



Health and  
Social Care

# Reshaping Stroke Services



**For better recovery and more lives saved**

**Pre-consultation Commences 13 June 2017**

**Closes 15 September 2017**

# Foreword

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*Much has been achieved in recent years in the field of stroke care in Northern Ireland. The clot-busting medicine, thrombolysis, is now available across all areas and Northern Ireland is at the forefront of introducing Thrombectomy, a new ground breaking clot removal treatment.*

*However, high quality stroke services are not yet available to everyone who could benefit from them. Evidence increasingly shows that we could make considerable improvements. Stroke is an area of medicine where the case for change is very compelling, and there is a great deal of evidence that changing the way we provide care can save lives and reduce the life changing physical, emotional and intellectual effects which a stroke can inflict.*

*A recent review by the Regulation and Quality Improvement Authority pointed out that a regional model for provision of specialist care should be provided and that care could be better coordinated. Stroke survivors and their carers have voiced their concerns that we need to place as much emphasis on prevention and supporting them in living well after a stroke as we have on developing new treatments.*

*The Health and Social Care transformation agenda, 'Health and Wellbeing 2026: Delivering Together', places a high priority on improving stroke services. This also requires that we fully involve the public and their representatives, as well as users of the service, staff and voluntary organisations, in any re-shaping of stroke care.*

*We encourage everyone to have their say as we seek to ensure we have excellent stroke services of which we can be proud.*



*Richard Pengelly*

Permanent Secretary of the Department of Health and  
Chair of the Transformation Implementation Group

# Contents

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<b>1.0 Background</b> .....	<b>6</b>
<b>2.0 High Quality Stroke Care</b> .....	<b>10</b>
2.1 Prevention of Stroke .....	10
2.2 Emergency Care .....	11
2.3 Hyperacute Stroke Units .....	13
2.4 Acute Stroke Units .....	14
2.5 Community Rehabilitation Services.....	15
2.6 Continued Support for ‘Life after a Stroke’ .....	16
2.7 Summary.....	16
<b>3.0 Current Services and the Case for Change</b> .....	<b>19</b>
3.1 Prevention of Stroke.....	19
3.2 Emergency Care .....	20
3.3 Acute Hospital Care .....	23
3.4 Non-acute Inpatient Care .....	26
3.5 Community Rehabilitation Services.....	26
3.6 Continued Support for ‘Life after a Stroke’ .....	27
<b>4.0 Proposals for Change</b> .....	<b>28</b>
4.1 Prevention of Stroke.....	29
4.2 Emergency Care .....	29
4.3 Hyperacute Stroke Units .....	31
4.4 Acute Stroke Units .....	32
4.5 Community Rehabilitation Services .....	33
4.6 Continued Support for ‘Life after a Stroke’ .....	34
4.7 Overview of Proposals .....	36
4.8 Benefits of Proposals.....	37
<b>5.0 Next Steps</b> .....	<b>38</b>
<b>6.0 How to respond</b> .....	<b>39</b>
<b>7.0 Equality, Good Relations and Human Rights</b> .....	<b>40</b>
<b>Glossary</b> .....	<b>42</b>
<b>Annex 1 Response Questionnaire</b> .....	<b>44</b>
<b>Annex 2 Confidentiality of Responses</b> .....	<b>53</b>

# Introduction

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Stroke is the single largest 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. Now, more than ever before, there is much that can be done to prevent a stroke or reduce its impact upon the lives of people. However, changes will be required so that people who live in Northern Ireland can benefit from high quality care regardless of where they live.

In the policy document 'Health and Wellbeing 2026: Delivering Together' clear direction is given that a wide range of stakeholders, including clinicians, patients and the public, should be involved in future decisions about the design of health services. We in Health and Social Care are committed to involving all stakeholders and the wider community in designing a new service model for stroke that delivers world class care for the population of Northern Ireland.

This process will be completed in two phases. The first phase is a widespread public engagement exercise called a pre-consultation; the findings of this will inform the design of a new model for stroke services. The second phase will be a formal public consultation on more detailed proposals for change, after which final recommendations will be submitted to the Minister of Health for consideration.

This document is a key part of this first phase of 'pre-consultation' and focuses on the need for change in stroke services and the potential opportunities to improve the care received by people after a stroke. The proposals contained within this document were developed with the extensive involvement of stroke survivors and carers, the Stroke Association, Northern Ireland Chest Heart and Stroke, stroke clinicians and the Northern Ireland

Stroke Network. They support the provision of accessible, sustainable and high quality stroke care both in hospital and in the community.

This pre-consultation exercise will last for 13 weeks starting on the **13<sup>th</sup> of June 2017** and ending on the **15<sup>th</sup> of September 2017**.

The remainder of this document is structured as follows:

### **Section 1: Background**

This section explains the background to this document.

### **Section 2: High Quality Stroke Care**

This section describes what excellent stroke care would look like.

### **Section 3: Current Services and the Case for Change**

This section describes the current provision of stroke care, the opportunities to provide better services and the supporting evidence.

### **Section 4: Proposals for Change**

This section outlines proposals for modernising stroke care in Northern Ireland.

### **Section 5: Next Steps**

This section includes information on the next steps and the proposed approach to designing services.

### **Section 6: How to respond**

This section describes how to respond to this pre-consultation document.

### **Section 7: Equality Good Relations and Human Rights**

This section describes the approach that will be taken to the consideration of equality issues, good relations and human rights.

# Section 1

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## 1.0 Background

Every year in Northern Ireland there are around 2,700 hospital admissions and 1,000 deaths due to stroke. Death rates from stroke have declined by around 50% in the past 20 years. Information obtained from general practices show that there are 34,000 stroke and Transient Ischemic Attack (TIA) survivors living in the community in Northern Ireland and it is known that more than half of these people are living with a long term stroke related disability.

The number of people in Northern Ireland experiencing stroke each year is likely to increase in future because of a growing older population with three out of four people who experience stroke being over the age of 65<sup>1</sup>. In 2013 there were estimated to be 279,000 people aged 65 and over, with 33,000 of them over 85 years. It is expected that this will increase in the next 20 years to 456,000 and 79,000 respectively<sup>2</sup>. It is likely the increasing number of people experiencing stroke could be minimised by a greater focus on stroke prevention strategies. Although the majority of strokes happen to older people, approximately one in ten strokes occur in people under 55 years of age<sup>3</sup>.

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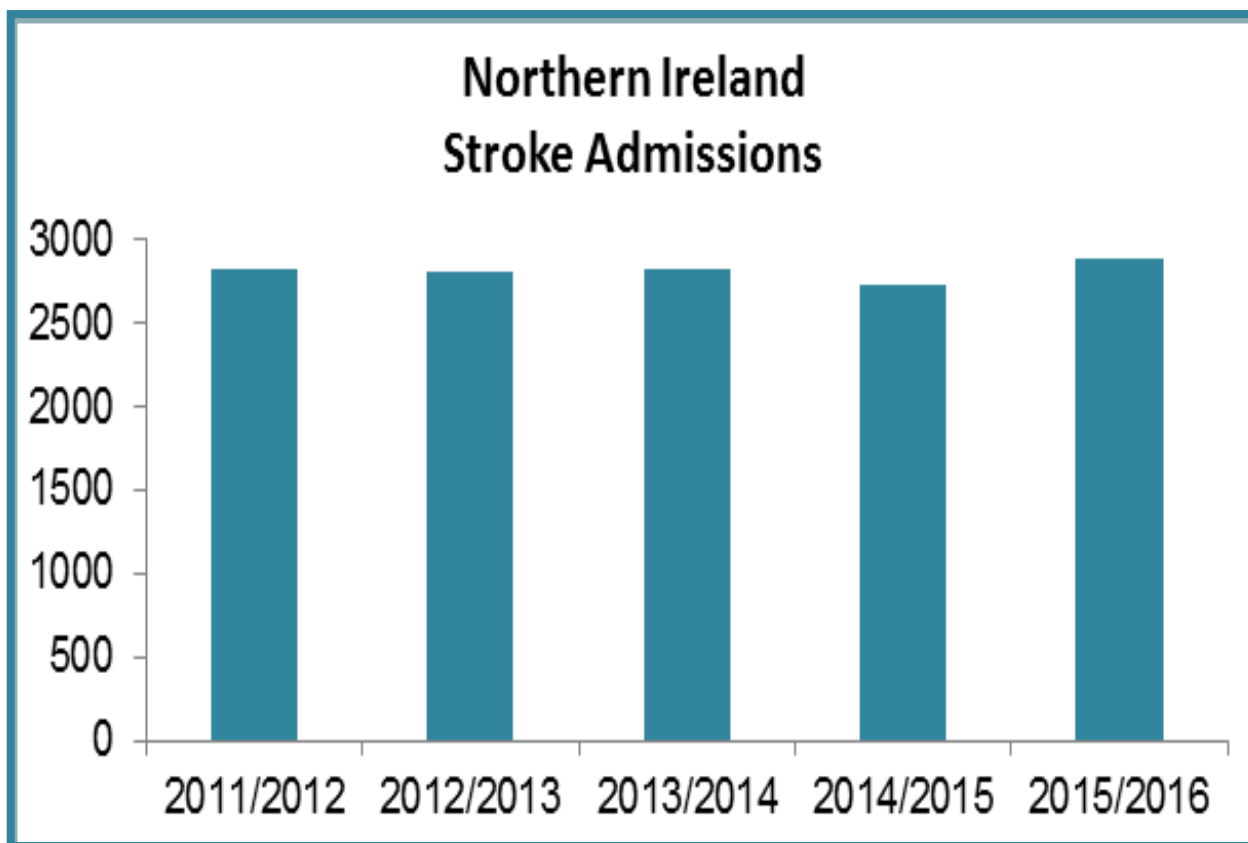
<sup>1</sup> Stroke Association (2017) State of the Nation Stroke Statistics.  
[https://www.stroke.org.uk/sites/default/files/state\\_of\\_the\\_nation\\_2017\\_final.pdf](https://www.stroke.org.uk/sites/default/files/state_of_the_nation_2017_final.pdf)

