

# Sentinel Stroke National Audit Programme (SSNAP)

## Acute Organisational Audit 2021

### Appendices

*Reporting the organisation of stroke services in England, Wales and Northern Ireland on 1 October 2021*

June 2022

#### Prepared by

King's College London, Sentinel Stroke National Audit Programme on behalf of the Intercollegiate Stroke Working Party

|                         |   |
|-------------------------|---|
| <b>Title</b>            | SSNAP 2021 Acute Organisational Audit report<br>Appendices  |
| <b>Document purpose</b> | This document contains the appendices for the SSNAP 2021 Acute Organisational Audit Report  |
| <b>Appendices</b>       |   |
| <b>Appendix 1</b>       | List of participating hospitals and trusts by region<br>Full list of providers that participated in the acute organisational audit 2021 broken down by ISDN or region |
| <b>Appendix 2</b>       | Acute organisational audit proforma 2021<br>Paper version of questionnaire completed by providers for the acute organisational audit 2021                             |
| <b>Appendix 3</b>       | Full introduction and methodology<br>Full audit methodology for the acute organisational audit 2021   |
| <b>Appendix 4</b>       | Intercollegiate Stroke Working Party membership<br>Full list of members of the Intercollegiate Stroke Working Party (ICSWP) and the organisations they represent      |
| <b>Appendix 5</b>       | Summary of denominators used in the report<br>Information on the main denominators used throughout the acute organisational audit 2021 report                         |
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## Appendix 1: List of Participating Hospitals and Trusts by Region

| Region   | Site Name   | Hospital(s)   |
|--|---|---|
| <i>Buckinghamshire, Oxford and Berkshire</i>                   | Buckinghamshire Healthcare NHS Trust  | Wycombe General Hospital  |
|  | Oxford University Hospitals NHS Foundation Trust (John Radcliffe Hospital)                        | John Radcliffe Hospital   |
|  | Royal Berkshire NHS Foundation Trust  | Royal Berkshire Hospital  |
| <i>Cheshire and Mersey</i>                                     | Countess of Chester Hospital NHS Foundation Trust   | Countess of Chester Hospital  |
|  | Liverpool University Hospitals NHS Foundation Trust (Royal Liverpool University Hospital)         | Royal Liverpool University Hospital                                       |
|  | Liverpool University Hospitals NHS Foundation Trust (University Hospital Aintree)                 | University Hospital Aintree   |
|  | Southport and Ormskirk Hospital NHS Trust   | Southport and Formby District General Hospital                            |
|  | St Helens and Knowsley Teaching Hospitals NHS Trust   | Whiston Hospital  |
|  | Walton Centre NHS Foundation Trust  | Walton Centre Stroke Team   |
|  | Warrington and Halton Hospitals NHS Foundation Trust  | Warrington Hospital   |
|  | Wirral University Teaching Hospital NHS Foundation Trust  | Wirral Arrowe Park Hospital<br>Wirral Clatterbridge Rehabilitation Centre |
| <i>East Midlands</i>   | Chesterfield Royal Hospital NHS Foundation Trust  | Chesterfield Royal  |
|  | Northampton General Hospital NHS Trust  | Northampton General Hospital  |
|  | Nottingham University Hospitals NHS Trust (Queens Medical Centre, Nottingham)                     | Queen's Medical Centre - Nottingham<br>Nottingham City Hospital           |
|  | Sherwood Forest Hospitals NHS Foundation Trust  | Kings Mill Hospital   |
|  | United Lincolnshire Hospitals NHS Trust (Lincoln County Hospital)                                 | Lincoln County Hospital   |
|  | United Lincolnshire Hospitals NHS Trust (Pilgrim Hospital)  | Pilgrim Hospital  |
|  | University Hospitals of Derby and Burton NHS Foundation Trust (Queens Hospital Burton upon Trent) | Queens Hospital Burton upon Trent   |
|  | University Hospitals of Derby and Burton NHS Foundation Trust (Royal Derby Hospital)              | Royal Derby Hospital  |
| <i>East of England (North)</i>                                 | University Hospitals of Leicester NHS Trust   | Leicester Royal Infirmary   |
|  | Cambridge University Hospitals NHS Foundation Trust   | Addenbrooke's Hospital  |
|  | East Suffolk and North Essex NHS Foundation Trust (Colchester General Hospital)                   | Colchester General Hospital   |
|  | East Suffolk and North Essex NHS Foundation Trust (Ipswich Hospital)                              | Ipswich Hospital  |
|  | James Paget University Hospitals NHS Foundation Trust   | James Paget Hospital  |
|  | Norfolk and Norwich University Hospitals NHS Foundation Trust                                     | Norfolk and Norwich University Hospital                                   |
|  | North West Anglia NHS Foundation Trust  | Peterborough City Hospital<br>Hinchingbrooke Hospital                     |
|  | Queen Elizabeth Hospital King's Lynn NHS Foundation Trust   | Queen Elizabeth Hospital Kings Lynn                                       |
| <i>East of England (South)</i>                                 | West Suffolk Hospital NHS Foundation Trust  | West Suffolk Hospital   |
|  | Bedfordshire Hospitals NHS Foundation Trust (Bedford Hospital)                                    | Bedford Hospital  |
|  | Bedfordshire Hospitals NHS Foundation Trust (Luton and Dunstable Hospital)                        | Luton and Dunstable Hospital  |
|  | East and North Hertfordshire NHS Trust  | Lister Hospital   |
|  | Mid and South Essex NHS Foundation Trust (Basildon University Hospital)                           | Basildon University Hospital  |
| Mid and South Essex NHS Foundation Trust (Broomfield Hospital) | Broomfield Hospital   |   |

