

**Hyper-Acute Stroke**

**Options Appraisal**



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# Introduction

This options appraisal sets out the options being considered by commissioners for the long term provision of hyper-acute stroke services within North and North East Lincolnshire and the risks and benefits with each. The purpose of this paper is to provide the information required by the Council of Members from each of the Clinical Commissioning Groups, along with the Partnership Board from North East Lincolnshire Clinical Commissioning Group and the Governing Body from North Lincolnshire Clinical Commissioning Group to make a decision on a preferred option that will be taken to a public consultation in the summer of 2014.

It is important to note that this options appraisal considers changes to the hyper-acute stroke service, not the wider service. Hyper acute stroke care is for a clearly defined period (up to 72 hours). The proposed changes refer to the first 72 hours of emergency stroke treatment, and not acute stroke care or rehabilitation.

# Executive Summary

## 2.1 Background information on the hyper-acute stroke service

In the summer of 2013 a service review found that Northern Lincolnshire & Goole Foundation Trust’s (NLaG) Summary Hospital Level Mortality Indicator (SHMI) for patients diagnosed with stroke showed more than the expected number of deaths. Hyper-acute stroke care, which includes thrombolysis treatment, was provided 7 days per week, but not 24/7. Not all patients are eligible for thrombolysis treatment, however the treatment interventions given to all stroke patients in the first 72 hours post stroke (the hyper-acute phase) are critical to longer term outcomes; there are clear guidelines detailing the recommended interventions during the hyper- acute phase of care. Although hyper-acute care was being provided at both sites it was not available 24/7 at either site and the pathway was not being applied consistently for all patients, nor were all patients were being treated on a stroke ward.

#### Table 1 - SHMI for patients diagnosed with Stroke for the twelve months to January 2013

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Site | Admissions | Deaths | Expected deaths | Excess deaths | SHMI |
| Grimsby (DPOW) | 352 | 82 | 56 | 26 | 145 |
| Scunthorpe & Goole (SGH) | 249 | 46 | 42 | 4 | 110 |
| Trust Total | 601 | 128 | 98 | 30 | 130 |

The review benchmarked NLaG against national standards for the provision of safe, clinically effective stroke service. At that time, as shown above, the SGH site met more of the standards and was performing at a higher level, including reporting fewer excess deaths, shorter length of stay, and was closer to full nursing and therapy staff establishment.

Following this review the decision was taken by NLaG to initiate short-term temporary actions to centralise the hyper-acute service on the SGH site and extend provision to cover 24/7 on safety grounds to address the adverse mortality and morbidity. This centralisation was implemented through the late summer of 2013, and the new centralised service was launched in November 2013. Commissioners were supportive of this temporary change, but recognised the need to consult with the public around the final arrangements for the service, and planned to do that as part of the Healthy Lives, Healthy Futures programme in the summer of 2014.

The NLaG business case that set out this decision can be found as Appendix 1.

## 2.2 Current position

Since November 2013 the temporary centralisation of the hyper-acute stroke service at the SGH site has enabled the service to offer 24/7 access to hyper-acute care including thrombolysis. Pathways have been designed around best practice and national guidelines which has significantly improved the level of conformity to national quality standards. There is also much greater awareness across the trust and its partners of the hyper-acute stroke pathway and the importance of stroke patients accessing this as soon as possible after the onset of symptoms. The pathway in place ensures that patients are transferred back to their local hospital for ongoing treatment once they are ready to be stepped down from hyper-acute care. Centralisation has allowed pooling of knowledge and experience from both sites.

The department will undergo a formal peer review and external accreditation process in June, although early indications show that performance against local and national targets for stroke have improved as a result of the changes implemented.

## Options being considered

The service was centralised as part of a short term safety initiative, so it is important that commissioners review the rationale for a centralised service to determine whether this is right for their health communities to continue for the long term. This thinking takes into consideration the safety and quality aspects of the service, drawing on national and regional guidance and clinical best practice recommendations for hyper-acute stroke services, which set out the national direction of travel for stroke services.

If a centralised service is proposed, then location considerations will draw on demographic information, and take into account the impact of provision in different locations according to access, deliverability and cost.

The options being considered by commissioners are:

1. Decentralise the service to revert back to multiple site provision
2. Continue to deliver the hyper-acute service from only the SGH site
3. Move the hyper-acute service to the DPOW site only
4. Decommission the Northern Lincolnshire service and provide the hyper-acute stroke element from the tertiary Level 1 centre at HEY or another specialist centre

## 2.4 Preferred option

The programme board have reviewed this options appraisal and undertaken an evaluation scoring exercise, taking on board feedback from the clinical community and sub groups within the HLHF programme. It is the recommendation of the programme board that option 2: continue to deliver the service from the SGH site is taken to a public consultation. The rationale for this recommendation is included further in this options appraisal document.

# 3. Health needs assessment

A full health needs assessment has been undertaken and can be found in Appendix 2. Key findings which are relevant for hyper-acute stroke services are outlined in this section.

## 3.1 Population

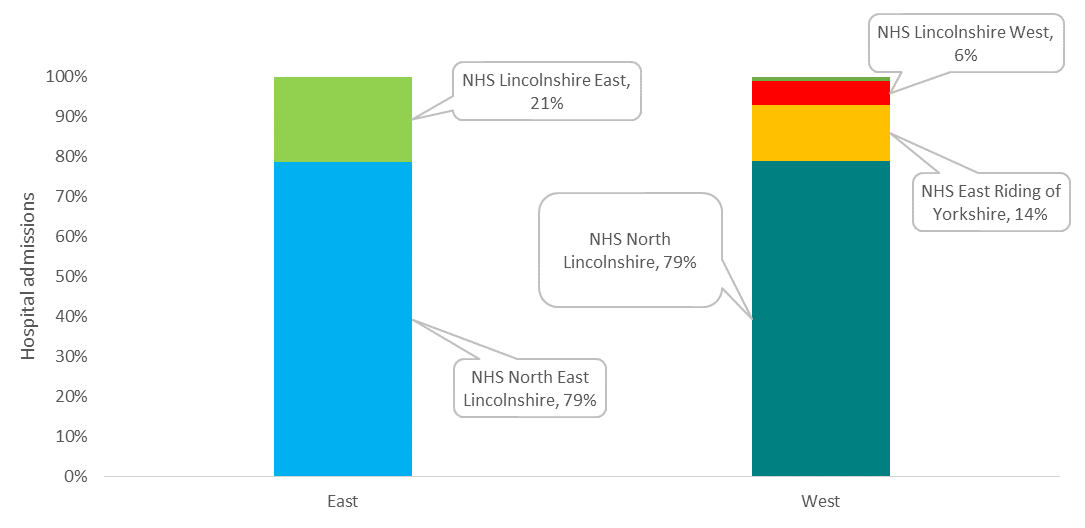
Hospital services provided by NLaG are accessed by people registered to several local Clinical Commissioning Groups (CCGs). Chart 1 shows how these are distributed.

#### Chart 1 – Distribution of hospital admissions to NLaG by CCG.



Source: BCG Analysis. Percentage of total elective and daycase admissions by CCG.

#### Chart 2 - Distribution of hospital admissions to NLaG by CCG split by East and West



Source. BCG analysis. Percentage of total elective and daycase admissions by CCG

Almost 80% of elective (elective inpatient and daycase) attendances to NLaG are by people registered with GP practices within North and North East Lincolnshire. Due to proximity a higher proportion of the populations of North and North East Lincolnshire CCGs attend NLaG compared to proportions from other CCGs.

Estimates of the size of CCGs populations are provided by the Office for National Statistics (ONS) and are based on data from the 2011 Census which is the latest available data. The estimated catchment population from each CCG are shown below:

#### Table 2 – Total CCG population size 2011

|  |  |  |  |
| --- | --- | --- | --- |
| CCG | Total CCG population (all ages) | NLaG catchment population | % of CCG population within NLaG catchment |
| NHS North Lincolnshire | 167516 | 162114 | 97% |
| NHS North East Lincolnshire | 159735 | 161933 | 101% |
| NHS Lincolnshire East | 227771 | 81154 | 36% |
| NHS East Riding of Yorkshire | 313386 | 57226 | 18% |
| NHS Lincolnshire West | 225253 | 34190 | 15% |

*Sources: Office for National Statistics (ONS) mid-2011 Census based population estimates for Clinical Commissioning Groups. ONS 2011-population counts by postcode sector. BCG activity analysis*

## 3.2 Age and sex

The population age profiles of North and North East Lincolnshire CCGs are relatively similar, whereas the populations of Lincolnshire East and East Riding of Yorkshire are shown to be older with a higher percentage of people aged 50 years and over. Lincolnshire West’s profile is similar to Lincolnshire East and East Riding of Yorkshire at younger ages, the highest percentage of people aged 19 to 49 years and older age profile more similar to North and North East Lincolnshire. All local populations demonstrate a higher percentage of males in the population at younger ages which declines with age.

#### Table 3 – Age and sex distribution of CCG populations 2011

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CCG | Age band (years) | | | | | | | All ages |
| 0 - 4 | 5 - 16 | 17 - 18 | 19 - 49 | 50 - 64 | 65 - 74 | 75+ |
| NHS North Lincolnshire | 10221 | 23140 | 4199 | 65584 | 34056 | 16440 | 13876 | 167516 |
| % Male | 51% | 51% | 52% | 50% | 50% | 49% | 40% | 49% |
| NHS North East Lincolnshire | 10001 | 22215 | 4225 | 64212 | 30569 | 14870 | 13643 | 159735 |
| % Male | 51% | 51% | 50% | 50% | 50% | 48% | 41% | 49% |
| NHS Lincolnshire East | 11282 | 28047 | 5326 | 78463 | 49874 | 30292 | 24487 | 227771 |
| % Male | 51% | 51% | 52% | 49% | 49% | 50% | 43% | 49% |
| NHS East Riding of Yorkshire | 15402 | 40393 | 7909 | 113019 | 68652 | 36818 | 31193 | 313386 |
| % Male | 51% | 51% | 52% | 50% | 49% | 48% | 41% | 49% |
| NHS Lincolnshire West | 12358 | 28864 | 5800 | 94218 | 42854 | 22228 | 18931 | 225253 |
| % Male | 52% | 51% | 49% | 49% | 49% | 49% | 42% | 49% |

Source: Office for National Statistics (ONS) mid-2011 Census based population estimates for Clinical Commissioning Groups.

## 3.3 Population projections

As population projections are not currently available for CCG populations, population projections for Local Authorities (LA) and Unitary Authorities (UA) have been used as a proxy. 2011 Census estimates of LA and UA populations are included to enable comparison to 2011 CCG populations as shown below. The rates of population growth vary by local area. North East Lincolnshire is expected to have the lowest net population increase at 1%, while the populations of East and West Lindsey are expected to see the highest, each projecting 7%. However, in terms of numbers of people, East Riding of Yorkshire is expected to have the largest increase in the number of people, with North East Lincolnshire expected to have the smallest.

#### Table 4 – Projected population change 2011 to 2020, all ages by area

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | North Lincolnshire UA | North East Lincolnshire UA | East Riding of Yorkshire UA | East Lindsey UA | West Lindsey LA |
| 2011 | 167516 | 159735 | 334673 | 136683 | 89352 |
| 2014 | 170991 | 160110 | 341997 | 141387 | 92750 |
| 2015 | 172185 | 160337 | 344422 | 142967 | 93863 |
| 2016 | 173381 | 160557 | 346839 | 144546 | 94971 |
| 2017 | 174561 | 160783 | 349209 | 146084 | 96064 |
| 2018 | 175740 | 161016 | 351558 | 147615 | 97138 |
| 2019 | 176882 | 161257 | 353919 | 149152 | 98218 |
| 2020 | 178006 | 161504 | 356273 | 150692 | 99288 |
| Change 2014-2020 | 7015 | 1394 | 14277 | 9305 | 6538 |
| Change 2014-2020 (%) | 4% | 1% | 4% | 7% | 7% |

*Source: Office for National Statistics Interim 2011-based subnational population projections. \*Unitary and Local Authority populations used as proxy for CCG populations*

Details of the age-related population projections can be found in the full health needs assessment, however adults aged 65 years and over are more relevant for hyper-acute stroke services. This cohort is expected to increase in all local areas over the next six years. The largest percentage increase is expected in West Lindsey, with the smallest increase expected in North East Lincolnshire. In terms of numbers, East Riding of Yorkshire is expected to see the largest increase in the over 65 age group.

