guiding appropriate interventions.

The use of AI software, which incorporates both CT perfusion and CT Angiography, has the potential to make advanced imaging available to all stroke receiving hospitals, ensuring that all suitable stroke patients have access to thrombolysis and thrombectomy within the appropriate time frame.

The only hospital site currently using AI software is the Royal Victoria Hospital. In recognition of the benefits, we will expand the pilot to other Trusts with the aim of full implementation in 2023.

Action: By December 2022, we will expand the use of Artificial Intelligence software to assist in the interpretation of scans and the targeting of treatment including thrombectomy and thrombolysis. We will also move over time to a 24/7 thrombectomy service by the end of 2024.

Priority 4: Rehabilitation and Long Term Support

The Department committed to using the Stroke Association's report 'Struggling to Recover' report as a blueprint to improve support for stroke survivors.

Taking into account feedback from the consultation, we have identified key services to be provided in the community:

- Early Supported Discharge should be available across all Trusts;
- Rehabilitation should be available for as long as it is needed;
- Stroke patients should have access to timely Clinical Psychology support; and
- Services should be developed in partnership with the voluntary and community sector.

We have identified a broad programme of work to identify gaps in provision and action required to address these gaps. This includes assessing key roles within the community-based stroke workforce including Allied Health Professionals and Psychologists.

The Community Integrated Stroke Service Subgroup of the Stroke Network has also developed a Long Term Service Specification. This sets out the optimal pathway to support all stroke patients on discharge from hospital-based inpatient care.

The Department also recognises the vital role of carers in supporting stroke survivors and the need to ensure that carers themselves receive support for their caring role. The Department is currently consulting on proposals to review the current Caring for Carers Strategy to inform a new strategic approach to support carers which would include the development of a carer support pathway and the establishment of an independent Carers Champion.[6]

Action: We will identify gaps in support for stroke survivors and take forward a programme of work to ensure that stroke survivors have access to the right support at the right time for as long as they need it.

[6] doh-rasc-consultation-document.pdf (health-ni.gov.uk)

Priority 5: Hyperacute Stroke Care

Acute stroke services are currently provided in eight hospital sites across Northern Ireland. Reshaping Stroke Care outlined the benefits achieved elsewhere in the UK from the introduction of hyperacute stroke care in terms of reduced length of stay, lives saved and reduced disability. Based on this learning, together with research commissioned from the University of Calgary and University of Exeter, Reshaping Stroke Care proposed a number of potential future sites where hyperacute stroke care could be developed.

It is clear from the public consultation that there is significant concern about some of the assumptions behind the options outlined in Reshaping Stroke Care and consequently with the proposals themselves. The Department also recognises that demographic changes are likely to drive increasing demand for stroke services, which will need to be factored in to any future hyperacute stroke configuration. We also recognise that many of the assumptions underpinning the original options presented in the Reshaping Stroke Care consultation will now need to be revisited.

The Department therefore intends to commence a revised approach to evaluate options for the introduction of hyperacute stroke care. This approach will also include consideration of a range of factors not included in past analyses including the impact of demographic changes on future demand, stroke mimics, evolving clinical guidance and the feasibility and cost of implementation.

The Department intends to appoint external expertise to carry out the above analysis, evaluate the options and deliver a detailed assessment of potential hyperacute stroke sites. The outcome of this analysis will then be subject to decision by a future Health Minister. This process will be taken forward in parallel with the other priorities identified in this document.

Action: We will commence further external analysis by Autumn 2022 to identify and evaluate options for the establishment of Hyperacute Stroke Care, with a preferred option identified by Summer 2023.

Priority 6: Stroke Workforce

The stroke workforce is vital to the successful delivery of the actions we have outlined in this document. We have already outlined under Priority 4 how we intend to assess the key professions within the community-based stroke workforce.