| <b>Region</b>                                | <b>Site Name</b>   | <b>Hospital(s)</b>   |
|--|--|--|
| <i>East of England<br/>(South)</i>           | Mid and South Essex NHS Foundation Trust (Southend Hospital)                               | Southend Hospital  |
|  | Milton Keynes University Hospital NHS Foundation Trust                                     | Milton Keynes General Hospital   |
|  | West Hertfordshire Hospitals NHS Trust   | Watford General Hospital   |
| <i>Frimley ICS and<br/>Surrey Heartlands</i> | Ashford and St Peter's Hospitals NHS Foundation Trust                                      | St Peter's Hospital  |
|  | Epsom and St Helier University Hospitals NHS Trust (Epsom Hospital)                        | Epsom Hospital   |
|  | Frimley Health NHS Foundation Trust (Frimley Park Hospital)                                | Frimley Park Hospital  |
|  | Royal Surrey County Hospital NHS Foundation Trust  | Royal Surrey County Hospital   |
|  | Surrey and Sussex Healthcare NHS Trust   | East Surrey Hospital   |
| <i>Greater<br/>Manchester</i>                | Bolton NHS Foundation Trust  | Royal Bolton Hospital  |
|  | Manchester University NHS Foundation Trust (Manchester Royal Infirmary)                    | Manchester Royal Infirmary   |
|  | Manchester University NHS Foundation Trust (Trafford General Hospital)                     | Trafford General Hospital  |
|  | Northern Care Alliance NHS Foundation Trust (Salford Royal Hospital)                       | Salford Royal Hospital   |
|  | Northern Care Alliance NHS Foundation Trust (Fairfield General Hospital)                   | Fairfield General Hospital   |
|  | Stockport NHS Foundation Trust   | Stepping Hill Hospital   |
|  | Tameside and Glossop Integrated Care NHS Foundation Trust                                  | Tameside General Hospital  |
|  | Wrightington, Wigan and Leigh NHS Foundation Trust   | Royal Albert Edward Infirmary  |
| <i>Humber Coast<br/>and Vale</i>             | Hull University Teaching Hospitals NHS Trust   | Hull Royal Infirmary   |
|  | Northern Lincolnshire and Goole Hospitals NHS Foundation Trust                             | Scunthorpe General Hospital<br>Diana Princess of Wales Hospital Grimsby                                  |
|  | York and Scarborough Teaching Hospitals NHS Foundation Trust (York Hospital)               | York Hospital<br>White Cross Court Stroke Rehabilitation Unit<br>Johnson Ward Stroke Rehabilitation Unit |
| <i>Islands</i>                               | Manx Care  | Noble's Hospital   |
| <i>Kent and Medway</i>                       | Dartford and Gravesham NHS Trust   | Darent Valley Hospital   |
|  | East Kent Hospitals University NHS Foundation Trust (Kent and Canterbury Hospital)         | Kent and Canterbury Hospital   |
|  | Maidstone and Tunbridge Wells NHS Trust (Maidstone Hospital)                               | Maidstone District General Hospital  |
| <i>Lancashire and<br/>South Cumbria</i>      | Blackpool Teaching Hospitals NHS Foundation Trust  | Blackpool Victoria Hospital  |
|  | East Lancashire Hospitals NHS Trust  | Royal Blackburn Hospital   |
|  | Lancashire Teaching Hospitals NHS Foundation Trust   | Royal Preston Hospital   |
|  | University Hospitals of Morecambe Bay NHS Foundation Trust (Furness General Hospital)      | Furness General Hospital   |
|  | University Hospitals of Morecambe Bay NHS Foundation Trust (Royal Lancaster Infirmary)     | Royal Lancaster Infirmary  |
| <i>London</i>                                | Barking, Havering and Redbridge University Hospitals NHS Trust                             | Queens Hospital Romford  |
|  | Barts Health NHS Trust (Newham University Hospital)  | Newham General Hospital  |
|  | Barts Health NHS Trust (Royal London Hospital)   | Royal London Hospital  |
|  | Barts Health NHS Trust (Whipps Cross University Hospital)                                  | Whipps Cross University Hospital   |
|  | Chelsea and Westminster Hospital NHS Foundation Trust (Chelsea and Westminster Hospital)   | Chelsea and Westminster Hospital   |
|  | Chelsea and Westminster Hospital NHS Foundation Trust (West Middlesex University Hospital) | West Middlesex University Hospital   |
|  | Croydon Health Services NHS Trust  | Croydon University Hospital  |
|  | Epsom and St Helier University Hospitals NHS Trust (St Helier Hospital)                    | St Helier Hospital   |