#### Table 5 – Projected population change 2011 to 2020, adults aged 65years+ by area

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Year | North Lincolnshire UA | North East Lincolnshire UA | East Riding of Yorkshire UA | East Lindsey UA | West Lindsey LA |
| 2011 | 30316 | 28513 | 72288 | 35776 | 18782 |
| 2014 | 33456 | 30628 | 81136 | 39649 | 21243 |
| 2015 | 34345 | 31096 | 83304 | 40643 | 21881 |
| 2016 | 35123 | 31513 | 85209 | 41523 | 22460 |
| 2017 | 35862 | 31873 | 86883 | 42321 | 23030 |
| 2018 | 36677 | 32290 | 88537 | 43112 | 23572 |
| 2019 | 37369 | 32725 | 90153 | 43912 | 24113 |
| 2020 | 38115 | 33107 | 91751 | 44631 | 24660 |
| Change 2014-2020 | 4659 | 2478 | 10615 | 4982 | 3418 |
| Change 2014-2020 (%) | 14% | 8% | 13% | 13% | 16% |

Source: Office for National Statistics Interim 2011-based subnational population projections. \*Unitary and Local Authority populations used as proxy for CCG populations

## 3.4 Stroke prevalence

In 2011, the East of England Public Health Observatory published the estimated prevalence of Stroke by local authority area. The estimated prevalence is based on Health Survey for England (HSE) rates 2003/04 applied to the 2011 GP registered population and takes into account age, sex, smoking status and deprivation. Results for local areas are shown below:

Table 6 – Estimated stroke prevalence, persons aged 16+ years by area

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Measure | North Lincolnshire | North East Lincolnshire | East Riding of Yorkshire | East Lindsey | West Lindsey |
| Expected prevalence of stroke in population 16 years+ (%, No.) | 3.0%  3873 | 2.8%  3608 | 2.9%  8051 | 3.7%  4380 | 2.8%  2021 |
| England average | 2.6% | | | | |

Source: East of England Public Health Observatory (2011). Health Survey for England (HSE) rates 2003/4.

The estimated prevalence of stroke in all local areas is expected to be higher than the national average (2.6%), however, the statistical significance of differences in rates has not been performed. The highest prevalence is expected in East Riding of Yorkshire, while the lowest is expected in North East Lincolnshire and West Lindsey.

## 3.5 Hospital admissions for stroke

In 2011/12 directly age standardised rates of stroke admissions in North and North East Lincolnshire and Lincolnshire were significantly lower than the national average, while rates for East Riding of Yorkshire and Lincolnshire were not statistically different to the national average.

The number of emergency admissions for stroke in 2011/12 by local authority area is shown below:

#### Table 7 - Emergency admissions for stroke by local area in 2011/12

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Indicator | North Lincolnshire | North East Lincolnshire | East Riding of Yorkshire | Lincolnshire | England |
| Emergency admissions for stroke | 151 (56.0 per 100,000) | 184 (70.8 per 100,000) | 578 (91.2 per 100,000) | 1093 (83.8 per 100,000) | 89.5 per 100,000 |

*Source: SEPHO Cardiovascular disease Local Authority health profiles (2013). Data from QoF 2011/12*

In North East Lincolnshire and Lincolnshire the rate of emergency admissions from the most deprived areas is significantly higher than rates in the least deprived areas, 2.4 times and 1.4 times higher respectively. For North Lincolnshire and East Riding of Yorkshire differences were not statistically significant.

With the exception of East Riding of Yorkshire, all local areas have observed a decline in the rate of emergency admissions for stroke between 2004/5 and 2011/12. North and North East Lincolnshire have seen the greatest decrease, over 20%, while Lincolnshire has seen a 3.7% decrease. Nationally rates have decreased by 3%. By contrast, East Riding of Yorkshire has seen a 37% increase in emergency admissions over the period.

Rates of emergency readmissions within 30 days of admission for stroke were less than the national average (2.9%) in all local areas. North East Lincolnshire had the lowest rate (1.1%) while North Lincolnshire and Lincolnshire had the highest (1.7%). No statistical testing has been performed on this indicator.

In 2011/12 the percentage of stroke patients aged under 75 years discharged to their usual place of residence in Lincolnshire was significantly higher than the national average. For all other local areas the percentages were not statistically different to the national average.

By contrast, and occurring within the same period, the percentage of stroke patients aged 75 years and over, discharged to their usual place of residence was significantly higher than the national average in North Lincolnshire, East Riding of Yorkshire and Lincolnshire. The percentage for North East Lincolnshire was not statistically different to the national average.

Rates of carotid endarterectomy undertaken between 2010/11-2011/12 were significantly lower than the England average in North Lincolnshire and Lincolnshire and not statistically different to the national average in North East Lincolnshire and East Riding of Yorkshire.

## 3.6 Stroke mortality

In 2012, the percentage of all deaths due to stroke varied between 7 and 8% by local area.

#### Table 8 - Mortality from stroke by local area, all ages 2012

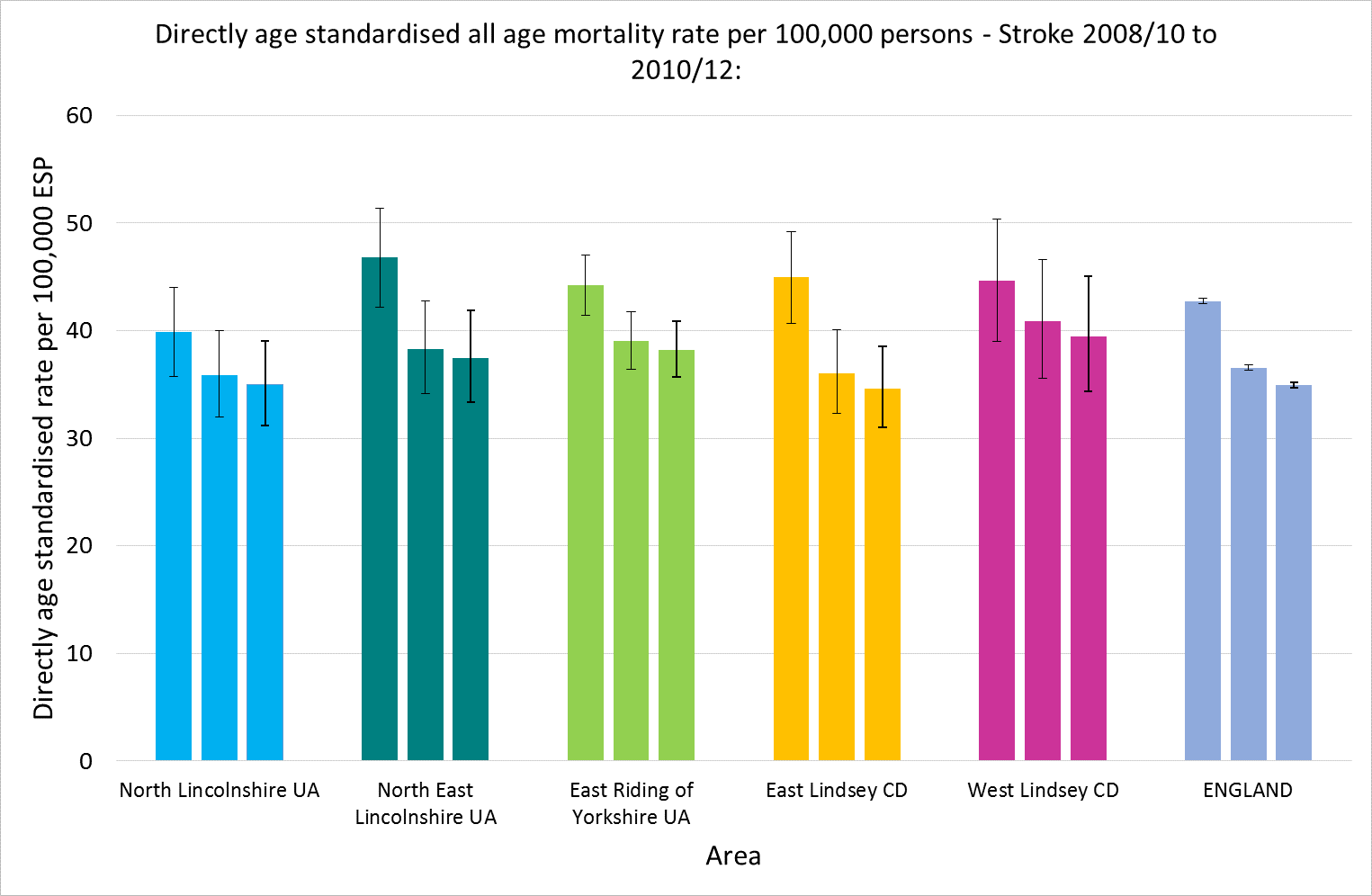
|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Indicator | North Lincolnshire | North East Lincolnshire | East Riding of Yorkshire | East Lindsey | West Lindsey |
| Deaths from stroke | 123 | 120 | 292 | 131 | 73 |
| % Total deaths | 7% | 7% | 8% | 7% | 8% |

Source: Health and Social Care Information Centre (HSCIC) 2014

The rate of all age stroke mortality in local areas and nationally has declined between 2008-10 and 2010-12. In addition and with the exception of East Riding of Yorkshire in 2010-12, the rate of all age stroke mortality in local areas has not differed significantly from the England average within each time period. By contrast, between 2010 and 2012, the stroke mortality rate for East Riding of Yorkshire is shown to significantly exceed the national average, suggesting that the rate of decline in all age stroke mortality for this area has been slower than observed nationally and in other local areas.

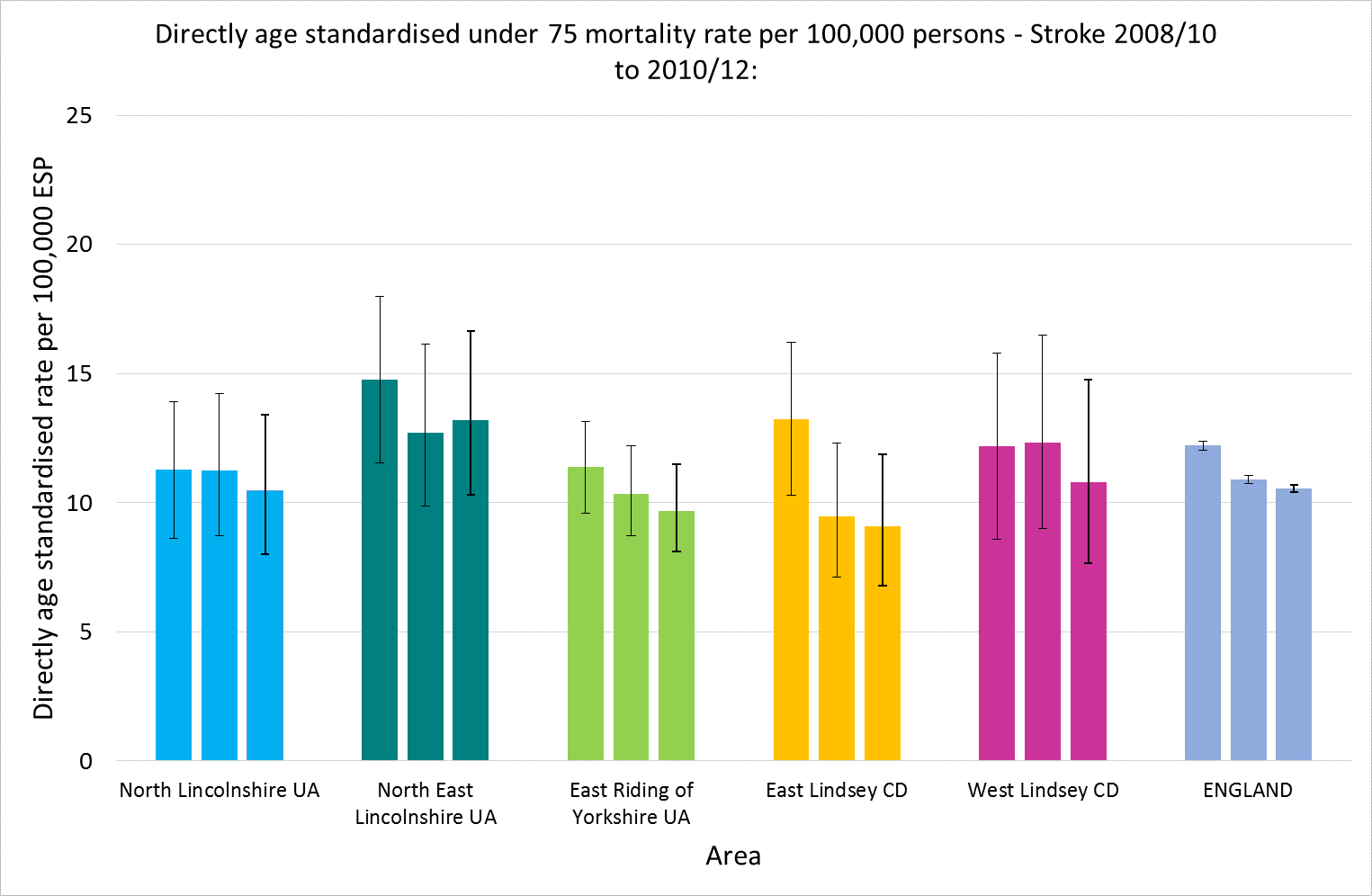
Premature mortality rates for stroke have also declined between 2008/10 and 2010/12. However, by contrast to all-age mortality, no local area has demonstrated a premature stroke mortality rate significantly different to the England average in any of the three time periods.