<sup>2</sup> DOH (2016) Systems not Structures; Changing Health and Social Care. Expert Panel Report.  
<https://www.health-ni.gov.uk/sites/default/files/publications/health/expert-panel-full-report.pdf>

<sup>3</sup> SSNAP (2015) Is Stroke Care Improving? The Second Annual Report, Sentinel Stroke National Audit Programme, Royal College of Physicians.

The number of people in Northern Ireland admitted to hospital with stroke, ranges from 2,600 to 2,800 each year (Figure 1). This number has remained stable over the last five years, and this may be because of better management of risk factors such as high blood pressure.

*Figure 1 Hospital Admissions with Stroke in Northern Ireland (2011– 2016)*



Many improvements have been made in stroke services in Northern Ireland in recent years as a result of the implementation of the 2008 Northern Ireland Stroke Strategy<sup>4</sup>. Since 2008 over £5 million pounds has been invested into stroke services in hospitals and in the community. Access to

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<sup>4</sup> DHSPSS (2008) Northern Ireland Stroke Strategy <http://www.dhsspsni.gov.uk/recommendations-stroke-services-in-ni.pdf>

clot busting medicine for eligible patients is now available 24 hours a day, seven days a week. The newest technique to remove blood clots is available at the Royal Victoria Hospital. Community stroke teams are in place in each of the Health and Social Care Trusts and stroke patients spend less time in hospital than previously.

Despite these achievements, two reports were published which were highly critical of stroke services in Northern Ireland. These reports are the Regulatory Quality and Improvement Authority (RQIA) 2014 Review of Stroke Services in Northern Ireland<sup>5</sup> and the 2014 Sentinel Stroke National Audit Programme's 'Acute Organisational Audit'<sup>6</sup>. The RQIA report found that there was not a clear regional model for delivery of stroke care and that there seemed to be an unsustainable number of hospitals providing stroke care.

**“The review team found no evidence of a regionally agreed model for the delivery of stroke services within stroke units. The review team considered this may be related to the geography of the Health and Social Care Trusts and the patient numbers attending each hospital.”**

*RQIA 2014*

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<sup>5</sup> RQIA(2014) Review of Stroke Services in Northern Ireland <https://www.rqia.org.uk/RQIA/files/b8/b8f067de-3bf7-40c6-9297-b21a41a31811.pdf>

<sup>6</sup> SSNAP (2014) Acute Organisational Audit <https://www.strokeaudit.org/results/Organisational/Regional-Organisational.aspx>



The Stroke Sentinel National Audit Programme provides detailed ongoing assessment of the quality of care across the stroke pathway and allocates hospital services a score between an A and E grade. No stroke unit in Northern Ireland is achieving an A or B grade and no unit is consistently achieving the standards of care that we desire for our population<sup>7</sup>. This audit has also found that no unit in Northern Ireland has the correct number of staff on duty at the weekend and no unit has seven day rehabilitation services. This evidence further supports the case for changing how we deliver stroke care in Northern Ireland.

Research carried out in urban areas shows that providing higher quality care in larger specialist centres significantly reduces the number of deaths and the amount of disability associated with stroke. It is known that telemedicine can effectively support smaller hospitals to deliver early treatments such as clot busting therapies<sup>8</sup> and that some well organised smaller stroke services do currently deliver quality emergency stroke care .

In Northern Ireland, changing how services are organised, combined with improved public awareness measures and better stroke risk reduction measures, would greatly reduce the burden of stroke in our communities and improve quality of life for stroke survivors.

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<sup>7</sup> Stroke Sentinel National Audit Results April 2015-April 2016 <https://www.strokeaudit.org/results/Clinical-audit/Regional-Results.aspx>

<sup>8</sup> Kent and Medway Stroke services review group (2016) Case for Change <https://democracy.kent.gov.uk/documents/s53558/Case%20for%20Change%20-%20Stroke%20Review.pdf>

# Section 2

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## 2.0 High Quality Stroke Care

To understand why there is a need to change how we deliver stroke services it is important to first fully understand what excellent stroke care looks like. There are clear evidence based pathways for the type of care that is known to prevent strokes and maximise the chances of a good recovery for those patients who have suffered a stroke. The following sections take a step by step approach through a care pathway, describing what we should expect at each stage.

### 2.1 Prevention of Stroke

It is known that many strokes can be prevented. People at a higher risk of stroke include those with high blood pressure, irregular heartbeat, heart disease and diabetes. Addressing lifestyle factors plays a key role in preventing strokes. This includes stopping smoking, healthy eating, maintaining a healthy body weight, reducing high blood pressure and taking regular exercise. Prevention may also include the treatment of people who have an atrial fibrillation with medicine to thin the blood, and prevent the clots that may cause a stroke.

The symptoms of TIA are the same as a stroke, but in the case of a TIA these symptoms will usually resolve within 30 minutes and always within 24 hours, whereas the symptoms of a stroke last much longer. TIA patients should be treated as a medical emergency because these individuals are at a much higher risk of experiencing a stroke in the following days and weeks. However, if treated quickly the risk of a stroke occurring can be greatly reduced. Guidelines recommend that TIA patients, who are at high

risk of a stroke, should be assessed by specialists within 24 hours of their first symptoms.

## 2.2 Emergency Care

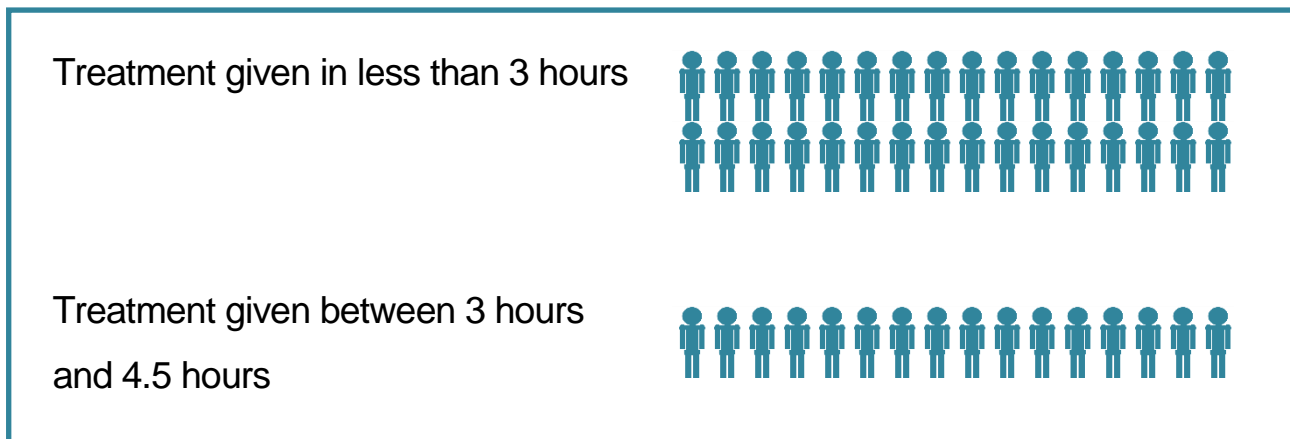
If a person is thought to be experiencing a stroke they should be taken to hospital by an ambulance as quickly as possible. The FAST public awareness media campaign aims to educate the public in recognising the symptoms of a stroke so that people make every effort to seek medical help immediately.