| <b>Region</b>  | <b>Site Name</b>  | <b>Hospital(s)</b>  |
|--|---|---|
| <i>London</i>  | Guy's and St Thomas' Hospital NHS Foundation Trust                                | St Thomas Hospital  |
|  | Hillingdon Hospitals NHS Foundation Trust   | Hillingdon Hospital   |
|  | Homerton University Hospital NHS Foundation Trust                                 | Homerton University Hospital  |
|  | Imperial College Healthcare NHS Trust   | Charing Cross Hospital  |
|  | King's College Hospital NHS Foundation Trust (King's College Hospital)            | King's College Hospital   |
|  | King's College Hospital NHS Foundation Trust (Princess Royal University Hospital) | Princess Royal University Hospital  |
|  | Kingston Hospital NHS Foundation Trust  | Kingston Hospital   |
|  | Lewisham and Greenwich NHS Trust  | University Hospital Lewisham  |
|  | London North West University Healthcare NHS Trust (Northwick Park Hospital)       | Northwick Park Hospital   |
|  | North Middlesex University Hospital NHS Trust                                     | North Middlesex Hospital  |
|  | Royal Free London NHS Foundation Trust (Barnet General Hospital)                  | Barnet General Hospital   |
|  | Royal Free London NHS Foundation Trust (Royal Free Hospital)                      | Royal Free Hospital   |
|  | St George's Healthcare NHS Foundation Trust                                       | St George's Hospital  |
|  | University College London Hospitals NHS Foundation Trust                          | University College Hospital   |
| <i>North East and North Cumbria</i>                                      | County Durham and Darlington NHS Foundation Trust                                 | University Hospital of North Durham   |
|  | Gateshead Health NHS Foundation Trust   | Queen Elizabeth Hospital Gateshead  |
|  | Newcastle upon Tyne Hospitals NHS Foundation Trust                                | Royal Victoria Infirmary  |
|  | North Cumbria Integrated Care NHS Foundation Trust                                | Cumberland Infirmary  |
|  |   | West Cumberland Hospital  |
|  | North Tees and Hartlepool NHS Foundation Trust                                    | University Hospitals of North Tees and Hartlepool                                       |
|  | Northumbria Healthcare NHS Foundation Trust                                       | Northumbria Specialist Emergency Care Hospital  |
|  |   | Hexham General Hospital<br>North Tyneside General Hospital<br>Wansbeck General Hospital |
| South Tees Hospitals NHS Foundation Trust                                | James Cook University Hospital  |   |
| South Tyneside and Sunderland NHS Foundation Trust (Sunderland Hospital) | Sunderland Royal Hospital   |   |
| <i>North Midlands</i>  | Dudley Group NHS Foundation Trust   | Russells Hall Hospital  |
|  | Mid Cheshire Hospitals NHS Foundation Trust                                       | Leighton Hospital   |
|  | Shrewsbury and Telford Hospital NHS Trust   | Princess Royal Hospital Telford   |
|  | The Royal Wolverhampton Hospitals NHS Trust                                       | New Cross Hospital  |
|  | University Hospitals of North Midlands NHS Trust                                  | Royal Stoke University Hospital   |
| <i>Northern Ireland</i>  | Belfast Health and Social Care Trust (Royal Victoria Hospital Belfast)            | Royal Victoria Hospital Belfast   |
|  | Northern Health and Social Care Trust (Antrim Area Hospital)                      | Antrim Area Hospital  |
|  | Northern Health and Social Care Trust (Causeway Hospital)                         | Causeway Hospital   |
|  | South Eastern Health and Social Care Trust (Ulster Hospitals)                     | Ulster Hospital   |
|  | Southern Health and Social Care Trust (Craigavon Area)                            | Craigavon Area Hospital   |
|  | Southern Health and Social Care Trust (Daisy Hill Hospital)                       | Daisy Hill Hospital   |
|  | Western Health and Social Care Trust (Altnagelvin Hospitals)                      | Altnagelvin Hospital  |
|  | Western Health and Social Care Trust (South West Acute Hospital)                  | South West Acute Hospital   |