#### Chart 3 - Directly age standardised stroke mortality by area per 100,000 population



Source: *Health and Social Care Information Centre (HSCIC) 2014*

#### Chart 4 – Directly age standardised premature (under 75 years) stroke mortality rate by area per 100,000 population



Source: Health and Social Care Information Centre (HSCIC) 2014

Analysis of pooled average stroke mortality rates between 2008 and 2012 have shown that, on the whole rates of all age and premature mortality from stroke locally are not significantly different from the national average. However, in 2010-12 rates of all age mortality in East Riding of Yorkshire were significantly higher than the national average, indicative of rates of all age stroke mortality in this area not falling as rapidly as rates in other local area and observed nationally. By contrast, rates of premature mortality for East Riding of Yorkshire were not significantly higher than the national average, indicating that the higher rate of all age mortality was driven by a higher rate mortality among people aged 75 years and over.

The full Health Needs Assessment and appendices report the change in stroke mortality between 1993 and 2012 by age group (all ages and aged <75 years) by area. Results show that all areas have experienced a decline in mortality over this period. The largest declines locally and in excess of the national average, have been consistently seen in North Lincolnshire and West Lindsey, while rates of reduction in North East Lincolnshire, East Riding of Yorkshire and East Lindsey have been less than the national average. However the statistical significance of the mortality rate reductions has not been tested. National rates of stroke and premature stroke mortality between 1993 and 2012 have fallen by 56% and 62%, respectively.

# 4. National and best practice recommendations

## 4.1 National strategy for stroke services

The National Stroke Strategy (2007) sets out a 10 year direction of travel for stroke services in England. This strategy recognises that it is becoming increasingly impractical for organisations to offer care pathways that are safe, of high clinical quality and responsive to patients without being part of well-defined networks. Several key issues are highlighted that are particularly relevant for hyper-acute stroke care:

* Stroke unit care is the single biggest factor that can improve a person’s outcomes following a stroke
* The average district general hospital site will not have consultants with a full range of expertise in all the sub-disciplines available around the clock
* It may be cost prohibitive for all hospitals to invest in high-tech facilities which are only used for a small number of people
* Outcomes in the UK compare poorly internationally, despite our services being among the most expensive

The national strategy strongly recommends that clinical networks are established covering populations of between 0.5 and 2 million to review and organise delivery of stroke services across the care pathway. It describes the consensus that hyper-acute care should be delivered in specialist centres rather than in all district general hospital sites.

Hyper-acute and acute stroke services in London have recently undergone a centralisation exercise and it has been indicated at a national level that this approach will be rolled out across the rest of England. Evidence from this re-configuration has resulted in better outcomes for patients where there has been a significant decrease in mortality rates. Thrombolysis rates have also changed significantly with 587 stroke patients in London receiving thrombolysis between February and June 2010, compared with just 174 in the same period for 2009.

## 4.2 Guidelines for Stroke Services

The Royal College of Physicians National Clinical Guideline for Stroke, 4th edition 2012, sets out recommendations for the commissioning and provision of stroke services. The guideline covers hyper-acute and acute stroke care, secondary prevention and stroke rehabilitation, deriving recommendations for the provision of best practice based on current evidence.

The guideline is comprehensive and includes in its recommendations:

* How stroke services should be organised and provided
* The clinical interventions and treatments that should be available to patients who have had a stroke; i.e. the stroke pathway of care
* The importance of stroke and TIA recognition in pre-hospital services
* The importance of 24 hour provision of hyper-acute care and the speed with which it is delivered
* The interventions and treatments which should be available to TIA patients
* The importance of therapy input from a range of disciplines
* The staffing and training requirements to provide stroke services
* The importance of secondary prevention.

The RCP guideline gives commissioners and providers a blueprint for delivering evidence-based best practice that will achieve the best possible outcomes for stroke patients.

## 4.3 Accreditation levels

Accreditation levels and recommended staffing levels have been set by the regional team. The regional stroke accreditation process outlined four levels of stroke care:

#### Table 9 – SHA stroke care levels

|  |  |  |
| --- | --- | --- |
| SHA Level | Agreed terminology | Elements of service provision |
| Level 1 | Comprehensive acute stroke and thrombolysis centre  Will also serve as Level 2, 3 and 4. | (E) Tertiary neurosciences disciplines  (B) TIA and minor stroke management  (C) Acute stroke management  (D) Thrombolysis service  (F) Stroke rehabilitation |
| Level 2 | Acute stroke and thrombolysis centre  Will also serve as Level 3 and 4 for local catchment area. | (B) TIA and minor stroke management  (C) Acute stroke management  (D) Thrombolysis service  (F) Stroke rehabilitation |
| Level 3 | Local acute stroke centre  Will also serve as Level 4 for local catchment area. | (B) TIA and minor stroke management  (C) Acute stroke management  (F) Stroke rehabilitation |
| Level 4 | Stroke recovery and rehabilitation centre | (F) Stroke rehabilitation |

Source: NLaG Hyper-Acute Stroke Business Case, July 2013

## 4.4 Recommended staffing levels

The recommended nursing and therapy staffing levels for stroke care are shown below:

#### Table 10 – Recommended nursing staffing levels for stroke care

|  |  |
| --- | --- |
| Stroke care | Staffing levels |
| Hyper-acute | 3.5 wte/bed 24/7 to provide 1:2 ratio nurse : bed, 80:20 trained : untrained |
| Acute | 1.25 wte/bed 24/7 nurse to bed ratio not specified, 65:35 trained : untrained |
| Rehabilitation | 1.25 wte/bed 24/7 nurse to bed ratio not specified, 65:35 trained : untrained |

Source: NLaG Hyper-Acute Stroke Business Case, July 2013

#### Table 11 – Recommended therapy staffing levels for stroke care

|  |  |
| --- | --- |
| Stroke care | Staffing levels |
| Physiotherapy | 1 wte / 5 beds |
| Occupational therapy | 1 wte / 5 beds |
| Speech & language therapy | 1 wte / 10 beds |
| Clinical psychology | 0.92 wte / 10 beds |
| Dietetics | 0.3 wte / 10 beds Dietician  0.3 wte / 10 beds Dietetic Support Worker |

Source: NLaG Hyper-Acute Stroke Business Case, July 2013

## 4.5 Implications for the hyper-acute stroke service review

National and regional recommendations are to centralise more specialist services and in particular hyper-acute stroke services where there is insufficient critical mass to maintain skills in hyper-acute care, especially thrombolysis. These recommendations are for quality and safety reasons and have been subject to expert review. Commissioners have made links with other CCGs in the North Yorkshire and Humber region and the wider Yorkshire area to discuss stroke services and it has been agreed that CCGs will work together to review stroke services in line with national recommendations. Centralisation of services needs to be supported by expansion of patient transport and transfer infrastructure as well as enhancement of primary care and community services. Commissioners are clear that it would be unwise to invest significantly in a service that may be subject to national or regional scrutiny and later decommissioned. Therefore it is recommended that this review supports the national direction of travel for centralising the hyper-acute stroke element of the service.

# 5. Current service provision

## 5.1 Wider stroke services

The hyper-acute stroke pathway is a small part of the wider stroke pathway. There are a range of services available to people who are at risk of stroke and those who have had a stroke, and these services are provided in primary, secondary and tertiary care. This paper is mostly concerned with hyper-acute stroke services and more detail is provided on the current configuration later in this chapter, however to provide context, information about the wider stroke services provided within the local health economy is included below.

People at a higher risk of stroke include those with heart disease, increased blood pressure, atrial fibrillation, increased cholesterol and diabetes. Lifestyle factors also play a key part with smoking, obesity, alcohol and lack of exercise all increasing the risk of suffering from a stroke. Through the Quality and Outcomes Framework (QOF) local GPs are encouraged to identify and preventatively treat those patients at risk of stroke.

The recognition and appropriate treatment of TIA is an important part of preventative care; for TIA patients the risk of stroke is reduced by 80% if the TIA is urgently treated by a specialist (Rothwell, 2007). The majority of TIA patients are seen by a GP so knowledge of where and how to refer is key. Hospital based TIA clinics are provided 5 days per week at both DPOW and SGH; a 7 day per week service will be available at SGH from summer 2014. TIA patients attend a clinic within 24 hours (for high risk TIA) and within 7 days (for low risk TIA) and are followed up in clinic after a further 4 weeks, after which they are usually transferred for on-going care to their GP.

For people who suffer a stroke, the recognition of possible stroke in pre-hospital services (and the wider community) is an important part of the pathway. The speed of intervention and treatment is critical in achieving the best outcomes for stroke patients; this treatment cannot be given if the stroke is not recognised and acted upon. Recommendation 4.1.1 A in the RCP guideline states that “those people with persisting neurological symptoms who screen positive using a validated tool, in whom hypoglycaemia has been excluded and who have a possible diagnosis of stroke, should be transferred to a hospital with a specialist acute stroke unit within a maximum of 1 hour.”

Following the centralisation of hyper-acute stroke services at SGH, the East Midlands Ambulance Service (EMAS) and local GP practices were provided with details of the new arrangements. This has helped ensure that the majority of query stroke patients come to SGH A&E in the first instance, however, on-going training and information sharing is required to improve on this.

The hyper-acute and acute phases of the stroke pathway are detailed below. In summary, suspected stroke patients arriving at SGH A&E are seen by the stroke responder team (a nurse and doctor with specialist stroke training) for immediate diagnostics and treatment then transferred to the hyper-acute stroke unit (HASU) for on-going monitoring and treatment for up to 72 hours. When it is clinically appropriate the patient is stepped down to an acute stroke bed for on-going treatment and therapy intervention.

Following the acute phase of care patients are either discharged, in some cases under Early Supported Discharge (ESD), or transferred to a rehabilitation facility. There are 4 rehabilitation stroke beds at Goole Hospital and the recently opened intermediate care facility at DPOW has a further 4 stroke beds*.*

Patients discharged or under ESD are referred to the Community Therapy service for on-going therapy. Patients receive relevant therapy input at home or in a community setting. There are follow up appointments provided at SGH and DPOW at 6 weeks and 6 months post stroke where information is shared between the hospital team and community therapy team and patients are assessed for on-going needs.

Following diagnosis of a stroke all patients, their families and carers are given an information pack and handbook which provides practical advice and facts on:

* Information about stroke – including risk factors, lifestyle advice, preventing stroke, terminology and tests that might be done in hospital
* Rehabilitation – covering the therapy inputs patients will receive, what each therapy area is for and some suggestions for self help
* Life after stroke – detailing how people may react and feel after a stroke, the physical and psychological impact of having a stroke plus advice on driving, returning to work, social care and staying healthy
* Useful contacts – a comprehensive list of national and local statutory and voluntary organisations with a description of what they can help with and contact details.

The Trust works closely with The Stroke Association; where a patient consents, their details are shared with the Association on discharge who will then visit the patient and their family at home and offer practical support and advice.

## 5.2 Hyper-acute stroke services

The hyper-acute (level 2) service has been temporarily centralised onto the SGH site in order to provide a comprehensive 24/7 hyper-acute stroke service. The service levels for local patients are shown below:

#### Table 12 – Current service provision at site level

|  |  |  |
| --- | --- | --- |
| Hospital site | SHA Level | Service provision |
| HEY (Hull and East Yorkshire Hospitals Trust) | Level 1 | (E) Tertiary neurosciences disciplines  (B) TIA and minor stroke management  (C) Acute stroke management  (D) Thrombolysis service  (F) Stroke rehabilitation |
| SGH (NLaG) | Level 2, 3 and 4 | (B) TIA and minor stroke management  (C) Acute stroke management  (D) Thrombolysis service  (F) Stroke rehabilitation |
| DPOW (NLaG) | Level 3 and 4 | (B) TIA and minor stroke management  (C) Acute stroke management  (F) Stroke rehabilitation |
| Goole (NLaG) | Level 4 | (F) Stroke rehabilitation |

## 5.3 Current care pathway

The high level pathway for hyper-acute stroke care can be seen below:

#### Diagram 4 – Current high level pathway for stroke care



The majority of patients suffering from a suspected stroke are taken to hospital by emergency ambulance. The protocol for ambulance crews is to take the patient to the nearest hospital with hyper-acute stroke services. Self-presenting patients are most likely to attend their nearest A&E service; if the hospital they attend does not have hyper-acute stroke services the patient will be transferred by emergency ambulance to the closest hospital with this facility.