Soon after a stroke is confirmed, a person should be assessed for a treatment which breaks up blood clots called 'thrombolysis'. Around one in five stroke patients are suitable for this treatment. Thrombolysis can be provided up to four and a half hours after the first symptoms of stroke but is more effective the faster it is given. Figure 2 shows that for every 100 patients that are treated with clot busting therapy within 3 hours, 32 people achieve a better recovery. This number reduces to 16 people when treatment is given between 3 and 4 and half hours; showing that it is more effective the quicker it is given<sup>9</sup>.

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<sup>9</sup> Cheng and Kin (2015) Intravenous Thrombolysis for Acute Ischemic Stroke Within 3 Hours Versus Between 3 and 4.5 Hours of Symptoms Onset <http://europepmc.org/articles/PMC4530422>

Figure 2 Number benefiting for every 100 patients treated with clot busting therapy



New research has now defined the role of a procedure which can remove a large clot from the brain following stroke<sup>10</sup>. Around 40% of strokes are caused by a large clot and it is people with this type of stroke who tend to have the most severe disabilities after a stroke and the most limited recovery. A tiny tube is inserted into the blood vessel and is combined with a special type of brain scan, to remove the blood clot. This new treatment, known as ‘thrombectomy’, is typically delivered up to six hours after the first stroke symptoms and in some cases up to 24 hours. In Northern Ireland it is thought that at least 5 in every 100 stroke patients would potentially benefit from this procedure. This treatment is highly effective in reducing disability and can more than double the chances of a good recovery. For every 100 people who receive this treatment, 20 more will be independent and 38 will be less disabled after stroke. However, if we want to deliver this treatment to

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<sup>10</sup> Goyal et al (2016) Endovascular thrombectomy after large-vessel ischaemic stroke: a meta-analysis of individual patient data from five randomised trials. *The Lancet*. <https://www.ncbi.nlm.nih.gov/pubmed/26898852>

as many people as possible, regardless of where people live, changes will be required to how emergency assessment is delivered in Northern Ireland.

## 2.3 Hyperacute Stroke Units

Hyperacute Stroke Units are a special type of hospital stroke unit that provides high levels of monitoring, and expert care delivered by a range of professionals within the first three days after admission to hospital<sup>11</sup>.

**“A Hyperacute Stroke unit provides care and treatment for the first 72 hours after stroke and should be available 24 hours a day, seven days a week to everyone who has a stroke and not just those receiving clot busting treatment”.**

*Royal College of Physicians 5<sup>th</sup> Edition Stroke Guidelines*

There is strong evidence that patients are more likely to be alive, independent and living at home after one year, when they receive Hyperacute Stroke care during the first 72 hours. This is because they are more likely to receive all the key elements of acute stroke care such as swallow tests, early rehabilitation and specialist professional assessments. Professional and clinical guidelines recommend that every stroke patient is admitted to a Hyperacute Stroke Unit.

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<sup>11</sup> Royal College of Physicians (2016) Fifth Edition Stroke Guidelines.  
[https://www.strokeaudit.org/SupportFiles/Documents/Guidelines/2016-National-Clinical-Guideline-for-Stroke-5t-\(1\).aspx](https://www.strokeaudit.org/SupportFiles/Documents/Guidelines/2016-National-Clinical-Guideline-for-Stroke-5t-(1).aspx)

Services providing Hyperacute Stroke care should deliver the following nationally agreed standards seven days a week, and as appropriate, 24 hours a day:

1. Access to consultants with stroke expertise (including a rota of at least six doctors experienced in stroke care).
2. Availability of continuous physiological monitoring for all patients.
3. Immediate access to the full range of scans and investigations.
4. Direct admission from the Emergency Department to a stroke unit bed.
5. Acute stroke protocols and guidelines.
6. Nurses trained in swallow assessment and stroke care.
7. Specialists ward rounds and dedicated multidisciplinary teams, including Allied Health Professionals and nurses.

## 2.4 Acute Stroke Units

After the period of hyperacute stroke care around two in three stroke survivors will require continued care and rehabilitation in an Acute Stroke Unit. These units can either be located in the same place as a Hyperacute Stroke Unit or can be a distinct service located in another hospital.

**“An Acute Stroke Unit is a discrete area within a hospital that is staffed by a specialist stroke multidisciplinary team. It has access to equipment for monitoring and rehabilitating patients and regular multidisciplinary meetings occur for goal setting.”**

*NICE CG68*

Early treatment by a range of specialist staff, prompt recognition or prevention of complications and early access to rehabilitation, significantly improves a patient's level of recovery and the likelihood of returning home. This prepares patients for discharge to their home and local community teams. For every 100 patients treated in such a unit, five more people will survive at 12 months, and 13 more people will be independent at discharge, than if they had been admitted to a general medical ward<sup>12</sup>.

Acute Stroke Units should deliver the following nationally agreed standards:

1. Led by a consultant physician with responsibility for stroke.
2. Formal links with patients and carer organisations.
3. Multidisciplinary meetings at least weekly.
4. Provision of information to patients about stroke.
5. Access to stroke specific training and development for all staff<sup>12</sup>.

## **2.5 Community Rehabilitation Services**

Around two thirds of survivors will require some continued support or rehabilitation in the community after discharge from hospital. Those who are able to walk and those with less severe strokes, may be suitable for 'Early Supported Discharge' which replicates the intensity of therapy normally provided in hospital within the home environment, this should be available over seven days.

Early Supported Discharge teams are made up of physiotherapists, occupational therapists, speech and language therapists, nurses and other

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<sup>12</sup> Trialists' Collaboration, S.U., 2013. Organised inpatient (stroke unit) care for stroke. Cochrane Database Systematic Review 9.

professionals with a particular expertise in stroke rehabilitation in the community setting. These teams should also have strong links with community and voluntary groups so that a person can access a range of services to assist with recovery or to adapt to living with the effects of a stroke. It is known that provision of this kind of service to stroke patients improves recovery, long term survival and reduces the length of time spent in hospital.

## **2.6 Continued Support for ‘Life after a Stroke’**

The 2014 RQIA report has acknowledged the significant benefits of the wide range of services offered to survivors and their families by the Stroke Association and Chest Heart and Stroke in Northern Ireland. These highly valued services enable patients to continue with a longer term recovery and adapt to life after stroke. Local community and voluntary groups can make an important contribution to stroke recovery. This may be through the provision of programmes which empower people to improve their general health and wellbeing but also specific programmes that enhance the recovery of physical function and communication after stroke.