| <b>Region</b>                        | <b>Site Name</b>   | <b>Hospital(s)</b>   |
|--------------------------------------|--|--|
| <i>South Yorkshire and Bassetlaw</i> | Barnsley Hospital NHS Foundation Trust   | Barnsley Hospital  |
|                                      | Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust  | Doncaster Royal Infirmary  |
|                                      | Rotherham NHS Foundation Trust   | Rotherham Hospital   |
|                                      | Sheffield Teaching Hospitals NHS Foundation Trust  | Royal Hallamshire Hospital   |
| <i>Sussex</i>                        | East Sussex Healthcare NHS Trust (Eastbourne District General Hospital)  | Eastbourne District General Hospital   |
|                                      | University Hospitals Sussex NHS Foundation Trust (Royal Sussex County Hospital)  | Royal Sussex County Hospital   |
|                                      | University Hospitals Sussex NHS Foundation Trust (St Richard's Hospital)   | St Richards Hospital   |
|                                      | University Hospitals Sussex NHS Foundation Trust (Worthing Hospital)   | Worthing Hospital  |
| <i>SW Peninsula</i>                  | Northern Devon Healthcare NHS Trust  | North Devon District Hospital  |
|                                      | Royal Cornwall Hospitals NHS Trust   | Royal Cornwall Hospital  |
|                                      | Royal Devon and Exeter NHS Foundation Trust  | Royal Devon and Exeter Hospital  |
|                                      | Torbay and South Devon NHS Foundation Trust  | Torbay Hospital  |
| <i>Wales</i>                         | University Hospitals Plymouth NHS Trust (Derriford Hospital)   | Derriford Hospital   |
|                                      | Aneurin Bevan University Health Board (Grange University Hospital, Nevill Hall Hospital, Royal Gwent and Ysbyty Ystrad Fawr) | Grange University Hospital<br>Royal Gwent Hospital<br>Ysbyty Ystrad Fawr<br>Nevill Hall Hospital |
|                                      | Betsi Cadwaladr University Health Board (Glan Clwyd District General Hospital)   | Glan Clwyd District General Hospital   |
|                                      | Betsi Cadwaladr University Health Board (Wrexham Maelor Hospital)  | Maelor Hospital  |
|                                      | Betsi Cadwaladr University Health Board (Ysbyty Gwynedd)   | Ysbyty Gwynedd   |
|                                      | Cardiff and Vale University Health Board   | University Hospital of Wales   |
|                                      | Cwm Taf Morgannwg University Local Health Board (Prince Charles Hospital)  | Prince Charles Hospital  |
|                                      | Cwm Taf Morgannwg University Local Health Board (Princess of Wales Hospital)   | Princess of Wales Hospital   |
|                                      | Hywel Dda Health Board (Bronglais General Hospital)  | Bronglais Hospital   |
|                                      | Hywel Dda Health Board (Prince Philip Hospital)  | Prince Philip Hospital   |
|                                      | Hywel Dda Health Board (West Wales Hospital)   | West Wales General   |
|                                      | Hywel Dda Health Board (Withybush General Hospital)  | Withybush General Hospital   |
|                                      | Swansea Bay University Local Health Board (Morrison Hospital)  | Morrison Hospital  |
| <i>Wessex</i>                        | Dorset County Hospital NHS Foundation Trust  | Dorset County Hospital   |
|                                      | Hampshire Hospitals NHS Foundation Trust   | Royal Hampshire County Hospital  |
|                                      | Isle of Wight NHS Trust  | St Mary's Hospital Newport   |
|                                      | Portsmouth Hospitals University National Health Service Trust  | Queen Alexandra Hospital Portsmouth  |
|                                      | University Hospital Southampton NHS Foundation Trust   | Southampton General Hospital   |
|                                      | University Hospitals Dorset NHS Foundation Trust   | Royal Bournemouth General Hospital<br>Poole Hospital   |
| <i>West Midlands</i>                 | George Eliot Hospital NHS Trust  | George Eliot Hospital  |
|                                      | Sandwell and West Birmingham Hospitals NHS Trust (Sandwell District Hospital)  | Sandwell District Hospital   |
|                                      | South Warwickshire NHS Foundation Trust  | Warwick Hospital   |
|                                      | University Hospitals Birmingham NHS Foundation Trust (Birmingham Heartlands)   | Birmingham Heartlands Hospital   |