The hyper-acute stroke service currently provided at SGH includes a 24/7 on call team of stroke responder nurses and medical staff who have specialist stroke training and attend all suspected stroke patients as soon as they arrive in A&E. Patients are assessed and have diagnostic tests completed in line with RCP guidelines. This often includes a CT scan within the 1st hour of arrival in hospital. If indicated the patient is given thrombolysis treatment in A&E as soon as possible after arrival in hospital.

Following assessment and any emergency treatment that is given in A&E, patients diagnosed with stroke are transferred to the Hyper-acute stroke unit (HASU) where they are nursed in monitored beds and receive medical and therapy input in line with RCP guidelines. Within the 1st 4 hours patients are screened for swallowing and within the 1st 72 hours will be seen by a physiotherapist and occupational therapist and have further specialist swallow screening if indicated. Patients are seen by the Consultant every day.

Patients remain on HASU for up to 72 hours. When clinically appropriate, patients are stepped down from hyper-acute care and either remain at SGH for on-going acute stroke care, are repatriated to an acute stroke unit at their nearest appropriate site or are discharged. For patients living in the Grimsby area repatriation is to the Level 3 unit at DPOW, for patients living in the East Riding area they may remain at SGH for Level 3 treatment and then be transferred to Goole when they are suitable for Level 4 treatment. Acute stroke provision follows RCP guidelines with multi-disciplinary input from medical, nursing and therapy professions.

## 5.4 Current bed configuration

The current bed configuration at the three NLaG sites are shown below.

#### Table 13 – Current bed configuration

|  |  |  |  |
| --- | --- | --- | --- |
| Bed type | SGH (Scunthorpe) | DPOW (Grimsby) | GDH (Goole) |
| Hyper-acute stroke beds | 4 (to be increased to 6) | - | - |
| Acute or rehab stroke beds | 15 | 17 | - |
| Acute/rehab stroke beds or acute medical beds | - | 4 (cubicles) | - |
| Rehab stroke beds | - | - | 4 |
| Medical | - | - | 26 |
| **Total stroke beds** | **19 (to increase to 21)** | **17** | **4** |
| Total beds | 19 (to increase to 21) | 21 | 30 |

The additional two hyper-acute stroke beds at the SGH site are due to be operational by summer 2014.

## 5.5 Current staffing profile

Consultant medical, junior medical, nursing and therapist staffing levels at SGH, DPOW and GDH are in line with Yorkshire and Humber Strategic Clinical Networks accreditation level standards (see tables in section 3.3). There is a lead Consultant across all three sites and six Consultants covering the on call rota for hyper acute stroke care. There are dedicated junior medical staffing teams for stroke at SGH and DPOW.

## 5.6 Current performance against stroke care standards

Since the centralisation of services the trust has achieved improvements in performance against stroke care standards; this is from NLaGs own data analysis. The latest Sentinel Stroke National Audit Programme (SSNAP) results are for October-December 2013 which includes periods both pre and post the implementation of changes in stroke services. The next set of SSNAP results (January-March 2014) will provide a clearer picture of performance against all the stroke care standards for the current service configuration and delivery.

The recent changes to stroke services have all been made in line with both regional accreditation standards and national (RCP and NICE) guidelines. The trust will be peer reviewed against regional accreditation standards on 12th June; self-assessment has shown positive results against almost all these indicators.

## 5.7 Work in progress

There have been some significant changes implemented in stroke services at NLaG in the last six months which have resulted in improved performance against the SSNAP indicators. Work continues to ensure the changes implemented are maintained over the long term. The Trust is working to an action plan agreed with commissioners which is focused on areas such as on-going staff development and training, implementation of systems to ensure 100% of stroke patients are treated in line with the acute stroke pathway and improved usage of real time patient management systems.

# 6. Communication and engagement on local stroke care

The Healthy Lives, Healthy Futures programme has received a significant amount of media coverage throughout the various communications & engagement activities, and the centralisation of stroke services has received prominent coverage.  After the Keogh review highlighted mortality concerns and the decision was announced to centralise the service on the SGH site temporarily there was criticism from politicians in North East Lincolnshire and a petition undertaken for the services to be maintained at both sites. The online articles have also attracted some negative comments however NLaG has engaged and responded to them. Since the interim solution has been in place there has not been a significant amount of media coverage.

Commissioners are committed to a public consultation on the service as part of the HLHF programme in the summer of 2014, and have discussed the service with a full range of stakeholders including patients and the public, community and support groups and statutory bodies such as the Overview and Scrutiny Committee and the Stroke Association.

A pre-engagement phase and two formal public engagement phases have been held as part of the HLHF programme and this work has contributed to thinking around the permanent solution for hyper-acute stroke services.

## 6.1 Pre-engagement phase

A Stakeholder Summit was held on 22 July 2013 to give stakeholders the opportunity to understand the work being carried out as part of the HLHF programme and to discuss how it may impact upon their organisation. As preparation for the Summit, individual meetings were arranged with organisations and stakeholders to share the emerging vision, direction of travel and criteria that will form the foundations for the programme.

During the pre-engagement phase there was a high level of support for the vision and general recognition that some services may need to be centralised in order to achieve the improvements in quality that are required. The Pre-Summit Stakeholder Engagement Report can be found as Appendix 3 and this provides an overview of the feedback received from those meetings.

## 6.2 Engagement phase 1 – the vision and case for change

In July –September of 2013 the first public engagement phase was carried out, which focussed on the case for change and strategic vision. There are two key drivers for change, which underpin the Healthy Lives, Healthy Futures programme: Quality improvement and financial sustainability. The full case for change document is included as Appendix 4.

The programme vision is shown below:

#### Diagram 5 – Vision for the Healthy Lives, Healthy Futures programme

#### 

Commissioners believe that shifting the focus from care in hospitals to more self-care and independent living will result in higher-quality care, with more lives saved and more people returned to full health. This will enable hospitals to focus their resources on those services that require specialist input within a hospital setting, for example; the hyper-acute stroke service. Commissioners recognise that it may not be feasible to deliver every service on every hospital site so the centralisation of certain specialist services was raised with the public in principle.

Generally people understood the case for change with over 70% of respondents in agreement that there are good reasons for reviewing local healthcare services. A majority of people (over 80%) said that quality and safety should be prioritised as the most important factors when making decisions about how services are delivered in the future, and most people said that they would be prepared to travel further than they currently do to access services if they were of a better quality. 50% of people said that they would travel any distance. This was backed up by the quality conversations that took place with patients and the public as part of the engagement phase.

Transport was raised as a key concern and people said that this should be considered before making any decisions about where services will be located to ensure that patients and visitors are able to access services. As a result of this feedback the evaluation criteria was refined and a specific integrated transport group was established, to consider transport issues that relate directly to the proposals being brought forward by the programme. The full engagement report from the first phase of engagement can be found as Appendix 5

## 6.3 Phase 2 – Moving the conversation on

The second phase of public engagement ran from early February until the end of March 2014 and consisted of a wide range of engagement activities and events across North and North East Lincolnshire. This involved contact with over 1500 people at the range of public events and stakeholder meetings, and over 300 formal responses to the questionnaire. The purpose of the engagement was to engage in a much more detailed dialogue with the public about the direction of travel for services within the local area. Commissioners stated that several hospital services were being considered for centralisation and consultation, including a permanent solution for centralisation of the hyper-acute stroke service. Commissioners asked how the public felt about centralisation of hospital services for safety and quality purposes, and whether people would be prepared to travel further than they currently do to access safer and higher quality care.

78% of respondents agreed that centralising some hospital services would improve safety and quality of care. 82.5% stated that they were prepared to travel further for safer improved services. In addition to the multiple choice questions people were asked to provide any free text feedback on the themes raised in the engagement.

Some specific comments were received in support of the centralisation of specialist services for quality and safety purposes:

*“Agree with this it makes sense to have an excellent service rather than mediocre at two sights”*

*“Avoid multiple sites with very few patients seen at each location”*

*“Ensure utilisation of local facilities wherever possible. Any centralisation should be area central to reduce travel time and waiting”*

*“Sensible transport options are a better option than trying to keep all services on all sites”*

*“Providing investment is made into the community”*

In addition some concerns were raised:

*“Have to be careful not to destabilise the acute setting”*

*“Do not de-skill some of the excellent clinical expertise we have in North East Lincolnshire”*

*“All hospitals should cater for all eventualities”*

*“Unintended consequences – hospitals are a mix for other co-dependent services – need to make sure that one change does not lead to the demise of others”*

*“Big is not always better”*

*“Centralising services may not offer quality to people living a long way away from services. Small and local can mean quality as well”*

*“All our hospitals should provide safe, secure, caring services in the local area”*

*“No proof of safety or quality being improved”*

*“Farming care out to other locations and displacing patients far away from home, families and familiar surroundings at the time of most significant need is not conducive to their overall health and wellbeing or recovery. Safer care is no excuse - all care should be safe and effective”*

*“They tried this with children's heart service, causing more problems than were solved”*

*“Centralisation, leads to the rarefication of specialism, making any affected service much less resilient”*

*“I am concerned that the concentration will be only in cities with big populations and means people in towns will be on the end of the waiting lists”*

*“Quality and safety can be carried out at any setting, centralising is only a cost cutting exercise”*

*“Care needs to be easily accessible and available to all. Not everyone has transport to enable them to travel”*

A number of people praised various aspects of the current centralised hyper-acute stroke service at SGH. During one of the stakeholder groups, a good experience was shared about one patient’s experience:

*“She has had several strokes and most recently had been transported to the hyper-acute stroke unit at SGH for her acute care. She was very impressed at the quality of care; she had been dealt with quickly and efficiently and had been repatriated back home to Grimsby within 24 hours. This group (key for service users) was very supportive of the changes in stroke services.”*

The full engagement feedback report can be found as Appendix 6.

## 6.4 Implications for the hyper-acute stroke service review

There are several key themes that the public would like commissioners to be mindful of:

* Transport and access for patients if the service is to remain centralised onto one site, and in particular if this site is not within the Northern Lincolnshire area (e.g. Hull or another tertiary centre)
* Clarity around the rationale and evidence for the decision if the service is centralised
* The impact that centralisation could have on workforce and expertise in the local hospitals

Commissioners will need to ensure that all reasonable steps are taken to minimise the impact that centralisation of the hyper-acute stroke service may have upon patients from the area that does not host the service if a centralised solution is proposed. Patients, relatives and carers face very real transport barriers and are worried about whether they will still be able to access the care they need. This is for affordability and practical reasons such as access to personal transport and availability of public transport.

The rationale and evidence for decisions must be clearly outlined for the public to assure people that commissioners have reviewed and considered all the evidence around the case for centralisation and that it is shared with the public as part of the consultation exercise.

Concerns that centralisation could impact on the competence and knowledge of the workforce should be considered to ensure that it does not undermine local services.

# 7. Travel and transport analysis

Commissioners are reviewing four key options for the long term provision of the hyper-acute stroke service.

1. Decentralise the service to revert back to multiple site provision
2. Continue to deliver the hyper-acute service from only the SGH site
3. Move the hyper-acute service to the DPOW site only
4. Decommission the Northern Lincolnshire service and provide the hyper-acute stroke element from the tertiary Level 1 centre at HEY or another specialist centre

This options appraisal considers changes to the hyper-acute stroke service, not the wider service. Hyper acute stroke care is for a clearly defined period (up to 72 hours). It should be noted that these options refer to the first 72 hours of emergency stroke treatment, and not acute stroke care or rehabilitation. All options include a clear repatriation pathway to ensure that patients are transferred back to their nearest appropriate site after their hyper-acute phase of care is complete, or indeed to their place of residence if appropriate.

## 7.1 Travel analysis summary

Options 2, 3 and 4 all involve a solution that will require travel for patients, families and visitors. A transport analysis has been undertaken to review how access to hyper-acute stroke services may be affected by a change to the location of these services, using the following measures of access:

* Average travel time (car, blue light, public transport)
* Car and/or van ownership
* Public transport options

The travel time analyses were performed using data provided by Boston Consulting Group (BCG). Using postcode sector (5-digit postcode) as a proxy for patient location, BCG calculated the average travel time to the nearest relevant acute provider by mode of transport: car, ambulance (blue light) and public transport - using data from GoogleTrack. The specific definitions of the travel times used in the analysis are as follows:

* Car and blue light travel times – average travel time by postcode sector – all days all hours. (Blue light travel times are assumed to be one-third faster than average car journeys based on the findings of Travel times and ambulance coverage for proposed hyper-acute stroke units and major trauma centres in London (Healthcare for London, briefing 2009), which is accepted as the national standard for travel time analysis).
* Public transport travel times – average weekday travel time by postcode sector. (Analysis of public transport travel times was restricted to off peak hours to overcome the distortionary effect of the absence of weekend services on journey times).