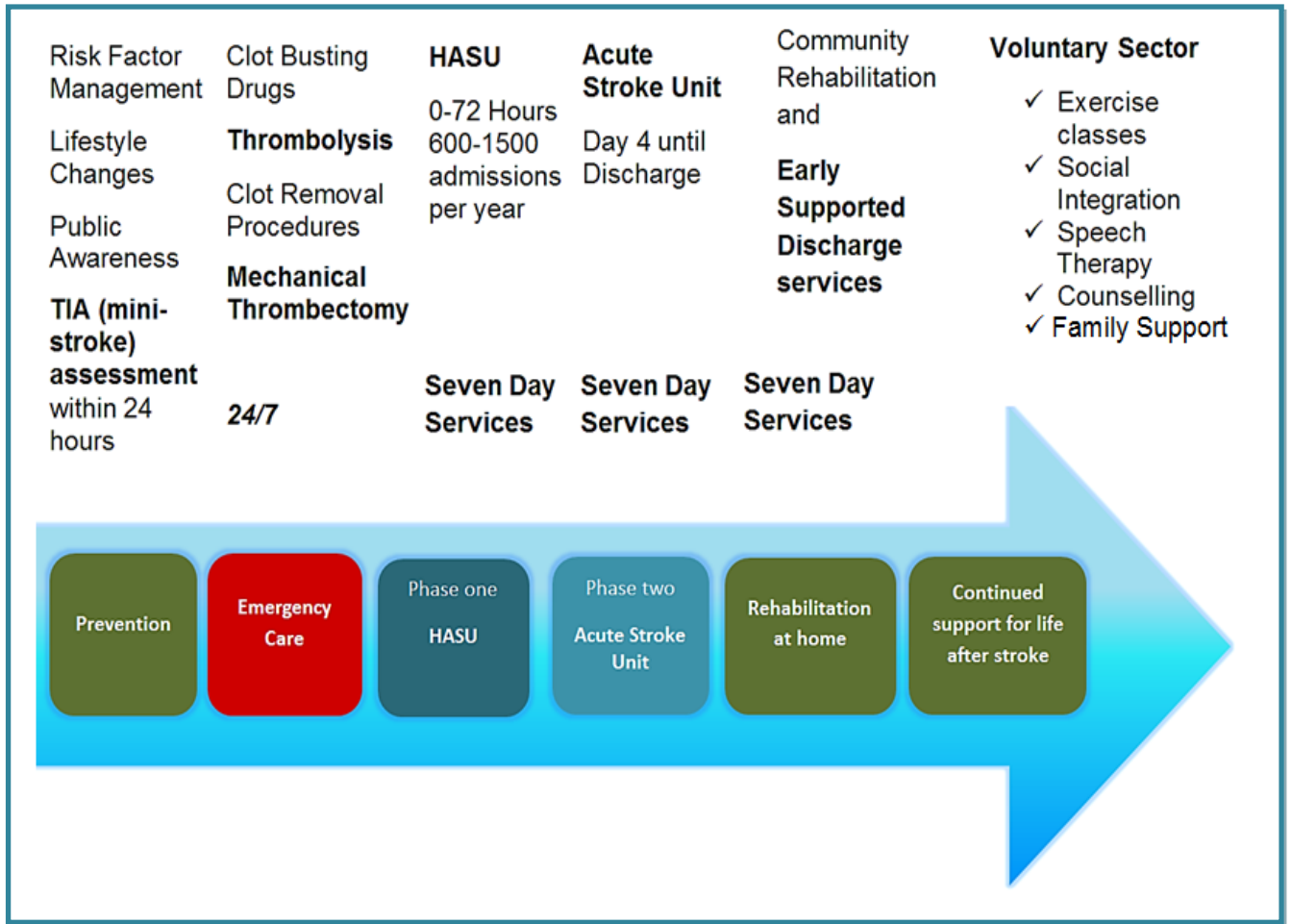
## **2.7 Summary**

More generally, high quality inpatient stroke care requires the collective leadership of a team of professionals, including medical staff, nurses, allied health professionals and others, each with a key role to play in the delivery of services to the required standards.

Figure 3 summarises the type of high quality end to end services required to avoid stroke and increase the chances of a good recovery after stroke.



Figure 3 High Quality Stroke Care



It is known that many patients in Northern Ireland do not receive excellent stroke care as described above. As a result there are a large number of avoidable hospital admissions, nursing home admissions, disability and deaths as a result of stroke. The recently published report, by an expert panel led by Professor Bengoa, has identified Stroke Services as an example of a service where there is a significant opportunity to improve the health of patients by changing how services are organised and delivered<sup>13</sup>.

<sup>13</sup> DOH (2016) Systems not Structures; Changing Health and Social Care. Expert Panel Report. <https://www.health-ni.gov.uk/sites/default/files/publications/health/expert-panel-full-report.pdf>

In considering a response to these reports and to new evidence, we believe that stroke services in Northern Ireland should be re-organised to ensure they deliver excellent care to everyone who experiences a stroke in Northern Ireland.

# Section 3

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## 3.0 Current Services and the Case for Change

Stroke services in Northern Ireland are provided by skilled, dedicated and hardworking staff, but the current organisation of services sometimes makes it difficult for staff to consistently provide the very best care to patients. This section describes the current model of care and highlights where there are clear opportunities to improve the services provided to stroke patients.

### 3.1 Prevention of Stroke

There are a number of community based and interagency initiatives designed to help people address lifestyle factors that may put them at greater risk of stroke and other cardiovascular diseases. GPs are encouraged to identify those people with risk factors and proactively manage those to reduce the chances of a stroke occurring.

TIA patients at high risk of stroke are referred by General Practice or Emergency Departments to one of 11 outpatient TIA assessment clinics. Currently, these clinics receive referrals only five days a week.

In Northern Ireland vital early assessment to diagnose and treat patients with a TIA is not currently available on an outpatient basis at the weekend, and patients are often not assessed within 24 hours. A recent audit of 150 TIA patients in Northern Ireland showed that 29% of high risk patients were not assessed within 24 hours. It is likely that delays in assessment result in avoidable strokes in our population.

If a person with a TIA is thought to be at a high risk of stroke at a weekend they will often be admitted to hospital to await the required investigations and treatment. There are currently more than 800 hospital admissions with TIAs

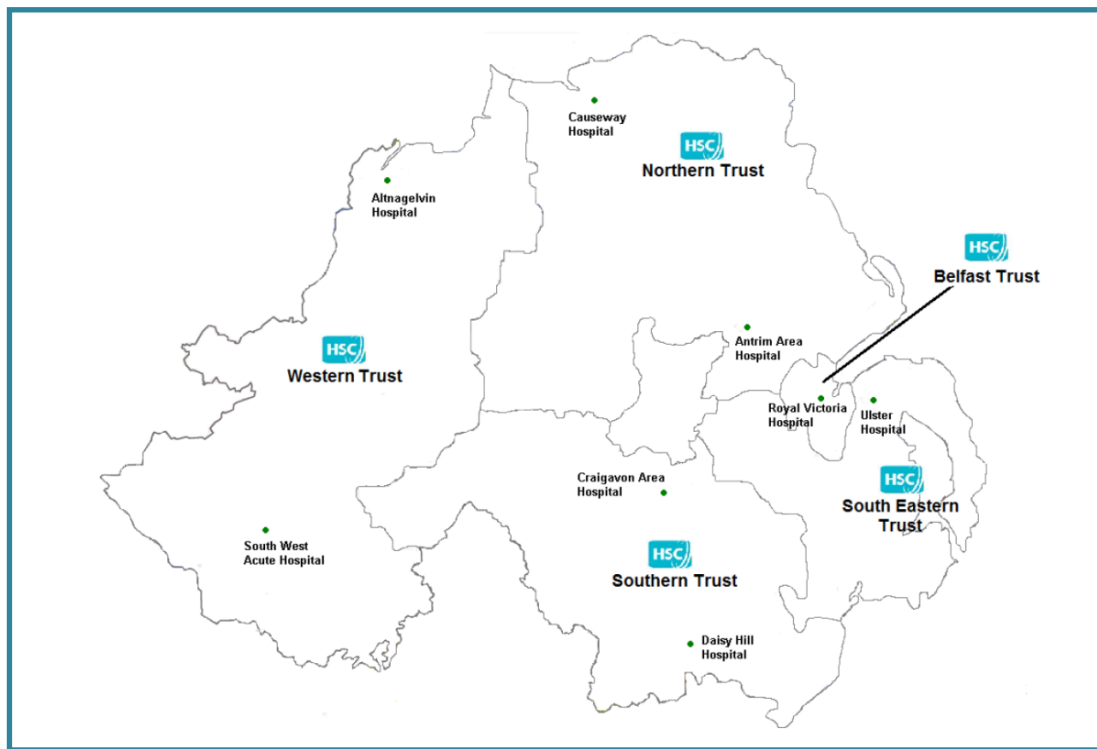
each year, some of which could be avoided if seven day, specialist TIA assessment services were available.

### 3.2 Emergency Care

#### *Clot Busting Medicine*

Individuals identified as being likely to have suffered a stroke are taken to one of eight Emergency Departments across Northern Ireland where they are assessed for suitability for clot busting treatment. These eight Emergency Departments are located at the Royal Victoria Hospital, Antrim Area Hospital, Causeway Hospital, Altnagelvin Area Hospital, South West Acute Hospital, Daisy Hill Hospital, Craigavon Area Hospital, and the Ulster Hospital (figure 4).

*Figure 4 Location of Emergency Stroke Services*



It is known that up to 20% of people are potentially eligible to receive clot busting drugs in Northern Ireland and around 15% currently receive this

treatment. This compares well with the UK average but within Northern Ireland it varies greatly between one hospital and another. For example 18% of stroke patients attending one hospital and 8% of patients at another hospital received thrombolysis treatment between the 1<sup>st</sup> April 2016 and the 31<sup>st</sup> March 2017.

Clot busting medicine is known to be more effective if delivered quickly after arriving in hospital. It should always be delivered within a maximum of four and a half hours of the stroke occurring, ideally sooner, and less than one hour after arrival at hospital. In well organised services it can even be delivered in less than 20 minutes after arrival at hospital. Although patients should always receive this treatment within one hour of arrival, we know that between the 1<sup>st</sup> of April 2016 and the 31<sup>st</sup> of March 2017, only 65% of treatments were delivered within this time limit. This varies significantly between hospital sites with 5% of clot busting treatments in one hospital and 87% of treatments in another, being delivered within one hour of arrival between 1<sup>st</sup> April 2016 and the 31<sup>st</sup> March 2017.<sup>14</sup>

One factor that sometimes affects how quickly treatment is delivered is the numbers of stroke patients attending each hospital and the experience gained by the local stroke teams. Research indicates that hospitals which admit higher numbers of stroke patients each year are both more likely to provide people with clot busting treatment and to deliver this more quickly. The time taken to deliver treatment was found to be much shorter when services deliver more than 50 treatments a year<sup>15</sup>. Figure 5 shows the