| <b>Region</b>                                 | <b>Site Name</b>   | <b>Hospital(s)</b>  |
|---|--|---|
| <i>West Midlands</i>                          | University Hospitals Birmingham NHS Foundation Trust (Good Hope Hospital)                                  | Good Hope General Hospital                                    |
|   | University Hospitals Birmingham NHS Foundation Trust (Queen Elizabeth Hospital Edgbaston)                  | Queen Elizabeth Hospital Edgbaston                            |
|   | University Hospitals Coventry and Warwickshire NHS Trust   | University Hospital Coventry                                  |
|   | Worcestershire Acute Hospitals NHS Trust (Worcestershire Royal Hospital)                                   | Worcestershire Royal Hospital                                 |
|   | Wye Valley NHS Trust   | Hereford County Hospital                                      |
| <i>West of England</i>                        | Gloucestershire Hospitals NHS Foundation Trust   | Gloucestershire Royal Hospital<br>Cheltenham General Hospital |
|   | Great Western Hospitals NHS Foundation Trust   | Great Western Hospital Swindon                                |
|   | North Bristol NHS Trust  | North Bristol Hospitals                                       |
|   | Royal United Hospital Bath NHS Foundation Trust  | Royal United Hospital Bath                                    |
|   | Salisbury NHS Foundation Trust   | Salisbury District Hospital                                   |
|   | Somerset NHS Foundation Trust  | Musgrove Park Hospital  |
|   | University Hospitals Bristol and Weston NHS Foundation Trust (University Hospitals Bristol Inpatient Team) | University Hospitals Bristol Inpatient Team                   |
|   | University Hospitals Bristol and Weston NHS Foundation Trust (Weston General Hospital)                     | Weston General Hospital                                       |
| Yeovil District Hospital NHS Foundation Trust | Yeovil District Hospital   |   |
| <i>West Yorkshire and Harrogate</i>           | Bradford Teaching Hospitals and Airedale NHS Foundation Trusts   | Bradford Royal Infirmary<br>Airedale General Hospital         |
|   | Calderdale and Huddersfield NHS Foundation Trust   | Calderdale Royal Hospital                                     |
|   | Harrogate and District NHS Foundation Trust  | Harrogate District Hospital                                   |
|   | Leeds Teaching Hospitals NHS Trust   | Leeds General Infirmary                                       |
|   | Mid Yorkshire Hospitals NHS Trust  | Pinderfields Hospital   |

**SSNAP**

**Sentinel Stroke National  
Audit Programme**

**KING'S**  
*College*  
**LONDON**

# Sentinel Stroke National Audit Programme (SSNAP)

Acute Organisational Audit Proforma 2021

**School of Life Course and Population Health Science, King's  
College London**



**Instructions:**

This proforma should describe your stroke services as on **1 October 2021**. Please complete all questions. Clarification is available online against each question ('H' button) and also in the supporting documentation provided. In some cases, you will either be directed to a later question or a response will not apply based on answers to key questions. Data should be submitted via the SSNAP web portal.

**Final deadline: 29 October 2021. Checking week: 1-5 November 2021**

**Helpdesk**

Telephone: 0116 464 9901

Email: [ssnap@kcl.ac.uk](mailto:ssnap@kcl.ac.uk)

The Section tab will be either blue, green or red indicating whether the section has been successfully completed. Remember to Save before you Exit. When all the tabs are green, the proforma is complete and valid, the data should be locked (i.e. cannot be edited)

For the purpose of this audit the definition for **in hours** is between 08:00-18:00 Monday to Friday and **out of hours** is all days and times outside this range

**COVID-19 response**

You should complete the audit questionnaire describing your service on the 1 October 2021. If you have had to reorganise as a temporary or permanent response to COVID-19 then please report this reorganised service and not as per your previously commissioned service.