It is assumed that if services are moved, then patients will access the nearest site that offers the service they require, and this may not be one of the NLaG sites within Northern Lincolnshire. For hyper-acute stroke services the relevant hospital sites being considered as potential options for the Northern Lincolnshire population are as follows:

* DPOW (Diana Princess of Wales, Grimsby, NLaG)
* SGH (Scunthorpe General Hospital, NLaG)
* Doncaster Royal Infirmary
* Hull Royal Infirmary (part of HEY – Hull and East Yorkshire Hospitals NHS Trust)
* Lincoln County Hospital
* Rotherham Hospital
* York Hospital

The metric used to assess the impact on travel times of any change to the location of services is the population weighted average travel time. Population weighting is used to adjust the average travel time of an area for the number of people affected. A breakdown of average time to nearest relevant hospital site by CCG and for the NLaG catchment population is shown below.

#### Table 14 – Baseline population average weighted travel times (minutes) to nearest relevant acute trust by CCG

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Travel time in minutes | | | Total population | Catchment population | % |
| CCG | Car | Blue light | Public transport |
| North Lincolnshire | 18 | 12 | 42 | 167516 | 162114 | 97% |
| North East Lincolnshire | 11 | 8 | 31 | 159735 | 161933 | 101% |
| Lincolnshire East | 32 | 21 | 84 | 227771 | 81154 | 36% |
| East Riding of Yorkshire | 29 | 20 | 72 | 313386 | 57226 | 18% |
| Lincolnshire West | 28 | 19 | 66 | 225253 | 34190 | 15% |
| Doncaster | 23 | 15 | 55 | 1093661 | 496616 | 45% |
| Catchment | 19 | 13 | 50 | 167516 | 162114 | 97% |

Source: BCG Travel analysis.

Postcode sectors do not map neatly to CCG or conventional area boundaries and therefore the sum of sector populations may not equate to CCGs populations. This is why some may seem larger than expected, e.g. 101%. The travel impact is presented as the change (additional or reduction in minutes) compared to the baseline for each of the options being considered within the defined scope (first 72 hours of hyper-acute stroke care).

## 7.2 Travel impact on options

The impact on travel times for each option has been calculated using the average population weighted travel time. It is assumed that the majority of patients would access services through the emergency “blue light” route, however car and public transport routes have been included in the analysis for completeness.

#### Table 15 – Impact on population weighted average travel times (additional minutes) by service configuration option and mode

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Option | | | |
| Mode | Decentralise service | Centralise on SGH site | Centralise on DPOW site | Centralise on HRI site |
| Car | 19 minutes | + 13 minutes | + 6 minutes | +20 minutes |
| Public transport | 50 minutes | + 15 minutes | + 12 minutes | +35 minutes |
| Blue light | 13 minutes | + 8 minutes | + 4 minutes | +13 minutes |

Source: BCG Travel analysis

The full transport analysis can be found in Appendix 7.

## 7.3 Patient outflows impact

The BCG team worked with commissioners to review the potential change to patient flows associated with different options. As part of this work they agreed a set of assumptions about likely patient behaviour for a range of services, including A&E and urgent/acute inpatient care. It is assumed that if services are not available on the SGH site then patients East of the River Trent will stay on patch, but patients on the Isle of Axholme will go to another site off patch. If services are not available on the DPOW site then it is assumed that patients will travel to the nearest hospital with the shortest travel time and easiest travel connections.

These assumptions have been used to calculate estimated patient flows based on real public and private travel times from postcodes in North and North East Lincolnshire to nearby hospitals. It should be noted that this analysis was undertaken at a high level to incorporate all A&E service lines and all of the urgent and acute service lines, however they can be used as an indicator for changes to the patient flows if the hyper-acute stroke service were centralised on either the SGH or DPOW site.

#### Diagram 6 – Patient outflow map for A&E attendances

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Source: BCG analysis: ONS, SHMI, NLaG, NL and NEL CCG data

#### Diagram 7 – Patient outflow map for urgent & acute admissions (proxy off-patch proportion based on A&E attendances)



The heat maps above show the estimated change in A&E attendances if services were centralised on either the SGH or DPOW site. It is estimated that there would be little or no change to the NLaG A&E admissions or urgent & acute admissions if the services were located on the SGH site. The estimates for a DPOW based service are 10% and 44% respectively. From the CCG perspective the baseline is 15% of patients that already flow to trusts other than the NLaG sites. This is not expected to change with an SGH based service, but would rise for a DPOW based service.

#### Table 16 – Projected patient outflow dataset

|  |  |  |  |
| --- | --- | --- | --- |
| Configuration | Option 1 – De-centralise (baseline) | Option 2 – SGH main centre | Option 3 – DPOW main centre |
| A&E projected off-patch as % of total NLaG admissions | - | 0% | 10% |
| A&E projected off-patch as % of total NL/NEL admissions | 15% | 15% | 24% |
| Urgent & acute projected off-patch as % of total NLaG admissions | - | 0% | 44% |
| Urgent & acute projected off-patch as % of total NL/NEL admissions | 15% | 15% | 53% |

The patient outflows data should be considered in the light of the fact that majority of suspected stroke patients are transported to hospital by emergency ambulance. It is assumed that this service will not be subject to patient choice in the same way as GP referrals as the protocol dictates that ambulances will take patients to the nearest hospital with hyper-acute stroke services.

## 7.4 Public feedback on transport issues

As described in the various public engagement reports, patients and public have expressed concern over travelling to centralised locations for their care. Much of the focus was on the cost of transport, bridge tolls (if services are located in Hull), and parking fees. Transport was cited as enhancing tiredness and anxiety for patients, and issues were raised around the current provision of the patient transport services. Examples were given where friends and family members were not able to travel with patients on the patient transport vehicles and this was queried as a potential area for review.

## 7.5 Implications for the hyper-acute stroke service review

The transport analysis shows that the impact on the blue light travel time is not significant if options 1-3 are considered. If the service is located at the HRI this starts to have implications for patient safety as the average transfer time increases to 26 minutes..

As this service review relates to the hyper-acute stroke element of the service the travel times are likely to impact on visitors, friends and family members more than the actual patient. This has been raised by the public as an area of concern, with reference to the huge support that visitors can offer for patients. Commissioners may need to review transportation for visitors and friends and family members along with the patient transport service for the short time that patients are outside of their local hospital if a centralisation option is considered.

The outflows data should be considered if DPOW is the proposed DPOW location, as this could impact on the critical mass and potentially destabilise the service if numbers drop significantly.

# 8. Evaluating the options

Commissioners will use a range of information to consider the options including evidence around risks and benefits (as documented in this options appraisal), evaluation criteria and equality impact assessments.

At the start of the programme commissioners developed an evaluation criteria to use as part of the decision making process to highlight benefits and dis-benefits with any significant service change areas. These criteria are shown below:

#### Table 17 - Healthy Lives, Healthy Futures Evaluation Criteria

|  |  |
| --- | --- |
| Criteria | Indicator |
| Quality of care | * Impact on premature / avoidable deaths * Impact on staffing levels * Patient experience e.g. complaints and feedback * Deaths in place of choice / place of residence (if applicable) * Patient safety – conforming with best practice / guidelines |
| Access to care | * Impact on population weighted average travel time * Feedback from patients and public – i.e. acceptability, willingness to travel * Proportion of visits/interventions delivered locally in the community or in patients’ homes * Number of options available for service delivery to local patients (i.e. patient choice) |
| Affordability | * Up front capital and other non-recurring costs required to implement reconfiguration * Assessment of ongoing financial viability of hospital sites * Assessment of affordability within commissioners allocations * Total value of each option incorporating future capital and revenue implications * Assessment of payback period (if applicable) |
| Deliverability | * Workforce experience/quality (attractiveness for employment) * Assessment of ease of delivering option in terms of public and stakeholder acceptability * Assessment of ease of creating required capacity shifts within timescales (workforce and physical facilities) * Degree of integration across acute, primary, community and mental health services |

Commissioners agree that quality of care should be the highest priority when it comes to decisions about service provision. However it is important to balance the other elements of the criteria to ensure that our services are maintained with the right level of skilled workforce, at locations that are accessible for patients, and in a way that uses the scarce resources as efficiently as possible.

As part of the engagement processes patients and the public were asked about the evaluation criteria headings and how they would prioritise them. Over 80% of people felt that quality of care should be rated the highest priority when considering service change ideas. It has been agreed that the quality and safety criteria will be weighted accordingly when it comes to making decisions about changes to the service including hyper-acute stroke.

The evaluation process has been documented in Appendix 10.

# 9. Equality Impact Assessment (EQIA)

Commissioners are committed to achieving equality, celebrating diversity, promoting inclusion and embracing human rights as set out in the NHS Constitution, and in line with the public sector equality duty outlined in the Equality Act 2010. This includes paying due regard to eliminating unlawful discrimination, advancing equality of opportunity and fostering good relationships between equality groups.

There are 9 “protected” characteristics that the Equality Act defines:

* Age
* Disability
* Gender re-assignment
* Marriage and Civil partnership
* Pregnancy and maternity
* Race
* Religion or belief
* Sex
* Sexual orientation

In line with work undertaken as part of the health needs analysis, Commissioners will also give consideration to people from differing socio economic groups / backgrounds (health inequalities).

## 9.1 Equality data

The demographic data for the protected groups is shown below.

#### Table 18 – Age distribution of CCG populations 2011

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CCG | Age band (years) | | | | | | | All ages |
| 0 - 4 | 5 - 16 | 17 - 18 | 19 - 49 | 50 - 64 | 65 - 74 | 75+ |
| North Lincolnshire | 10221 | 23140 | 4199 | 65584 | 34056 | 16440 | 13876 | 167516 |
| 6% | 14% | 3% | 39% | 20% | 10% | 8% | 100% |
| North East Lincolnshire | 10001 | 22215 | 4225 | 64212 | 30569 | 14870 | 13643 | 159735 |
| 6% | 14% | 3% | 40% | 19% | 9% | 9% | 100% |
| Lincolnshire East | 11282 | 28047 | 5326 | 78463 | 49874 | 30292 | 24487 | 227771 |
| 5% | 12% | 2% | 34% | 22% | 13% | 11% | 100% |
| East Riding of Yorkshire | 15402 | 40393 | 7909 | 113019 | 68652 | 36818 | 31193 | 313386 |
| 5% | 13% | 3% | 36% | 22% | 12% | 10% | 100% |
| Lincolnshire West | 12358 | 28864 | 5800 | 94218 | 42854 | 22228 | 18931 | 225253 |
| 5% | 13% | 3% | 42% | 19% | 10% | 8% | 100% |

Source: Office for National Statistics (ONS) mid-2011 Census based population estimates for Clinical Commissioning Groups.

#### Table 19 – Age and sex distribution of CCG populations 2011

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CCG | Age band (years) | | | | | | | All ages |
| 0 - 4 | 5 - 16 | 17 - 18 | 19 - 49 | 50 - 64 | 65 - 74 | 75+ |
| North Lincolnshire | 10221 | 23140 | 4199 | 65584 | 34056 | 16440 | 13876 | 167516 |
| % male | 51% | 51% | 52% | 50% | 50% | 49% | 40% | 49% |
| North East Lincolnshire | 10001 | 22215 | 4225 | 64212 | 30569 | 14870 | 13643 | 159735 |
| % male | 51% | 51% | 50% | 50% | 50% | 48% | 41% | 49% |
| Lincolnshire East | 11282 | 28047 | 5326 | 78463 | 49874 | 30292 | 24487 | 227771 |
| % male | 51% | 51% | 52% | 49% | 49% | 50% | 43% | 49% |
| East Riding of Yorkshire | 15402 | 40393 | 7909 | 113019 | 68652 | 36818 | 31193 | 313386 |
| % male | 51% | 51% | 52% | 50% | 49% | 48% | 41% | 49% |
| Lincolnshire West | 12358 | 28864 | 5800 | 94218 | 42854 | 22228 | 18931 | 225253 |
| % male | 52% | 51% | 49% | 49% | 49% | 49% | 42% | 49% |

Source: Office for National Statistics (ONS) mid-2011 Census based population estimates for Clinical Commissioning Groups.