Regarding the hospital-based stroke workforce, the Department undertook some internal analysis of the workforce implications of the six hyperacute configurations outlined in Reshaping Stroke Care. In addition, a recurrent investment has been made in two Stroke Trainee Consultant roles to strengthen the workforce while work has begun on a Stroke Nursing Framework and the Stroke Network continues to input to the Stroke Specific Education Framework.

As we now intend to evaluate configuration options via a new process, it is intended that each options identified through that process will include an assessment of the workforce implications.

We further intend to build on this work to undertake a comprehensive review of the stroke workforce for the next 10 years.

Action: We will commence a targeted workforce review in Summer 2022, building on the programme of work outlined in the Action Plan to develop a Workforce Plan by Summer 2023.

Implementation and Funding

This Action Plan sets out priorities and actions to improve stroke services over the next five years.

Many of the actions involve an initial scoping exercise to identify the gap between current services and what is needed to develop that service to the desired level. As part of that process, we will be considering both how best to make use of current resources as well as the need for additional funding where required. In this context, it is important to recognise the pressing demands for extra funding across many areas of health and social care and the limitations imposed on the Department's ability to plan strategically by ongoing budget uncertainty.

While the financial context does present a challenge, the reform of stroke services is, and will continue to be, a priority for the Department and we are committed to the implementation of the Action Plan at the earliest opportunity.

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Annex 1

Summary of Actions

Priority	Actions	Timescale	Performance Measure
PRIORITY 1: PREVENTION			
We will identify a regional model to ensure 7 day access to specialist TIA assessment within 24 hours of symptoms to be implemented by Summer 2023.	1.1 Agree regional model for TIA	August 2022	Percentage of suspected TIA patients being assessed and commencing secondary prevention within 24hours of symptom onset.
	1.2 Action plan for seven day service to be completed	October 2022	
	1.3 Implementation of regional model	Summer 2023	
PRIORITY 2: THROMBOLYSIS			
By Summer 2023, we will ensure that all patients who would benefit from thrombolysis within guidelines will receive it.	2.1 Standardise lysis reporting.	May 2022	15% of Ischaemic Stroke Admissions in each stroke receiving hospital site, receive thrombolysis by March 2023 increasing towards 20% by March 2025
	2.2 Three month audit of thrombolysis returns (July – September).	September 2022	
	2.3 Lysis Action Plan.	November 2022	
	2.4 Implementation of Action Plan	Summer 2023	
PRIORITY 3: THROMBECTOMY			
By December 2022, we will expand the use of Artificial Intelligence software to assist in the interpretation of scans and the targeting of treatment including thrombectomy and thrombolysis. We will also move over time to a 24/7 thrombectomy	3.1 Business case for 24/7 thrombectomy completed. Implementation actions identified in business case.	June 2022	8% of Ischaemic Stroke Admissions in a stroke receiving hospital receive thrombectomy by March 2024 increasing to 10% by March 2026. Percentage of patients who are independently mobile at 3 months measured using
	3.2 Implementation of Artificial Intelligence spokes.	December 2022	
	3.3 Full evaluation of Artificial Intelligence.	June 2023	

service by the end of 2024.			the Modified Rankin Score of 0-2 following thrombectomy**.**
PRIORITY 4: REHABILITATION AND LONG TERM SUPPORT			
We will identify gaps in support for stroke survivors and take forward a programme of work to ensure that stroke survivors have access to the right support at the right time for as long as they need it**.**	4.1 Long Term Support specification finalised.	May 2022	All eligible patients fulfilling criteria for ESD are offered therapy as per guidelines of 45 minutes per discipline available 5 days per week. Activity will be audited as per SSNAP criteria and benchmarked against sites in England and Wales. 40% of stroke discharges to ESD
	4.2 ESD service in place in all Trusts	December 2022	
	4.3 Workforce analysis to support the delivery of seven day AHP services across hospital and community-based stroke services	March 2023	
	4.4 Develop pathways for referrals to clinical psychology and mental health services. 4.5 Implementation of pathways.	March 2023 March 2024	
	4.6 Trusts to identify patient cohort not receiving a six month review and actions to be taken to ensure all patients receive a six month review.	June 2022	
	4.7 Plan developed for spasticity services across all Trusts.	November 2022	