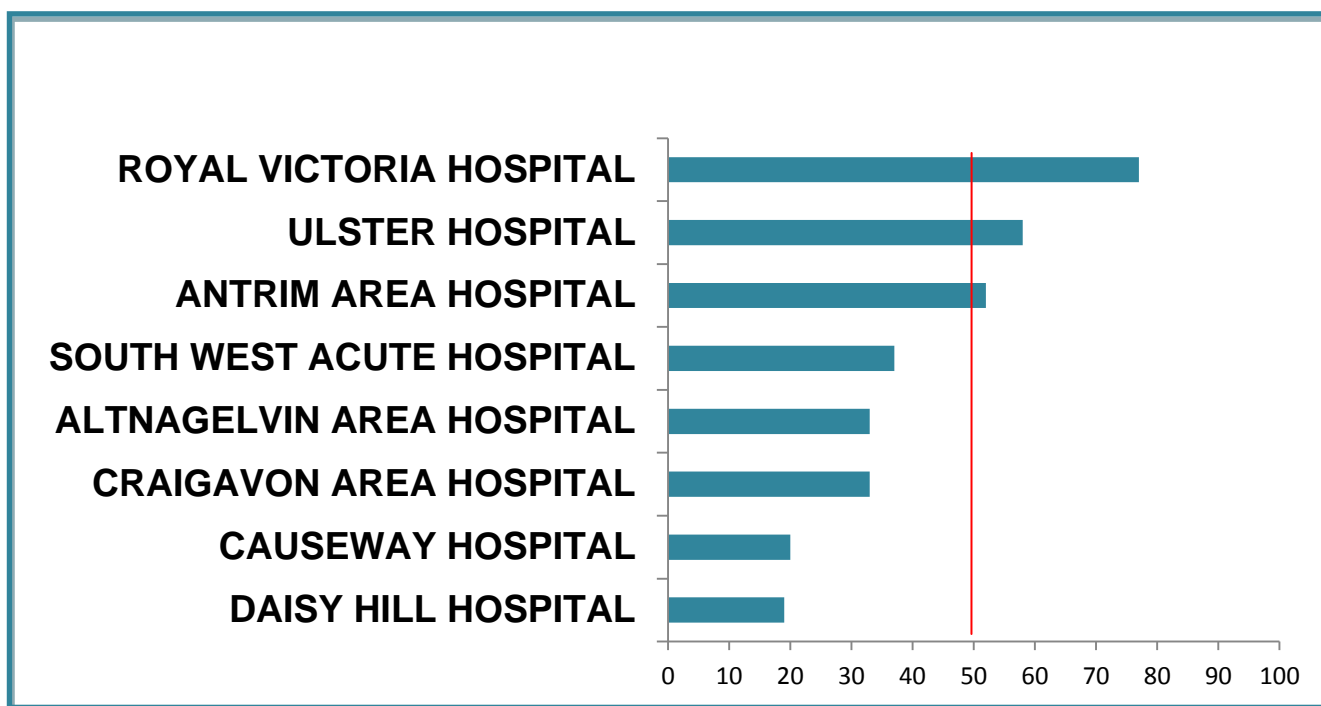
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<sup>14</sup> This analysis is based upon numbers of patients in Northern Ireland Hospitals with all types of stroke (ICD161-164) receiving thrombolysis between March 2016- April 2017

<sup>15</sup> Bray et al (2013) Associations Between Hospital Thrombolysis Volume and Speed of Thrombolysis Administration in Acute Ischemic

number of clot busting treatments delivered in each of the hospital sites in Northern Ireland between the 1<sup>st</sup> April 2016 and the 31<sup>st</sup> March 2017. Only three hospitals: the Royal Victoria Hospital, Antrim Area Hospital and the Ulster Hospital, delivered over 50 treatments during this period.

*Figure 5 Clot Busting Treatments 1<sup>st</sup> April 2016 to 31<sup>st</sup> March 2017<sup>16</sup>*



### *Clot removal procedures*

The clot removal procedure ‘thrombectomy’ is a specialist service provided only at the Royal Victoria Hospital site. This is because it relies on other services that are only available at this regional centre for Northern Ireland. The treatment is currently available between Monday and Friday, 8.30 am to 5.30 pm and around 70 patients currently receive this treatment each year.

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Stroke <http://stroke.ahajournals.org/content/44/11/3129.full>

<sup>16</sup> This analysis is based upon numbers of patients in Northern Ireland Hospitals receiving thrombolysis between March 2016 - April 2017, as detailed on trust returns

It is known that many more people could benefit from a thrombectomy procedure<sup>17</sup> and it is also much more effective when it is given quickly, but services need to be reorganised so that more people can be identified who may benefit. It is likely that a minimum of 150 additional patients would be eligible for this treatment if this service was available 24 hours a day and seven days a week preventing 15 deaths and 40 people from experiencing permanent disability each year. The better organised the system of care, the greater the number of people that will receive this treatment and experience an improved recovery from stroke.

### **3.3 Acute Hospital Care**

In Northern Ireland, 11 hospital sites admit stroke patients for early treatment and assessment. The hospitals admitting stroke patients are the Antrim Area Hospital, Causeway Hospital, Craigavon Area Hospital, Daisy Hill Hospital, Altnagelvin Area Hospital, Southwest Acute Hospital, Ulster Hospital, Royal Victoria Hospital, Lagan Valley Hospital, Downe Hospital and the Mater Hospital. The unit admitting the highest number of stroke patients is the Royal Victoria Hospital with the least number of stroke patients being first admitted to the unit in the Lagan Valley Hospital (Figure 6). The average length of acute hospital stay is 13 days and ranges from 6 days to 21 days between hospitals.

Elements of hyperacute stroke care are provided to some patients in some hospitals, but are not provided to every patient in Northern Ireland. In smaller

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<sup>17</sup> Goyal et al (2016) Endovascular thrombectomy after large-vessel ischaemic stroke: a meta-analysis of individual patient data from five randomised trials. *The Lancet*. [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)00163-X/abstract](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)00163-X/abstract)

units, it is more difficult to provide the specialist staff, and more expensive to deliver high quality services, in a sustainable way over seven days.

Although admission to a specialist unit is the single most important treatment for stroke patients, only around half are admitted to stroke units when they first arrive in hospital. Even when patients are admitted to stroke units many of these wards do not meet all of the required standards. Finally, as the number of stroke patients attending each hospital is often small, stroke is not recognised as a distinct speciality and patients are often admitted to the care of general medical or elderly medicine consultants.

It was shown in a reorganisation of services in London and Manchester that centralising hospital stroke units to create units with more than 600 admissions per year resulted in less death and disability after stroke<sup>18</sup>. The learning from these reforms has also led experts to recommend that stroke units with more than 1,500 admissions per year can be difficult to manage effectively<sup>19</sup>.

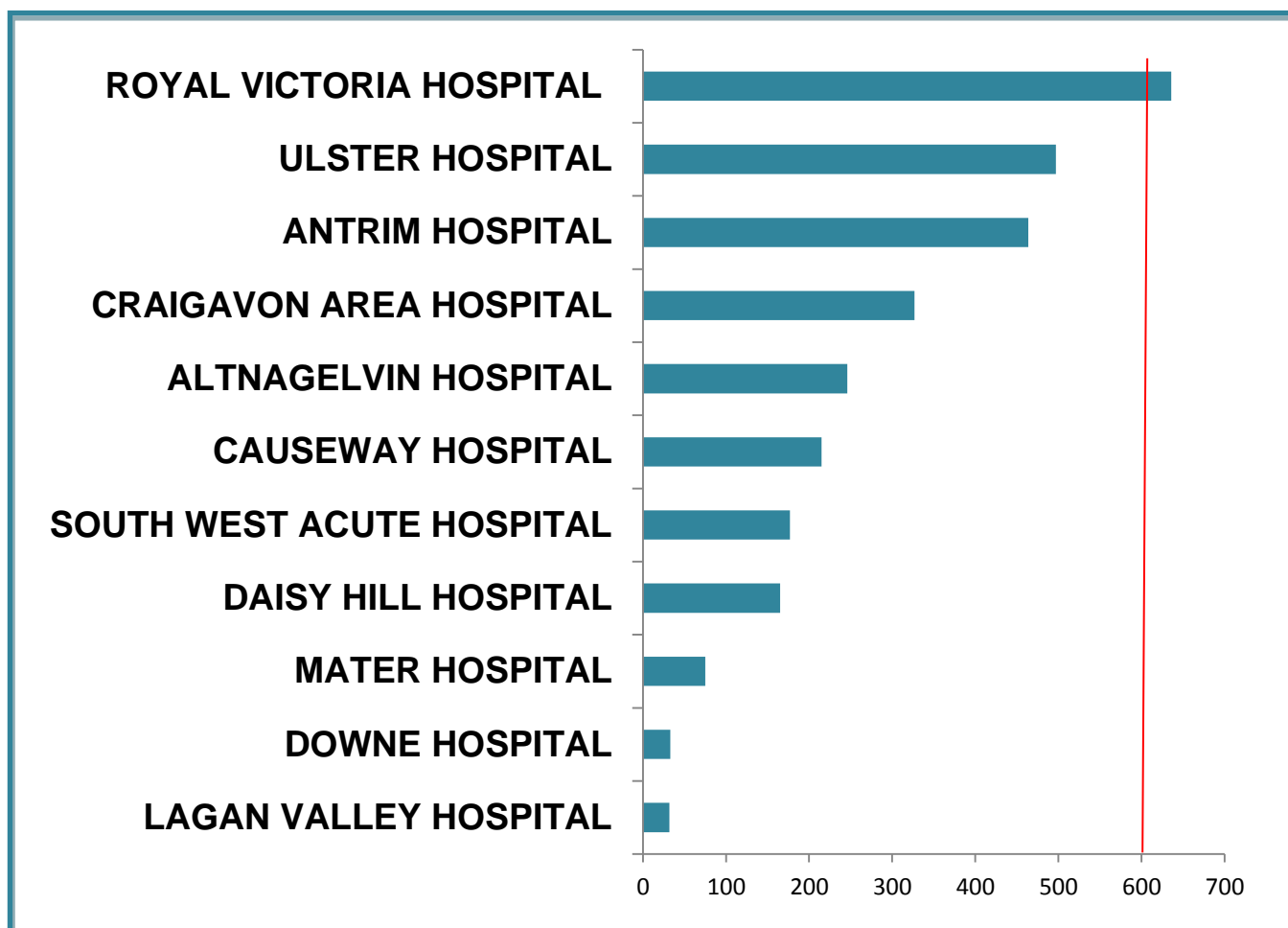
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<sup>18</sup> Ramsay et al (2014) Effects of Centralizing Acute Stroke Services on Stroke Care Provision in Two Large Metropolitan Areas in England <http://stroke.ahajournals.org/content/46/8/2244.short>