#### Table 20 – Ethnicity by CCG population

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CCG | Ethnicity | | | | | All ages |
| White | Mixed / multiple | Asian/Asian British | Black / African / Caribbean / Black British | Other |
| North Lincolnshire | 160748 | 1244 | 4549 | 494 | 411 | 167446 |
| 96% | 1% | 3% | 0.3% | 0.2% | 100% |
| North East Lincolnshire | 155421 | 1186 | 2129 | 411 | 469 | 159616 |
| 97% | 1% | 1% | 0.3% | 0.3% | 100% |
| Lincolnshire East | 327789 | 2301 | 2961 | 598 | 530 | 334179 |
| 98% | 1% | 1% | 0.2% | 0.2% | 100% |
| East Riding of Yorkshire | 134314 | 937 | 789 | 264 | 97 | 136401 |
| 98% | 1% | 1% | 0.2% | 0.1% | 100% |
| Lincolnshire West | 87600 | 630 | 728 | 224 | 68 | 89250 |
| 98% | 1% | 1% | 0.3% | 0.1% | 100% |

Source: Office for National Statistics (ONS) mid-2011 Census based population estimates for Clinical Commissioning Groups.

#### Table 21 – Religion / belief distribution of CCG populations 2011

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| CCG | Religion | | | | | | | | |  |
| None | Christian | Buddhist | Hindu | Jewish | Muslim | Sikh | Other | Not stated | Total |
| North Lincolnshire | 40176 | 110554 | 381 | 445 | 48 | 3024 | 538 | 417 | 11863 | 167446 |
| 24% | 66% | 0.2% | 0.3% | 0% | 2% | 0.3% | 0.2% | 7% | 100% |
| North East Lincolnshire | 48476 | 96836 | 347 | 386 | 64 | 1332 | 158 | 533 | 11484 | 159616 |
| 30% | 61% | 0.2% | 0.2% | 0.0% | 1% | 0.1% | 0.3% | 7% | 100% |
| Lincolnshire East | 78296 | 227343 | 702 | 607 | 337 | 1309 | 174 | 863 | 24548 | 334179 |
| 23% | 68% | 0.2% | 0.2% | 0.1% | 0.4% | 0.1% | 0.3% | 7% | 100% |
| East Riding of Yorkshire | 31196 | 93691 | 226 | 126 | 84 | 366 | 49 | 565 | 10098 | 136401 |
| 23% | 69% | 0.2% | 0.1% | 0.1% | 0.3% | 0.0% | 0.4% | 7% | 100% |
| Lincolnshire West | 19439 | 62739 | 141 | 172 | 31 | 212 | 88 | 303 | 6125 | 89250 |
| 22% | 70% | 0.2% | 0.2% | 0.0% | 0.2% | 0.1% | 0.3% | 7% | 100% |

Source: Office for National Statistics (ONS) mid-2011 Census based population estimates for Clinical Commissioning Groups.

#### Table 22 – Sexual orientation (proxy) and marital state distribution of CCG populations 2011

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| CCG | Single | Married | In a registered same sex civil-partnership | Separated | Divorced | Widowed | Population aged 16+ |
| North Lincolnshire | 39393 | 68435 | 212 | 3369 | 14278 | 10418 | 136105 |
| 29% | 50% | 0.2% | 2% | 10% | 8% | 100% |
| North East Lincolnshire | 42808 | 58434 | 185 | 3369 | 14492 | 10089 | 129377 |
| 33% | 45% | 0.1% | 3% | 11% | 8% | 100% |
| Lincolnshire East | 72618 | 150812 | 600 | 6239 | 25674 | 22390 | 278333 |
| 26% | 54% | 0.2% | 2% | 9% | 8% | 100% |
| East Riding of Yorkshire | 28024 | 61840 | 194 | 2582 | 11875 | 10903 | 115418 |
| 24% | 54% | 0.2% | 2% | 10% | 9% | 100% |
| Lincolnshire West | 18435 | 40509 | 110 | 1657 | 7202 | 5840 | 73753 |
| 25% | 55% | 0.1% | 2% | 10% | 8% | 100% |

Source:

#### Table 23 – Disability distribution of CCG populations 2011

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CCG | No disability | Day to day activities limited a lot | Day to day activities limited a little | Population |
| North Lincolnshire | 270214 | 29029 | 34936 | 334179 |
| 81% | 9% | 10% | 100% |
| North East Lincolnshire | 128496 | 14786 | 16334 | 159616 |
| 81% | 9% | 10% | 100% |
| Lincolnshire East | 135167 | 15333 | 16946 | 167446 |
| 81% | 9% | 10% | 100% |
| East Lindsey | 100999 | 17475 | 17927 | 136401 |
| 74% | 13% | 13% | 100% |
| West Lindsey | 71466 | 7944 | 9840 | 89250 |
| 80% | 9% | 11% | 100% |

Source: Office for National Statistics (ONS) mid-2011 Census based population estimates for Clinical Commissioning Groups.

#### Table 24 – National equality considerations for hyper-acute stroke services

|  |  |
| --- | --- |
| Protected characteristic | Relevant considerations |
| Age | Five out of every 100,000 children each year have a stroke.  Approximately 25% of strokes occur in people aged under 65 years, however stroke is more common in men compared with women by the age of 75.  The incidence of stroke increases rapidly with age. |
| Disability | Approximately 11% of stroke patients are newly admitted to a care home after their stroke. At least a quarter of people in residential nursing care have a stroke.  Stroke has a greater disability impact than other chronic diseases, and is the largest cause of complex disability in adults.  Of those who have a stroke:  42% will be independent  22 will have a mild disability  14% will have a moderate disability  10% will have a severe disability  12% will have a very severe disability |
| Gender reassignment | No recorded direct correlation between gender reassignment and stroke incidences has been identified. |
| Marriage and civil partnership | No recorded direct correlation between marriage/civil partnership and stroke incidences has been identified. |
| Pregnancy and maternity | No recorded direct correlation between pregnancy/maternity and stroke incidences has been identified. |
| Race | People of African or Caribbean ethnicity are at higher risk of having a stroke. Incidence rates adjusted for age and sex are twice as high in black people as for white people. |
| Religion and belief | There is no recorded direct correlation between religion / belief and stroke incidences. |
| Sex | Incidences of stroke per 100,000 in England 178 (men) and 139 (women).  Stroke incidence is approximately 25% higher in men than women, however stroke causes about 7% of deaths in men and 10% of deaths in women. |
| Sexual orientation | No recorded direct correlation between sexual orientation and stroke incidences has been identified. |
| Deprivation | People who are economically disadvantaged have a higher rate of stroke as well as heart disease and other related diseases. Premature death rates from stroke are around three times higher in the most deprived areas of the UK than in the least deprived.  Lifestyle factors such as smoking, diet, exercise, alcohol intake and obesity are all evidenced contributors to the likelihood of stroke incidence. There are recorded correlations between many of these factors and deprivation levels. |

Source: Stroke Association 2013

A high level assessment has been made of the options for each service change, and the impact on the protected groups and is included as part of the options review.

## 9.2 Public feedback on equality issues

As part of the second engagement phase a range of questions were asked about equality issues. Most of the feedback in this section related to accessibility, particularly for vulnerable people and those living in rural locations. Comments were also received about reaching vulnerable people and supporting those with disabilities, families and those on a low income. Older people and those with mental health problems were highlighted, particularly dementia. Commissioners need to proactively meet the needs of vulnerable people especially if services are moved further away and no additional support is in place.

The public want services that are person-centred rather than designed around the needs of the organisations:

*“If services are right for disadvantaged groups they are probably right for everyone else”*

*“Give due regard to the quiet-voiced majority”*

*“Make sure that important information is clear in other languages”*

*“Vulnerable and elderly people are often reluctant to ask for help. They need to keep their independence but need varying degrees of help”*

The full Equality Impact Assessment analysis can be found as Appendix 8.

# 10. Option 1 - Decentralise the service

## 10.1 Assumptions

This option makes the following assumptions:

* The SGH hyper-acute stroke service will continue to offer a Level 2, 3 and 4 stroke service
* This service would be duplicated on the DPOW site
* There would be no outflows of patients to other sites
* Tertiary links would remain for the level 1 service to HEY
* Patient flows to and from the level 4 Goole site for repatriation and rehabilitation would remain unchanged

## 10.2 Risks / issues

The risks and issues associated with this option are outlined below:

#### Table 25 – Risks and issues of option 1 (decentralising the hyper-acute stroke service)

| Category | Risk / Issue | RAG | Mitigation |
| --- | --- | --- | --- |
| Quality & safety | Part of the rationale for centralising the service is the shortfall of nursing staff to provide the service. This was due to ongoing challenges in recruitment and retention. If the service were duplicated the trust may not be able to recruit adequate numbers of qualified nursing staff to run a safe service. There would also need to be an increase in therapy staff, medical staff, diagnostics staff and diagnostics equipment. One of the reasons for choosing SGH to centralise onto was the fact that there are 2 CT scanners there (virtually every query stroke patient has a CT scan so very high usage of this). There is only 1 at DPOW so business continuity becomes difficult if this one fails/breaks down. There would need to be 2 on call Consultant rotas and 2 teams of stroke responder nurses.  Inadequate staffing was one of the issues highlighted in the review of the service which recommended a centralised model. | Red | The existing hyper-acute stroke team could be split to cover both units to share their experience, however this could dilute the skillset and reduce quality.  An increase in bank / agency staff may need to be considered to cover shortfalls in the short term, however it should be noted that this is likely to impact adversely on quality of care, and would prove expensive. |
| Quality & safety | Provision of hyper-acute care at both hospital sites would be contrary to the National Stroke Strategy, and national direction of travel. Recommendations in the national strategy are for quality and safety purposes, and failure to follow them could reduce the quality of service provided.  This could also adversely impact on peer review and accreditation processes. | Red | None identified. |
| Quality & safety | There needs to be a critical mass of patients receiving thrombolysis treatment to ensure that staff have enough exposure to thrombolyse patients regularly. Two services within Northern Lincolnshire would split the number of patients going through the service and may not give sufficient volumes for this to be delivered safely. | Red | Reduce the number of people that deliver thrombolysis treatment so they each treat more patients. However this would reduce the flexibility and skillset of the team and may make it more difficult to cover rotas 24/7. |
| Access | Since the service has been centralised temporarily, the infrastructure and pathways are established for the SGH site as the main hyper-acute centre for Northern Lincolnshire. Moving the service back onto two sites could cause disruption and confusion for partner organisations such as the Ambulance Trust, and Community Rehabilitation providers. | Green | Clearly outline the new pathways to include both sites. Ensure all partner organisations have access to the new model of care and give them adequate notice of change to enable them to implement and embed changes to rotas and protocols. |
| Affordability | Providing the service on two sites would require investment in staff, capital and infrastructure. NLaG report that establishing the service at the SGH cost in the region of £25k. It is estimated that the cost of duplicating the service would be greater as the previous centralisation benefited from elements of pooled resources which would not be available if both sites require a full service.  Currently commissioners and providers are required to deliver significant cost savings, and this investment may prove to be prohibitive. | Red | None identified. |
| Deliverability | There are a range of clinical interdependencies with the provision of a full Level 2 hyper-acute stroke service (A&E flows, 24/7 access to imaging for CT and MRI). These services may not have adequate capacity to accommodate the service on both sites. | Amber | Review capacity of these services and make adjustments to rotas and staffing levels to ensure a 24/7 service can be maintained. Ensure pathways and processes are clearly documented and followed. |

## 10.3 Benefits

Benefits of this option are shown below:

#### Table 26 – Benefits of option 1 (decentralising the hyper-acute stroke service)

| Category | Benefit |
| --- | --- |
| Access | Providing the service on both sites would offer quicker access for patients, and if the service is delivered safely it may enable quicker treatment, which could impact positively on mortality and/or recovery rates. |
| Access | The impact on people from low incomes and deprived areas is assumed to be minimal with this option as it would not involve changes to their current healthcare provision. |
| Affordability | There would be no expected outflows of patients to other sites, so the viability of the local service and the local acute hospital trusts would be maintained. |
| Deliverability | Offering a service at both sites could be considered a more acceptable solution from a local political and public perspective as they wouldn’t need to travel as much. |
| Deliverability | Staff would not have to move to another site – they could continue to work at their local hospital site. |

## 10.4 Equality Impact Assessment

The impact on people with protected characteristics can be seen below:

#### Table 27 – Assessment of the impact on people with protected characteristics

|  |  |  |
| --- | --- | --- |
| Protected characteristic | Impact | Nature of impact |
| Age | Negative | The population size of adults aged 40 years and over is expected to increase in all areas over the next 6 years. Returning the service back to its delivery prior to summer 2013 would have a potentially negative impact across Northern Lincolnshire as the quality issues would not be improved. |
| Disability | Negative | Percentage of residents with Long Term Conditions who smoke is 18.5% for North Lincolnshire and 21.7% for North East Lincolnshire. Returning the service back to its prior state would have a potentially negative impact on this cohort of patients across both North and North East Lincolnshire. |
| Gender reassignment | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Marriage and civil partnership | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Pregnancy and maternity | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Race | Neutral | Potential negative impact for service users for whom English is not their first language and may have issues understanding and retaining information about their condition and its future management. |
| Religion and belief | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients |
| Sex | Negative | National Stroke Association noted that statistics showed that males have a higher risk of having a stroke. Therefore returning the service back to its delivery prior to summer 2013 would have a potentially negative impact across Northern Lincolnshire. |
| Sexual orientation | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients |
| Deprivation | Negative | It should be noted that deprivation cuts across Northern Lincolnshire. The low number of people with access to private transport is well documented, especially in the context of accessing services. This is exacerbated by the rural nature of the area and poor public transport. In North East Lincolnshire 38.2% of the population of residents is in the most deprived quintile and in North Lincolnshire the figure is 19.6%. Having the service on both sites would improve access for this cohort, however the quality issues would not be addressed and therefore they would be negatively impacted from an outcomes perspective. |
| Human rights | Negative | If the service were to be decentralised back to multiple sites without being able to offer 24/7 access to hyper-acute stroke care, including thrombolysis, this may present challenges in relation to access to life-saving treatment |

## 10.5 Evaluation criteria assessment

The programme board undertook an evaluation criteria scoring exercise, taking into consideration the above benefits and risks and the views of the local clinical community. A summary of the scoring is included below:

#### Table 28 – Evaluation scoring for option 1 (decentralising the hyper-acute stroke service)

|  |  |  |
| --- | --- | --- |
| Criteria | Score | Rationale |
| Quality | 52 | Returning the service to operate on both sites goes against national recommendations for more centralised specialist services for hyper-acute care. Also it was deemed that this would not address the serious quality issues that had been raised by the Keogh team and the local service reviews, which would result in a poor peer review, and have a detrimental impact on mortality and morbidity for local stroke patients. |
| Access | 60 | This option scored highly from an access perspective as it would be easiest for patients to access the service if it was on both sites. |
| Affordability | 14 | This option scored lowest on the affordability metrics due to the cost of providing a duplicate service on each site. This would have significant capital implications in order to provide a safe and high quality service. |
| Deliverability | 24 | Concerns were raised about the ability to recruit and retain staff for both sites, and the impact this would have on other services within each site such as A&E and diagnostics. |
| Total | 150 | This option scored lowest in the evaluation scoring exercise |

# 11. Option 2 – Centralise hyper-acute stroke services on the SGH site

## 11.1 Assumptions

This option makes the following assumptions:

* The SGH hyper-acute stroke service would continue to offer a Level 2,3 and 4 service
* The DPOW site would continue to offer Level 3 and 4 service
* There would be minimal outflows to other trusts
* Tertiary links would remain for the Level 1 service to HEY.
* Patient flows to and from the Level 4 Goole site for repatriation and rehabilitation would remain unchanged.

## 11.2 Risks / issues

The risks and issues associated with this option are outlined below:

#### Table 29 – Risks and issues of option 2 (centralising the hyper-acute stroke service at SGH)

| Category | Risk / Issue | RAG | Mitigation |
| --- | --- | --- | --- |
| Quality & safety | Public may find a centralised service less acceptable. They have raised concerns over transportation and access if services are moved.  However it should be noted that this only applies to (up to) the first 72 hours of care, and after that time patients would be repatriated to their local site for rehabilitation and ongoing treatment. | Amber | The case for change should be clearly communicated, and the feedback from the large number of patients and public who said they would be happy to travel further for higher quality care. |
| Access | If the service were centralised permanently on the SGH site this would incur additional travel time (on top of the existing travel time) as follows:   * +8 minutes for blue light * +13 minutes for by car * +15 minutes for public transport | Green | Given that most patients arrive by ambulance (blue light) transportation this impact is expected to be minimal.  The impact on visitors, families and carers is anticipated to be marginal, given that patients will be repatriated back to their local site after a maximum of 72 hours. |
| Access | The Grimsby area has higher numbers of deprived people and people on low incomes, therefore this option could be considered to disadvantage more vulnerable people than siting it at DPOW. However this is only for the first 72 hours of treatment, not the whole stroke pathway. | Amber | Support with travel costs is available for certain people that meet the criteria for subsidy or refund. Commissioners could consider extending this to relatives and visitors for the hyper-acute stroke service. |
| Deliverability | Additional resource may be required in support services (staff, equipment and space), in services such as diagnostics and A&E. | Green | This is currently being filled with locum/temporary solutions, so these could be formalised/made substantive. |

## 11.3 Benefits

Benefits of this option are shown below:

#### Table 30 – Benefits of option 2 (centralising the hyper-acute stroke service at SGH)

| Category | Benefit |
| --- | --- |
| Quality & safety | Centralisation of the service onto the SGH site has delivered improvements to the quality and safety of the service. Hyper-acute stroke care including thrombolysis is now available 24/7 and the target for patients diagnosed with stroke and treated on a stroke ward are currently being exceeded. |
| Quality & safety | A more specialist site configuration fits with the national direction of travel for hyper-acute stroke services which has been designed to improve quality and outcomes. This should contribute to a much improved peer review outcome (which will take place in June 2014). |
| Quality & safety | Combining the service onto one site has given the critical mass to provide safe and effective 24/7 hyper-acute stroke care including thrombolysis. |
| Access | The BCG patient flows analysis projected that there would be little or no change to the patient outflows if the service were centralised on the SGH site. No significant change to patient flows has been seen since the service was temporarily located at SGH, so it is assumed that this would continue if the service were permanently located there. |
| Affordability | This option would offer the least cost for implementation, as the infrastructure and staffing is largely in place. |
| Deliverability | The infrastructure and staffing are already in place for this option, and working well. This would cause less disruption to the service. |

## 11.4 Equality Impact Assessment

The impact on people with protected characteristics can be seen below:

#### Table 31 – Assessment of the impact on people with protected characteristics

|  |  |  |
| --- | --- | --- |
| Protected characteristic | Impact | Nature of impact |
| Age | Negative | Anyone can have a stroke no matter what age however National Stroke Association states that over age 55, strokes are more prevalent. North East Lincolnshire has approximate population of 30569 between the age of 50-64. There would therefore be a potential risk to residents of North East Lincolnshire if the service was centralised at Scunthorpe General Hospital, however this should be considered in the light of the improved quality of care with a 24/7 service. |
| Disability | Negative | Northern Lincolnshire reports the highest level of Long term conditions sufferers who smoke. The National Stroke Association state that the risk for stroke doubles when you smoke. North East Lincolnshire has a percentage of 27.3% of adults aged 18 and over smoking. Therefore there could be a slight increase in risk for North East Lincolnshire patients if the service were based in SGH, however this should be considered in the light of the improved quality of care with a 24/7 service. |
| Gender reassignment | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Marriage and civil partnership | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Pregnancy and maternity | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Race | Neutral | Potential negative impact for service users for whom English is not their first language and may have issues understanding and retaining information about their condition and its future management. |
| Religion and belief | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Sex | Negative | National Stroke Association noted that statistics showed that males have a higher risk of having a stroke. Therefore there could be a slight increase in risk for North East Lincolnshire patients if the service were based in SGH, however this should be considered in the light of the improved quality of care with a 24/7 service. |
| Sexual orientation | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients |
| Deprivation | Negative | It should be noted that deprivation cuts across Northern Lincolnshire. The low number of people with access to private transport is well documented, especially in the context of accessing services. This is exacerbated by the rural nature of the area and poor public transport. In North East Lincolnshire 38.2% of the population of residents is in the most deprived quintile and in North Lincolnshire the figure is 19.6%. Having the service on the SGH site could be seen to disadvantage more deprived people. |
| Human rights | Positive | This option offers 24/7 care and would therefore be a positive impact in relation to Human rights and access to life-saving treatment as Thrombolysis would be available regardless of time of day or week. |

## 11.5 Evaluation criteria assessment

The programme board undertook an evaluation criteria scoring exercise, taking into consideration the above benefits and risks and the views of the local clinical community. A summary of the scoring is included below:

#### Table 32 – Evaluation scoring for option 2 (centralising the hyper-acute stroke service at SGH)

|  |  |  |
| --- | --- | --- |
| Criteria | Score | Rationale |
| Quality | 164 | It is demonstrated through the temporary location of the service on the SGH site that the quality of care is improved by centralisation onto one site, and the introduction of a 24/7 hyper-acute stroke service. This option scored highest from a quality perspective due to the fact that the service is established with a fully trained staff, and the required infrastructure is in place. |
| Access | 41 | This option was deemed to present access issues for some patients within the NEL area, but these were minimal due to the fact that patients are repatriated to their local site after the first 72 hours of care in the hyper-acute stroke unit. |
| Affordability | 46 | This scored highest in the affordability criteria as SGH has access to the required capital space and equipment (e.g. 2nd back-up CT scanner, appropriate clinical space near the A&E department). There would be no associated transition costs with this option. |
| Deliverability | 80 | This scored highly in deliverability criteria as the staffing teams would not be disrupted and no additional training programmes would be required for staff. |
| Total | 331 | This option scored highest in the evaluation scoring exercise. |

# 12. Option 3 - Centralise hyper-acute stroke service on the DPOW site

## 12.1 Assumptions

This option makes the following assumptions:

* The Level 2,3 and 4 service would be moved from SGH to DPOW
* The SGH site would become a Level 3 and 4 service
* Some patient outflows are assumed
* Tertiary links would remain for the Level 1 service to HEY.
* Patient flows to and from the Level 4 Goole site for repatriation and rehabilitation would remain unchanged.

## 12.2 Risks / issues

The risks and issues associated with this option are outlined below:

#### Table 33 – Risks and issues of option 3 (centralising the hyper-acute stroke service at DPOW)

| Category | Risk / Issue | RAG | Mitigation |
| --- | --- | --- | --- |
| Quality & safety | Public may find a centralised service less acceptable. They have raised concerns over transportation and access if services are moved.  However it should be noted that this only applies to the first 72 hours of care, and after that time patients would be repatriated to their local site for rehabilitation and ongoing treatment. | Amber | The case for change should be clearly communicated, and the feedback from the large number of patients and public who said they would be happy to travel further for higher quality care. |
| Quality & safety | Although both sites had vacancies before it was temporarily centralised on the SGH site the DPOW site had more difficulty in recruiting and retaining staff. Majority of the trained hyper-acute staff did not wish to move to work at SGH and have since left the organisation. This may mean that a similar issue would occur whereby staff do not wish to move from SGH to DPOW. | Amber | Some staff may be incentivised to move from SGH to DPOW, R&R premiums could be considered. |
| Quality & safety | There would need to be significant investment in training and development of staff at DPOW to support this service change. There is a risk that staff at SGH who have been skilled up to provide hyper-acute care would become disillusioned and leave the organisation. |  | Staff from the SGH site could be offered positions in the DPOW site.  SGH staff could support with training and coaching. |
| Access | If the service were centralised permanently on the DPOW site this would incur additional travel time (on top of the existing travel time) as follows:   * +4 minutes for blue light * +6 minutes for by car * +12 minutes for public transport | Amber | Given that most patients arrive by ambulance (blue light) transportation this impact is expected to be minimal. |
| Affordability | It is estimated that 66% of the costs incurred in locating the service at SGH could be transferred to DPOW if the site were changed. However the remainder would need to be identified. Currently commissioners and providers are required to deliver significant cost savings, and this investment may prove to be prohibitive. | Red | None identified. |
| Deliverability | The projections for a DPOW located service, based on assumptions from the A&E flows and urgent & acute flows, shows that there could be a flow of patients to other sites. This could impact on the viability of the service both financially and from a quality perspective. There may not be capacity at hospitals receiving the resulting influx to cope with the increased activity. | Red | Work with the other sites to support a phased roll-out of the service changes to give them time to build capacity. |
| Deliverability | DPOW does not currently have any higher dependency, clinically ready unused space, so this would need to be identified and commissioned for use. | Red | Site reconfiguration plans could be reviewed to determine whether services could move to accommodate the hyper-acute stroke unit. This could easily be identified within the stroke unit as they did provide hyper-acute care until recently. However, there may not be sufficient capacity or provision with DPOW A&E to manage the increase in activity. |
| Deliverability | The impact of DPOW A&E and DPOW diagnostics would be significant with staffing and other resource implications. | Red | These services would need to be geared up to support the extra activity going through. |

## 12.3 Benefits

Benefits of this option are shown below:

#### Table 34 – Benefits of option 3 (centralising the hyper-acute stroke service at DPOW)

| Category | Benefit |
| --- | --- |
| Quality & safety | Centralisation of the service onto the SGH site has proven that a centralised model will deliver improvements to the quality and safety of the service. Hyper-acute stroke care including thrombolysis is now available 24/7 and the majority of patients diagnosed with stroke are now treated on a stroke ward, and this should be possible to be replicated on any DPOW site if the capacity and capability challenges can be met. |
| Quality & safety | A more specialist site configuration fits with the national direction of travel for hyper-acute stroke services which has been designed to improve quality and outcomes. This should contribute to a much improved peer review process (which will take place in June 2014). |
| Access | The Grimsby area has higher numbers of deprived people and people on low incomes, therefore this option could be considered to offer less travel impact on those individuals. However support with travel costs is available for certain people that meet the criteria for subsidy or refund. |