PRIORITY 5: HYPERACUTE STROKE CARE			
We will commence further external analysis by Autumn 2022 to identify and evaluate options for the establishment of Hyperacute Stroke Care, with a preferred option identified by Summer 2023.	5.1 Establish Stroke Hyperacute Project Board	July 2022	
	5.2 Complete procurement exercise to appoint external expertise	Autumn 2022	
	5.3 Identification of preferred option and submission to the Minister	Summer 2023	
PRIORITY 6: WORKFORCE			
We will commence a targeted workforce review in Summer 2022, building on the programme of work outlined in the Action Plan to develop a Workforce Plan by Summer 2023.	6.1 Review commences	Summer 2022	
	6.2 Workforce Plan completed	Summer 2023	

Annex 2

NICE guidance relevant to stroke prevention and care endorsed by the Department

NICE Technology Appraisal Guidance

NICE Ref	Title	Date endorsed
TA197	Dronedarone for the treatment of non-permanent atrial fibrillation	December 2011
TA249	Dabigatran etexilate for the prevention of stroke and systemic embolism in atrial fibrillation	April 2012
TA256	Rivaroxaban for the prevention of stroke and systemic embolism in people with atrial fibrillation	June 2012
TA264	Alteplase for treating acute ischaemic stroke	October 2012
TA275	Apixaban for preventing stroke and systemic embolism in people with non-valvular atrial fibrillation	March 2013
TA308	Rituximab in combination with glucocorticoids for treating anti-neutrophil cytoplasmic antibody-associated vasculitis	April 2014
TA314	Implantable cardioverter defibrillators and cardiac resynchronisation therapy for arrhythmias and heart failure	July 2014
TA324	Dual-chamber pacemakers for symptomatic bradycardia due to sick sinus syndrome without atrioventricular block	December 2014
TA355	Edoxaban for preventing stroke and systemic embolism in people with non-valvular atrial fibrillation	October 2015
TA385	Ezetimibe for treating primary heterozygous-familial and non-familial hypercholesterolaemia	March 2016
TA393	Alirocumab for treating primary hypercholesterolaemia and mixed dyslipidaemia	July 2016
TA394	Evolocumab for treating primary hypercholesterolaemia and mixed dyslipidaemia	July 2016
TA420	Ticagrelor for preventing atherothrombotic events after myocardial infarction	December 2016
TA607	Rivaroxaban for preventing atherothrombotic events in people with coronary or peripheral artery disease	November 2019
TA694	Bempedoic acid with ezetimibe for treating primary hypercholesterolaemia or mixed dyslipidaemia	May 2021

TA696	Tafamidis for treating transthyretin amyloidosis with cardiomyopathy	June 2021

NICE Clinical Guidelines

CG64	Prophylaxis against infective endocarditis: antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures	June 2008
CG71	Familial hypercholesterolaemia: identification and management	July 2009
CG147	Peripheral arterial disease: diagnosis and management	September 2012
CG162	Stroke rehabilitation in adults	August 2013
CG181	Cardiovascular disease: risk assessment and reduction, including lipid modification	September 2014
NG128	Stroke and transient ischaemic attack in over 16s: diagnosis and initial management	June 2019
NG133	Hypertension in pregnancy: diagnosis and management	August 2019
NG136	Hypertension in adults: diagnosis and management	October 2019
NG196	Atrial fibrillation: diagnosis and management	November 2021
NG208	Heart valve disease presenting in adults: investigation and management	February 2022

NICE COVID-19 Rapid Guidelines

NG200	COVID-19 rapid guideline: vaccine-induced immune thrombocytopenia and thrombosis (VITT)	July 2021