<sup>19</sup> Hussain and Rudd (2015) Stroke services reconfiguration: Decision Support Tool Kit <http://www.yhscn.nhs.uk/media/PDFs/cvd/Stroke/Meetings/Oversight%20Group%2028.04.15/yhscn-stroke-NighanHussain-20150428.pdf>



Figure 6 Stroke Admissions between the 1st April 2015 and 31st March 2016<sup>20</sup>



As shown above in figure six, only the Royal Victoria Hospital currently admits more than 600 stroke patients a year and five of the hospitals currently admit fewer than 200 patients each year. Providing stroke care on this number of sites means that Northern Ireland's stroke units are on average half the size of those in England. Although, it is recognised that Northern Ireland is unique, a recommended range of between 600 and 1,500

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<sup>20</sup> \*This analysis is based on emergency admissions registered on the hospital databases and ICD codes 161, 162, 163, 164 only. It should be noted that this excludes those patients, transferred from another hospital and those admitted with stroke like symptoms that later are given a diagnosis other than stroke.

admissions each year is considered appropriate for the design of future stroke services.

### **3.4 Non-acute Inpatient Care**

When a patient no longer requires acute hospital care but they are not able to go home, they are currently transferred to a non-acute hospital. This happens for approximately 13% of stroke patients. The non-acute hospitals most frequently used in this way are in Lurgan Hospital, Tyrone County Hospital, White abbey Hospital, Mid Ulster Hospital and South Tyrone Hospital. Stroke patients usually stay in these units for around 25 days. The Regional Brain Injury Unit at Musgrave Park Hospital also provides specialist rehabilitation services to a small number of stroke patients with very specific needs.

Stroke patients should be cared for in dedicated stroke units throughout their entire hospital stay. It is likely that there are opportunities to reduce the length of hospital stay and improve recovery for stroke patients if they remain within stroke units rather than being transferred to non-acute hospital units for hospital rehabilitation.

### **3.5 Community Rehabilitation Services**

Every Trust in Northern Ireland has Community Stroke Teams in place, however not all Trusts provide 'Early Supported Discharge' or provide services seven days a week. Although NICE guidance recommends that patients who are referred to Community Stroke Teams should be reviewed between one and three days after hospital discharge<sup>21</sup>, audits have found

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<sup>21</sup> NICE (2013) CG162 Stroke rehabilitation in adults <https://www.nice.org.uk/Guidance/CG162>

that patients in Northern Ireland may wait up to five days after discharge before contact is made by a Community Stroke Team<sup>22</sup>.

Although patients are able to access specialist rehabilitation after leaving hospital, there is evidence that they do not receive the right amount of therapy. The RQIA reported that when additional therapy was needed after 12 weeks or after the planned six month review, it was difficult for patients to access and that community stroke services were not available at the weekend. Further development of community stroke services is much needed and there is a need for seven day access to these services in all five Health and Social Care Trusts.

### **3.6 Continued Support for ‘Life after a Stroke’**

Stroke groups in each of the Health and Social Care Trusts ensure strong links between Health and Social Care Trusts and the voluntary sector. A wide range of services are provided on both a contractual and charitable basis. Many stroke survivors and their families benefit from speech therapy programmes, exercise programmes, health education, family support and social inclusion activities which are provided by Northern Ireland Chest Heart and Stroke and the Stroke Association in Northern Ireland.

However many stroke survivors report that they feel abandoned by Trust stroke services and continued support is often difficult to access and navigate. It is important that these valued services continue to be provided and are further developed.

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<sup>22</sup> SSNAP (2015) Post-acute organisational audit <https://www.strokeaudit.org/Documents/Results/National/2015/2015-PAOrgPublicReportPhase2.aspx>

# Section 4

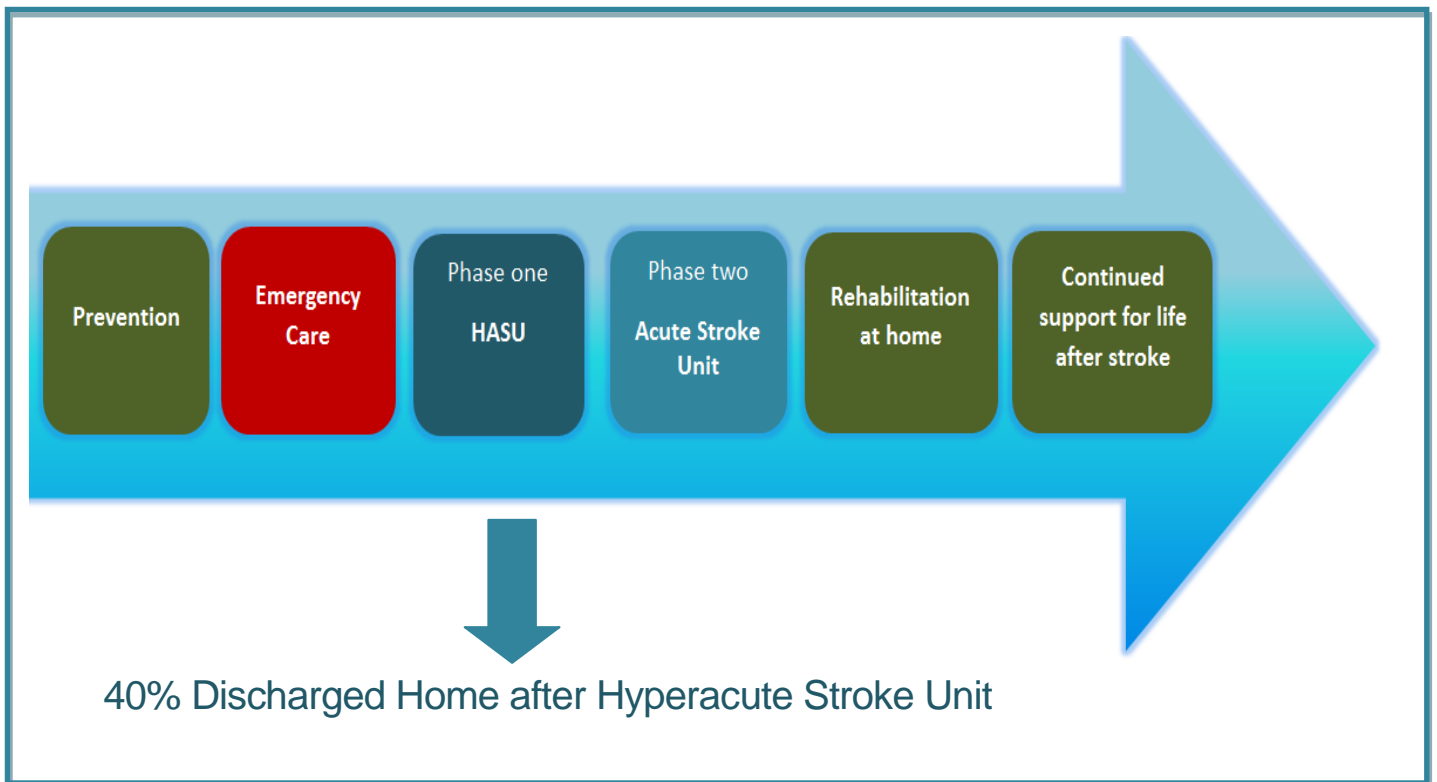
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## 4.0 Proposals for Change

This section sets out the broad proposals for change in the organisation and delivery of stroke services in Northern Ireland, and it explains the rationale and expected benefits. These have been developed in partnership with stroke survivors, voluntary organisations and clinical staff. These proposals are not final and may change in response to the feedback received during wider stakeholder and public engagement in the process of co-designing a new service model.