## 12.4 Equality Impact Assessment

The impact on people with protected characteristics can be seen below:

#### Table 35 – Assessment of the impact on people with protected characteristics

|  |  |  |
| --- | --- | --- |
| Protected characteristic | Impact | Nature of impact |
| Age | Negative | Anyone can have a stroke no matter what age however National Stroke Association states that over age 55, strokes are more prevalent. North Lincolnshire has 34056 residents between the age of 50-64.There would therefore be a potential risk to residents of North Lincolnshire if the service was centralised at the DPOW site in Grimsby, slightly higher than the risk to North East Lincolnshire, because the overall population is higher. |
| Disability | Negative | Northern Lincolnshire reports the highest level of Long term conditions sufferers who smoke. The National Stroke Association states that the risk for stroke doubles when you smoke. North Lincolnshire has a percentage of 22.9% who are aged 18 and over as smokers, for whom the risk would be higher related to this option, however it is a smaller proportion of people at risk than option 2 for North East Lincolnshire. |
| Gender reassignment | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Marriage and civil partnership | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Pregnancy and maternity | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Race | Neutral | Potential negative impact for service users for whom English is not their first language and may have issues understanding and retaining information about their condition and its future management. |
| Religion and belief | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Sex | Negative | National Stroke Association noted that statistics showed that males have a higher risk of having a stroke. North Lincolnshire has an estimated male population of 17028 aged between 50-64. 151 North Lincolnshire residents undertook emergency admission for stroke. Therefore there would be a heightened risk for North Lincolnshire if the service was centralised at DPOW in Grimsby. Although the review was purely for North & North East Lincolnshire centralising the service at Grimsby would also have a negative impact on the residents of East Lindsey who at 3.7% had the highest estimated prevalence for stroke by local area (East of England Public Health observatory (2011) |
| Sexual orientation | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients |
| Deprivation | Negative | It should be noted that deprivation cuts across Northern Lincolnshire. The low number of people with access to private transport is well documented, especially in the context of accessing services. This is exacerbated by the rural nature of the area and poor public transport. In North East Lincolnshire 38.2% of the population of residents is in the most deprived quintile and in North Lincolnshire the figure is 19.6%. Having the service on the DPOW site could be seen to disadvantage slightly less deprived people. |
| Human rights | Positive | This option offers 24/7 care and would therefore be a positive impact in relation to Human rights and access to life-saving treatment as Thrombolysis would be available regardless of time of day or week. |

#### Table 36 – Evaluation scoring for option 3 (centralising the hyper-acute stroke service at DPOW)

|  |  |  |
| --- | --- | --- |
| Criteria | Score | Rationale |
| Quality | 146 | It is demonstrated through the temporary location of the service on the SGH site that the quality of care is improved by centralisation onto one site, and the introduction of a 24/7 hyper-acute stroke service. It was assumed that the same quality improvements could be achieved if the service were located at DPOW, however there would be issues with staffing the service in the short term, and given that the DPOW site had more problems generally with recruiting staff this scored lower than the SGH site. |
| Access | 41 | This option was deemed to present access issues for some patients within the NL area, but these were minimal due to the fact that patients are repatriated to their local site after the first 72 hours of care in the hyper-acute stroke unit. |
| Affordability | 14 | This option would require investment in capital equipment to provide a 2nd (back-up) CT scanner and to provide appropriate clinical space near the A&E department. |
| Deliverability | 32 | This option was deemed to be less attractive to staff, and harder to identify capacity within the DPOW site. |
| Total | 233 | This option scored second highest in the evaluation scoring exercise. |

# 13. Option 4 – Decommission the Northern Lincolnshire service

## 13.1 Assumptions

This option makes the following assumptions:

* No hyper-acute stroke service would be delivered in the Northern Lincolnshire area
* All stroke patients would go to another hospital site (e.g. HEY or Lincoln)
* This assumes that all suspected stroke patients would be taken to an A&E centre off patch (majority would be HEY) for up to the first 72 hours of their care
* Both SGH and DPOW would continue to offer Level 3 and 4 service
* Patient flows to and from the Level 4 Goole site from SGH for repatriation and rehabilitation would continue and it is likely that there would be an increase in repatriation directly to Goole if the level 2 site was geographically closer.

## 13.2 Risks / issues

The risks and issues associated with this option are outlined below:

#### Table 37 – Risks and issues of option 4 (decommission the Northern Lincolnshire service and send patients to HEY or another site for their hyper-acute care)

| Category | Risk / Issue | RAG | Mitigation |
| --- | --- | --- | --- |
| Quality & safety | This option takes the blue light transfer time to over 30 minutes in total which may be deemed a quality concern. Please see below for the additional transfer times. | Red | None identified. |
| Access | Public may find a centralised service less acceptable. They have raised concerns over transportation and access if services are moved. Particular concerns have been raised about access to services in Hull and the cost of the Humber Bridge.  However it should be noted that this only applies to up to the first 72 hours of care, and after that time patients would be repatriated to their local site for rehabilitation and ongoing treatment. | Amber | The case for change should be clearly communicated, and the feedback from the large number of patients and public who said they would be happy to travel further for higher quality care. |
| Access | If the service were centralised permanently on the DPOW site this would incur additional travel time (on top of the existing travel time) as follows:   * +13 minutes for blue light * +20 minutes for by car * +35 minutes for public transport | Amber | None identified. |
| Affordability | The tertiary centre would need to make significant investment in the infrastructure and equipment to take on the service. This includes investment in A&E, diagnostics (CT and MRI scanning and Carotid Doppler), hyper acute stroke unit beds and acute stroke unit beds. The additional activity seen through A&E would need to take account of the number of stroke mimics that would require non-stroke related assessment and treatment. This represents significant additional activity and impacts on non-stroke disciplines. Commissioners may be asked to contribute to this investment which may prove to be cost prohibitive. | Red | Some equipment could be sold or transferred to the receiving trust in support of the service.  Some investment could be linked to the re-provision of the Castle Hill site, however this could take time. |
| Deliverability | The receiving trust would need to identify additional staff to take on the service. Given that many staff did not wish to transfer between sites when the service was moved to SGH it is unlikely that many would wish to work in another centre. This may take time, and could involve recruiting new staff and training them up, however the opportunity to work at a specialist tertiary centre may be attractive for some staff. | Amber | Some staff may be incentivised to move from SGH to the receiving trust, but this would lose the expertise from the local trust. |

## 13.3 Benefits

Benefits of this option are shown below:

#### Table 38 – Benefits of option 4 (decommission the Northern Lincolnshire service)

| Category | Benefit |
| --- | --- |
| Quality & safety | A more specialist site configuration fits with the national direction of travel for hyper-acute stroke services which has been designed to improve quality and outcomes. |
| Quality & safety | Centralisation of the service onto the SGH site has proven that a centralised model will deliver improvements to the quality and safety of the service. Hyper-acute stroke care including thrombolysis is now available 24/7 and all patients diagnosed with stroke are now treated on a stroke ward, and this should be possible to be replicated on the any site if the capacity and capability challenges can be met. |
| Quality & safety | DPOW and SGH could focus wholly on delivering excellent Level 3 and 4 stroke units, which requires less specialist skill and expertise to deliver. |

## 13.4 Equality Impact Assessment

The impact on people with protected characteristics can be seen below:

#### Table 39 – Assessment of the impact on people with protected characteristics

|  |  |  |
| --- | --- | --- |
| Protected characteristic | Impact | Nature of impact |
| Age | Negative | With the Northern Lincolnshire population aged between 45-64 being 89398 and a region of high deprivation, decommissioning the Northern Lincolnshire service would have a negative impact to Northern Lincolnshire with regards accessing the service for patients and relatives. |
| Disability | Negative | With Northern Lincolnshire having 30119 (9.21%) of residents who have Day to day activities limited a lot; 33280 (10.18%) of residents with Day to day activities limited a little; and 263663 (80.62%) of residents having day to day activities not limited decommissioning the Northern Lincolnshire service would have a negative impact on residents trying to access the service either as a patient or relative, i.e. people with disabilities may struggle in terms of travelling further to access services. |
| Gender reassignment | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Marriage and civil partnership | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Pregnancy and maternity | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Race | Neutral | Potential negative impact for service users for whom English is not their first language and may have issues understanding and retaining information about their condition and its future management. |
| Religion and belief | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients. |
| Sex | Negative | With the Northern Lincolnshire population aged between 45-64 being 89398 and a region of high deprivation decommissioning the Northern Lincolnshire service would have a negative impact to Northern Lincolnshire with regards accessing the service for patients and relatives. However even though the review was purely for North & North East Lincolnshire if the service was to move to HEY it would have a positive impact for East Riding of Yorkshire who saw 578 of its population admitted as an emergency admission for stroke |
| Sexual orientation | Neutral | Potential negative impact for the population in general, however there is currently no data gathered to monitor the impact on this cohort of patients |
| Deprivation | Negative | It should be noted that deprivation cuts across Northern Lincolnshire. The low number of people with access to private transport is well documented, especially in the context of accessing services. This is exacerbated by the rural nature of the area and poor public transport. In North East Lincolnshire 38.2% of the population of residents is in the most deprived quintile and in North Lincolnshire the figure is 19.6%. Having no service on the Northern Lincolnshire footprint could be seen to disadvantage a highly deprived population. |
| Human rights | Positive | This option offers 24/7 care and would therefore be a positive impact in relation to Human rights and access to life-saving treatment as Thrombolysis would be available regardless of time of day or week. However this would have less benefit than a local service. |

#### Table 40 – Evaluation scoring for option 4 (decommissioning the local service)

|  |  |  |
| --- | --- | --- |
| Criteria | Score | Rationale |
| Quality | 101 | It is demonstrated through the temporary location of the service on the SGH site that the quality of care is improved by centralisation onto one site, and the introduction of a 24/7 hyper-acute stroke service. It was assumed that the same quality improvements could be achieved if the service were off patch, however it was assumed that the patient experience would score lower by the nature of the longer journey and more difficult access for relatives and visitors. |
| Access | 19 | This option would require a longer journey time for patient which could impact on quality of care, and would be less acceptable to the public. |
| Affordability | 11 | This would incur costs at the receiving trust (e.g. HEY), and would reduce income for NLaG. |
| Deliverability | 32 | This option would be less attractive for staff within Northern Lincolnshire, and the tertiary centre may not have capacity to deliver the service. |
| Total | 163 | This option scored third highest in the evaluation scoring exercise. |

# 14. Conclusion and recommendation

This options appraisal sets out the options, risks and benefits for the hyper-acute stroke service within Northern Lincolnshire. The programme board have reviewed this work, and undertaken an evaluation criteria scoring exercise to form a preferred option for the future of the service.

The summary scores can be seen below:

#### Table 41 – Summary evaluation scoring

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Option 1 | Option 2 | Option 3 | Option 4 |
| Quality | 52 | 164 | 146 | 101 |
| Access | 60 | 41 | 41 | 19 |
| Affordability | 14 | 46 | 14 | 11 |
| Deliverability | 24 | 80 | 32 | 32 |
| Total | 150 | 331 | 233 | 163 |

Through consideration of these scores, and careful review of the benefits and risks associated with service delivery the programme board recommend that Option 2 (continue to deliver the service on the SGH site) should be considered by the Council of Members and Governing Bodies as the preferred option.

The Council of Members and Governing Bodies are asked to review and endorse the proposal that option 2 be taken for Clinical Senate review and full public consultation.

# 14. Appendix Log

## Appendix 1 - NLaG Hyper-Acute Stroke Business Case - Jul 2013

## Appendix 2 - Health Needs Assessment: Hyper-Acute Stroke & ENT – Apr 2014

## Appendix 3 - HLHF Pre-Summit Engagement Report Jul 2013

## Appendix 4 - Healthy Lives, Healthy Futures Case for Change – Jul 2013

## Appendix 5 – Promoting the case for change: engagement feedback report Oct 2013

## Appendix 6 – Moving the conversation on: engagement feedback report Apr 2014

## Appendix 7 – Transport analysis: Hyper-Acute Stroke & ENT – Apr 2014

## Appendix 8 – Equality Impact Assessment analysis: Hyper-Acute Stroke - Apr 2014

## Appendix 9 – Evaluation Criteria Rationale: Hyper-Acute Stroke – May 2014

## Appendix 10 – Evaluation Assessment Process – May 2014