Site code: [ ]

**A. Core Organisational Information**

**A1.** How many hospitals are covered by this form? [ ]

**Please give the full name of each individual hospital. In this question, we are asking about acute hospitals which directly admit acute stroke patients or routinely admit them within 7 days.**

|   | Full name of hospital | Total number of stroke unit bed | SSNAP code for hospital from clinical audit |
|---|-----------------------|---------------------------------|---|
| 1 |                       |                                 |   |
| 2 |                       |                                 |   |
| 3 |                       |                                 |   |
| 4 |                       |                                 |   |

**TAB ONE****SECTION 1: ACUTE PRESENTATION**

---

**Care in the first 72 hours after stroke**

**1.1** Which of the following options best describes the service at your site for patients during the first 72 hours after stroke? *Select only one option*

- (i) We treat all of these patients
- (ii) We treat some of these patients
- (iii) We treat none of these patients

This should be what best describes your service and what happens to patients generally, not what happens in exceptional circumstances. Please see helpnotes for further information and instruction.

**1.1a** If 1.1(iii) is selected, give the SSNAP site code of main hospital treating your patients for the first 72 hours

[ ] *This is the organisational audit site code, not the SSNAP team code*

**1.2** Have you made any changes to your stroke service as part of the response to the COVID pandemic?

Yes  No

**1.2a** If yes, which of the following were made?

Virtual assessment by a stroke clinician in the pre-hospital setting

24/7 virtual assessment (on arrival at acute hospital) by a stroke physician

Tele-stroke network (across several hospitals) for virtual assessment

Separate pathways for COVID-19 positive and negative stroke patients

Virtual ward rounds or multidisciplinary team (MDT) meetings

Decision support software (AI) use

Virtual triage of patients with suspected TIA or minor stroke

Use of one-lead ECG devices to assess heart rhythm

Patient self-reporting of blood pressure readings

Other  Please state: \_\_\_\_\_

**1.2b** As of 1 October 2021, are any of these changes still in place?

Yes          No     

**Initial Review on Presentation – this section must be completed by all hospitals to treat some or all patients seen during the first 72 hours after stroke.**

**1.3** Most of the time, who is the first person **from any team** to review a patient presenting to hospital with a suspected stroke? *Select only one option for in hours and one option for out of hours*

|   | In Hours              | Out of Hours          |
|---|-----------------------|-----------------------|
| (i) Stroke Specialist Nurse                           | <input type="radio"/> | <input type="radio"/> |
| (ii) Stroke Junior Doctor (CMT/Foundation Trainee)    | <input type="radio"/> | <input type="radio"/> |
| (iii) Stroke trained Registrar/Fellow                 | <input type="radio"/> | <input type="radio"/> |
| (iv) General Medical Registrar                        | <input type="radio"/> | <input type="radio"/> |
| (v) Stroke Specialist / General Neurology Consultant  | <input type="radio"/> | <input type="radio"/> |
| (vi) Other Medical Specialty Consultant               | <input type="radio"/> | <input type="radio"/> |
| (vii) ED Consultant                                   | <input type="radio"/> | <input type="radio"/> |
| (viii) ED Junior Doctor/Registrar                     | <input type="radio"/> | <input type="radio"/> |
| (ix) Neurology Junior Doctor/Registrar                | <input type="radio"/> | <input type="radio"/> |
| (x) Telemedicine link to own Trust Stroke Consultant  | <input type="radio"/> | <input type="radio"/> |
| (xi) Telemedicine link to regional network Consultant | <input type="radio"/> | <input type="radio"/> |