The proposals suggest changes to the way stroke care is delivered across the entire pathway including preventative care, emergency care, in-patient hospital care and community services (Figure 7 below).

*Figure 7 Pathway of Stroke Care*



## 4.1 Prevention of Stroke

In order to prevent as many strokes as possible in Northern Ireland, rapid outpatient access to stroke specialists should be available at stroke units seven days a week for those people suspected of having a TIA. This will enable the NICE standards for the assessment of people with TIAs within 24 hours to be achieved. These services would ideally be located in hospitals where there are seven day acute inpatient stroke units because specialist staff are already working there. If there are fewer hospital stroke units in future, patients may need to travel further to receive a TIA assessment, but it would be provided seven days a week instead of five.

### Proposal 1

**Provide seven day assessment at an appropriate number of Stroke Units for patients experiencing a suspected TIA.**

## 4.2 Emergency Care

### *Clot Busting Treatment*

Time is of the essence when dealing with a stroke and all patients should receive assessment for clot busting treatment as soon as possible. Ideally all patients would be brought by ambulance directly to a hospital with a Hyperacute Stroke Unit for this assessment. This should ideally be within 60 minutes. However, it will be proposed that the number of hospitals admitting stroke patients is reduced in future. It may, therefore, be necessary that some patients who live further away from a Hyperacute Stroke Unit are

brought first to a hospital closer to their home for assessment for clot busting treatment.

The following factors should be considered when deciding which sites are best placed to deliver high quality emergency assessment of stroke patients:

- The number of people arriving at a hospital with direct access to an appropriately sized Hyperacute Stroke Unit.
- The number of people who have access to clot busting treatment within a maximum of a 60 minute drive time from home.
- If the distance travelled to the nearest Hyperacute Stroke Unit is greater than 60 minutes, there should be consideration of whether assessment and potential administration of clot busting medicine at a hospital closer to home is better for the patient than traveling directly to the Hyperacute Stroke Unit.

It is proposed to use these criteria and the clinical evidence to select an appropriate number of hospitals where assessment for clot busting medicine will be delivered.

It is important to work with key staff providing stroke care and service users, to determine which hospitals would be best placed to carry out this assessment.

## **Proposal 2**

**Provide assessment for clot busting treatment ‘thrombolysis’ on an appropriate number of sites.**

### *Clot Removal Procedures*

Currently around 70 patients each year receive the clot removal procedure ‘thrombectomy’. However if this service were available 24 hours a day, seven days a week, it would enable many more patients to access it. Clot removal requires a number of co-located services such as: neuro-intensive care, neurology and neurosurgery, which are only available in the Royal Victoria Hospital.

#### **Proposal 3**

**Provide the clot removal procedure ‘mechanical thrombectomy’ 24 hours a day and seven days a week for suitable patients.**

### **4.3 Hyperacute Stroke Units**

The first three days of a hospital admission after a stroke is called the hyperacute phase. Hyperacute Stroke Units are most effective when they admit between 600 and 1,500 patients per year because the specialist teams will be able to develop their expertise and be present in sufficient numbers to provide a seven day service.

As the number of strokes per year in Northern Ireland is between 2,600 and 2,800, we need to reduce the number of hospitals which admit stroke patients to improve their effectiveness. This would mean ambulances transporting patients for longer distances in some cases. The Royal Victoria Hospital, as the only centre able to provide clot retrieval and neurosurgery, will require a Hyperacute Stroke Unit. Key staff providing stroke care and service users will be closely involved with the development of an option

appraisal that will determine which other hospitals would be best placed to admit stroke patients in future.

#### **Proposal 4**

**Provide an appropriate number of Hyperacute Stroke Units to deliver specialist early inpatient care to every stroke patient.**

#### **4.4 Acute Stroke Units**

It is important to ensure there are always beds available in Hyperacute Stroke Units and in particular in the Royal Victoria Hospital site, as it is the only unit which provides both clot busting medicine and clot removal procedures. Hyperacute Stroke Units must be able to transfer patients, who are not ready to go home after 72 hours, to an Acute Stroke Unit.

These units would ideally be co-located with a Hyperacute Stroke Unit as it is considered that there is potentially a better experience and shorter hospital stay if patients receive both phases of hospital stroke care in one location. Combining Hyperacute and Acute Stroke Units within one site ensures that the units are large enough that the numbers of stroke specialists required to work seven days a week are available.

This would mean that stroke units are not provided in some hospitals where they are currently provided and may be at a greater distance from the patient's home. However, this would be balanced by a greater investment in rehabilitation which would mean that patients would spend fewer days in hospital and receive more intensive rehabilitation at home.



### **Proposal 5**

**Establish an appropriate number of Acute Stroke Units co-located with Hyperacute Stroke Units whenever possible.**

## **4.5 Community Rehabilitation Services**

The success of all the proposals in this document greatly depends on timely access to community services to support an early discharge from hospital. As additional resources are likely to be limited in future, a more efficient hospital-based stroke service is essential, in order to be able to invest in improving rehabilitation services. These should be provided in the patient's own home as far as possible.

It is proposed that community stroke services should be resourced so that they can provide the appropriate staffing levels and access to Early Supported Discharge services.

Access to Early Supported Discharge services are very important to ensure patients leave hospital earlier and have a seamless experience of care during their recovery. These services should provide the recommended amount of therapy, appropriate to the person's requirements, in the patient's own home and facilitate discharge from hospital even at the weekend.

### **Proposal 6**

**Provide community stroke services that are resourced to deliver Early Supported Discharge, the recommended amounts of therapy and respond over seven days.**

## 4.6 Continued Support for 'Life after a Stroke'

Following the completion of a period of hospital and community rehabilitation, around half of stroke survivors will have some lasting problems which will affect their ability to be independent or resume their previous hobbies, employment, family commitments or other roles in society.

The role of carers in all phases is extremely important in assisting stroke survivors to achieve the best possible recovery. The 'Caring for Carers' strategy<sup>23</sup> which was published in 2006, details the types of support that stroke carers should receive. The RQIA Review of Stroke Services highlighted a variable provision of services to stroke survivors and carers during this phase.

We have engaged extensively with carers, stroke survivors and voluntary sector representatives in the development of this pre-consultation document. We have identified that this is a time when people experience difficulty accessing Health and Social Care Trust and Voluntary Sector services. In particular: physiotherapy, speech and language therapy, vocational rehabilitation, counselling, family support and psychological support that would ensure an optimal recovery.

It is important that pathways of care are developed that ensure a seamless experience for those rebuilding their lives after stroke. These pathways will ensure the right support in the right place at the right time and mean people have the chance to achieve their full potential after a stroke.

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<sup>23</sup> DHSPSS (2006) Caring for carers recognising supporting and valuing the caring role. <http://health-ni.gov.uk/publication/caring-carers>

Increasing the ability of stroke survivors to live as independently as possible is not only of benefit to the individual and their carers, but to society and the economy as a whole. We would look to our partners within community planning and to local community assets to provide support for stroke survivors and carers to enjoy as full a life as possible following a stroke.

### **Proposal 7**

**Ensure that stroke survivors and carers have timely access to services from both Health and Social Care and voluntary sector organisations to optimise recovery.**

## 4.7 Overview of Proposals

The seven proposals for modernising Northern Ireland's stroke services are:

1. Provide seven day assessment at an appropriate number of Stroke Units for patients experiencing a suspected TIA.
2. Provide assessment for clot busting treatment 'thrombolysis' on an appropriate number of sites.
3. Provide a clot removal service 'mechanical thrombectomy' 24 hours a day and seven days a week for suitable patients.
4. Provide an appropriate number of Hyperacute Stroke Units to deliver specialist early inpatient care to every stroke patient.
5. Establish an appropriate number of Acute Stroke Units co-located with Hyperacute Stroke Units whenever possible.
6. Provide community stroke services that are resourced to deliver Early Supported Discharge, the recommended amounts of therapy and respond over seven days.
7. Ensure that stroke survivors and carers have timely access to services from both Health and Social Care and voluntary sector organisations to optimise recovery.