**1.4** Most of the time, who is the first person **from the stroke team** to review a patient presenting to hospital with a suspected stroke? *Select only one option for in hours and one option for out of hours*

|   | In Hours              | Out of Hours          |
|---|-----------------------|-----------------------|
| (i) Stroke Specialist Nurse                             | <input type="radio"/> | <input type="radio"/> |
| (ii) Stroke Junior Doctor (CMT/Foundation Trainee)      | <input type="radio"/> | <input type="radio"/> |
| (iii) Stroke trained Registrar/Fellow                   | <input type="radio"/> | <input type="radio"/> |
| (iv) Stroke Specialist Consultant                       | <input type="radio"/> | <input type="radio"/> |
| (v) General Neurology Consultant                        | <input type="radio"/> | <input type="radio"/> |
| (vi) Neurology Junior Doctor/Registrar                  | <input type="radio"/> | <input type="radio"/> |
| (vii) Telemedicine link to own Trust Stroke Consultant  | <input type="radio"/> | <input type="radio"/> |
| (viii) Telemedicine link to regional network Consultant | <input type="radio"/> | <input type="radio"/> |

**Scanning**

**1.5** Which initial acute brain imaging do you usually request for the following? *Select only one option for each of i-v*

|  | <b>CT</b>             | <b>CTA</b>            | <b>CTP</b>            | <b>MRI</b>            |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| (i) Clinical suspicion of stroke eligible for thrombolysis                               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (ii) Clinical suspicion of stroke eligible for thrombolysis & possible thrombectomy      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (iii) Clinical suspicion of stroke but over 4.5 hours since onset of symptoms            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (iv) Clinical suspicion of posterior circulation stroke but not a thrombolysis candidate | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (v) Clinical suspicion of alternative neurological diagnosis                             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**CT = Computerised tomography, CTA =CT angiography, CTP= CT perfusion MRI= Magnetic resonance imaging**

**1.6** Who is ultimately responsible for initial review of brain imaging to inform decisions about thrombolysis / referral for thrombectomy? *Select one option for in hours and one option for out of hours*

|  | <b>In Hours</b>       | <b>Out of Hours</b>   |
|--|-----------------------|-----------------------|
| (i) Stroke Consultant on site                                  | <input type="radio"/> | <input type="radio"/> |
| (ii) Stroke Consultant remotely via PACS                       | <input type="radio"/> | <input type="radio"/> |
| (iii) Stroke Registrar   | <input type="radio"/> | <input type="radio"/> |
| (iv) Stroke Junior Doctor                                      | <input type="radio"/> | <input type="radio"/> |
| (v) Neuroradiologist   | <input type="radio"/> | <input type="radio"/> |
| (vi) General Radiologist                                       | <input type="radio"/> | <input type="radio"/> |
| (vii) "Reporting Hub"  | <input type="radio"/> | <input type="radio"/> |
| (viii) ED Consultant/Registrar                                 | <input type="radio"/> | <input type="radio"/> |
| (ix) Medical Consultant/Registrar                              | <input type="radio"/> | <input type="radio"/> |
| (x) Stroke consultant at own Trust via telemedicine link       | <input type="radio"/> | <input type="radio"/> |
| (xi) Stroke consultant in region/network via telemedicine link | <input type="radio"/> | <input type="radio"/> |

**1.6a** Are you using artificial intelligence software for any part of the interpretation of your acute stroke imaging?

Yes, in hours  Yes, out of hours  No

**1.7** If not during initial assessment, is brain imaging subsequently reviewed by a radiologist with a specific competency in neurovascular imaging in the following patient groups? *Select only one option for each patient group*

**a. Thrombolysis patients**

- Yes, always
- Yes, sometimes
- Yes, rarely
- No

**b. Large Vessel Occlusion**

- Yes, always
- Yes, sometimes
- Yes, rarely
- No

**c. All stroke patients**

- Yes, always
- Yes, sometimes
- Yes, rarely
- No

**1.8** Do you have stroke specialist nurses (band 6 or above) who undertake hyper-acute assessments of suspected stroke patients in A&E? *Select one option for in hours and one option for out of hours*

|     | <b>In Hours</b>       | <b>Out of Hours</b>   |
|-----|-----------------------|-----------------------|
| Yes | <input type="radio"/> | <input type="radio"/> |
| No  | <input type="radio"/> | <input type="radio"/> |

**1.9** Are your stroke specialist nurses counted within your ward based nurse establishment? (i.e. they are not supernumerary to your ward based nurses) *Select one option for in hours and one option for out of hours*

*These are specialist nurses who have responsibilities outside the stroke unit*

|     | <b>In Hours</b>       | <b>Out of Hours</b>   |
|-----|-----------------------|-----------------------|
| Yes | <input type="radio"/> | <input type="radio"/> |
| No  | <input type="radio"/> | <input type="radio"/> |