## 4.8 Benefits of Proposals

There are a number of measurable benefits to patients should the proposals outlined within this section be implemented. These are:

- ✓ Prevention of avoidable strokes after a TIA.
- ✓ For every 100 additional people who receive the clot removal treatment 'thrombectomy', 20 more will be independent and 38 will be less disabled.
- ✓ For every 100 additional patients receiving the clot busting therapy 'thrombolysis' around 30 will make a better recovery.
- ✓ Admission of every patient to a Hyperacute Stroke Unit could result in 25 fewer deaths each year.
- ✓ Admission of all patients to a Hyperacute Stroke Unit would result in faster assessment and fewer stroke complications which will allow 40% of patients to be discharged home by the third day.
- ✓ Intensive and early rehabilitation, available seven days a week, will result in better recovery and less demand for long term care in the community.
- ✓ Ensuring Early Supported Discharge would reduce the need for hospital stroke beds in Northern Ireland by between 20 and 30 beds.

# Section 5

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## 5.0 Next Steps

This document is part of a number of steps aimed at improving stroke services:

1. Telling you about stroke services.
2. Telling you about the problems.
3. Telling you about some ideas for improving services.
4. Considering your views and working with key people and the public to design services.
5. Public consultation on recommendations for a future model.
6. Delivering the changes on the ground.

Following the design of a proposed model for stroke services a formal public consultation will be published. The responses to that future document will also be considered and final recommendations will be presented to the Minister for Health.

Final decisions will also consider potential opportunities for co-operation between the Health Services in the South and North of Ireland. In particular, opportunities for cross border provision of clot removal procedures, clot busting therapy and hospital care will be explored.

# Section 6

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## 6.0 How to respond

It is important to fully involve people and consider their opinions about these proposals. In particular we are keen to hear from people who may be using stroke services or those caring for people who have used stroke services, people who are working in affected services, and groups representing people who might be affected.

Here are some of the ways that you can respond to this document:

1. Email us at **ReshapingStroke@hscni.net**
2. Write to us at:  
Reshaping Stroke Services  
Commissioning Directorate  
12-22 Linenhall Street  
Belfast  
BT2 8BS
3. Complete the questionnaire online at  
**[www.hscboard.hscni.net/response-form-stroke](http://www.hscboard.hscni.net/response-form-stroke)**
4. Attend specially arranged meetings details of which can be found at  
**[www.hscboard.hscni.net/stroke](http://www.hscboard.hscni.net/stroke)**

Before you submit your response please read Annex 2 of this document regarding the confidentiality of responses in the context of the Freedom of Information Act 2000.

# Section 7

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## 7.0 Equality, Good Relations and Human Rights

The purpose of this section is to describe the consideration given to the potential equality, good relations and human rights impacts of these proposals.

A draft Equality Impact Assessment has been prepared, a summary of which is published alongside this document on our website:

**[www.hscboard.hscni.net/stroke](http://www.hscboard.hscni.net/stroke)**

This assessment has found that the reshaping of stroke services would impact upon potential stroke patients, stroke survivors, carers and family members of stroke survivors. In particular it is noted that people who might experience a stroke are more likely to be living with a disability and have carers, be older people, and be of a black ethnic background than those in the general population. It is known that travelling further to receive some services will be a challenge for these groups and this must be balanced with the potential for fewer stroke related deaths and disability in our population.

We will seek to include these particular groups of people in our engagement activities, and in any decision about the future of services. We will consider these impacts fully in designing services and explore ways in which to minimise any negative impacts on these groups.

An Equality Impact Assessment is a continuous process and the information gathered as part of this pre-consultation stage will help inform the Equality Impact Assessment and our understanding of these impacts and how they might be reduced.



Staff working in stroke services now and in the future may also be affected by these proposals. Good relations with particular staff groups should be considered in the implementation of any changes and this approach should be consistent with good human resources practices and local organisational change policies.

# Glossary

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## **Acute Stroke Units**

These are dedicated hospital wards used for stroke patients and they require specially trained medical, nursing and therapeutic staff. They provide care and rehabilitation following discharge from Hyperacute Stroke Unit until a person is ready to go home.

## **Allied Health Professionals**

These are: Physiotherapists, Occupational Therapists, Speech and Language Therapists, Dieticians, Podiatrists, Radiographers and other professionals who work as part of the multidisciplinary team.

## **Early Supported Discharge (ESD)**

This is a service provided by Community Stroke Teams. ESD responds quickly after discharge to continue rehabilitation and support, for those who no longer require hospital services. It should provide therapy at the same intensity as would have been provided in hospital.

## **Emergency Department**

These are departments within a hospital that provide emergency care to the public. They are sometimes known as accident and emergency departments. Ambulances bring patients here to receive emergency medical assessment.

## **Hyperacute Stroke Units**

These are units that provide care after admission usually up to three days. Hyperacute Stroke Units require a range of highly skilled staff, with access to diagnostic equipment 24 hours a day, seven days a week.

## **Stroke**

A condition caused by impaired blood flow to the brain following a blood clot or a bleed from a blood vessel. Impairments in movement, balance, speech, vision or thinking may result.

## **Specialist Stroke Teams**

Teams of health care staff that deliver care to stroke patients either in hospital or at home, and who have completed some specialist training and have experience in the treatment of stroke.

## **Thrombolysis**

This is also known as clot busting therapy and is a medicine which is delivered by intravenous drip to stroke patients, within four and a half hours of the first symptoms of stroke.

## **Thrombectomy or Clot Removal**

A non-invasive procedure performed by skilled doctors to remove large clots from blood vessels in the brain, usually within six hours.

## **Transient Ischemic Attack (TIA)**

A diagnosis given to some patients where there are temporary symptoms that are a like a stroke but resolve within 24 hours.

# Annex 1 Response Questionnaire

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Please tell us if you are responding on your own behalf or on behalf of an organisation by placing a tick in the appropriate box:

I am responding as an individual

I am responding on behalf of an organisation

As a member of health and social care staff

Title	
Name	
Address	
Telephone	
Email	

May we contact you to get further information on your response?

Yes

No

**Question 1**

Do you agree with proposal 1?

Provide seven day assessment for patients at an appropriate number of Stroke Units for patients experiencing a suspected TIA.

Agree

Neither agree or disagree

Disagree

Comments

**Question 2**

Do you agree with proposal 2?

Provide assessment for clot busting treatment 'thrombolysis' on an appropriate number of sites.

Agree

Neither agree or disagree

Disagree

Comments

**Question 3**

Do you agree with proposal 3?

Provide a clot removal service 'mechanical thrombectomy' 24 hours a day and seven days a week for suitable patients.

Agree

Neither agree or disagree

Disagree

Comments

**Question 4**

Do you agree with proposal 4?

Provide an appropriate number of Hyperacute Stroke Units to deliver specialist early inpatient care to every stroke patient.

Agree	Neither agree or disagree	Disagree

Comments



**Question 5**

Do you agree with proposal 5?

Establish an appropriate number of Acute Stroke Units co-located with Hyperacute Stroke Units whenever possible.

Agree

Neither agree or disagree

Disagree

Comments

**Question 6**

Do you agree with proposal 6?

Provide community stroke services that are resourced to deliver Early Supported Discharge, the recommended amounts of therapy and respond over seven days.

Agree

Neither agree or disagree

Disagree

Comments

**Question 7**

Do you agree with proposal 7?

Ensure that stroke survivors and carers have timely access to services from both Health and Social Care and voluntary sector organisations to optimise recovery.

Agree

Neither agree or disagree

Disagree

Comments

## **Additional Comments**

Additional comments on the information contained within this document can be included here.

## Annex 2 Confidentiality of Responses

### Freedom of Information Act (2000) – Confidentiality of Consultations

It is expected that we will publish a summary of responses following the completion of this engagement exercise. Your responses and all other responses may be disclosed on request. We can only refuse to disclose information in exceptional circumstances.

**Before** you submit your response, please read the paragraphs below on the confidentiality as they will give you guidance on the legal position about any information given by you in response to this pre-consultation.

The Freedom of Information Act gives the public a right of access to any information held by a public authority, namely, the Health and Social Care Board (HSCB) in this case. This right of access to information includes information provided in response to this pre-consultation. The HSCB cannot automatically consider as confidential information supplied to it in response to this pre-consultation. However, it does have the responsibility to decide whether any information provided by you in response to this pre-consultation, including information about your identity should be made public or be treated as confidential.

This means that information provided by you in response to this pre-consultation is unlikely to be treated as confidential, except in very particular circumstances. The Lord Chancellor's Code of Practice on the Freedom of Information Act provides that:

The HSCB should not agree to hold information received from third parties "in confidence" which is not confidential in nature. Acceptance by the HSCB of confidentiality provisions must be for good reasons, capable of being justified to the Information Commissioner.

For further information about confidentiality of responses please contact  
The Information Commissioner's Office, or visit the website at:

[https://www.gov.uk/government/organisations/information-commissioner-s-office.](https://www.gov.uk/government/organisations/information-commissioner-s-office)