**1.10** Do you ever use video telemedicine to review patients with your ambulance crews?

- Yes  No

**1.11** Do the stroke team receive a pre-alert (telephone or video call) from your ambulance crews for suspected stroke patients? *Select yes/no/sometimes for each type of patient*

|                              | <b>Yes</b>            | <b>No</b>             | <b>Sometimes</b>      |
|------------------------------|-----------------------|-----------------------|-----------------------|
| Thrombolysis candidates only | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| All FAST positive            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| All other suspected stroke   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**1.12** If the stroke team receive a pre-alert, who is the call usually made to? *Select only one option*

- Stroke Specialist Nurse
- Directly to the Emergency Department
- Stroke Junior Doctor on call
- Stroke Consultant on call
- CT control room
- Call to Stroke ward / HASU

**1.13** If the stroke team receive a pre-alert, what information are they usually given by the paramedic crew? *Select all that apply*

- Name
- Date of birth
- Symptoms
- Time of onset
- BP measurement by Paramedics
- List of medications
- NHS number
- Only that patient is on their way

**1.14** Where are suspected stroke patients that arrive by ambulance usually taken for assessment?  
*Select one option for potential thrombolysis patients and one option for all other suspected stroke patients*

|                                | Potential thrombolysis patients | All other suspected stroke patients |
|--------------------------------|---------------------------------|-------------------------------------|
| Emergency Department           | <input type="radio"/>           | <input type="radio"/>               |
| HASU/ASU                       | <input type="radio"/>           | <input type="radio"/>               |
| Neurology Ward                 | <input type="radio"/>           | <input type="radio"/>               |
| Combined stroke/neurology ward | <input type="radio"/>           | <input type="radio"/>               |
| Acute Medical Unit             | <input type="radio"/>           | <input type="radio"/>               |
| HDU/ITU/CCU                    | <input type="radio"/>           | <input type="radio"/>               |
| CT scan                        | <input type="radio"/>           | <input type="radio"/>               |

**1.15** Do you routinely admit patients with subarachnoid haemorrhage to your stroke unit?

Yes  No

**1.16** Do you routinely admit patients with subdural haematoma to your stroke unit?

Yes  No

**Telemedicine**

**1.17** Does the stroke service at your site use telemedicine to allow remote access for the management of acute stroke care?

Yes  No

**1.18** Which of the following do you use? *Select all that apply*

- (i) Remote viewing for brain imaging
- (ii) Video enabled clinical assessment

**1.19** Do you operate a telemedicine rota with other hospitals?

Yes  No

**1.20** Which of the following groups of patients are assessed using telemedicine? *Select only one option*

- Only patients potentially eligible for thrombolysis
- Some patients (regardless of eligibility for thrombolysis)
- All patients (who require assessment during times when telemedicine is in use)

**Stroke mimics**

**1.21** How many acute stroke mimics have been seen by the stroke team in ED or any non-stroke emergency admissions area during the past month? []

**1.22** In the last three months, how many stroke mimics have received thrombolysis? []



**TAB TWO****SECTION 2: STROKE UNITS**

**2.1** Please give the following details on type and number of stroke unit beds for each of these hospitals:

|                                  | Answer separately for each hospital                    |   |   |   |
|----------------------------------|--|---|---|---|
| <b>(a)</b> Full name of hospital | <b>(b)</b> Total number of stroke unit beds (can be 0) | <b>(c)</b> Number of stroke unit beds <b>solely</b> for patients in first 72 hours after stroke<br><b>Type 1 beds</b> | <b>(d)</b> Number of stroke unit beds <b>solely</b> for patients beyond 72 hours after stroke<br><b>Type 2 beds</b> | <b>(e)</b> Number of stroke unit beds used for <b>both</b> pre- and post-72 hour care<br><b>Type 3 beds</b> |
|                                  |  |   |   |   |
|                                  |  |   |   |   |
|                                  |  |   |   |   |
|                                  |  |   |   |   |
| <b>Total:</b>                    |  |   |   |   |

**Section 2A: Care on stroke unit beds used solely for patients in the first 72 hours after stroke (type 1 beds) (please answer based on ALL beds records in Q2.1(c)**

**2.2** How many of these beds have continuous physiological monitoring (ECG, oximetry, blood pressure)?  beds

**2.3** How many stroke consultant ward rounds are conducted on your acute stroke ward per week?  ward rounds per week

*(If you have 2 consultant led ward rounds 7 days a week please enter 14. If there is more than one location for these beds, please give an average e.g. if there are 20 beds overall and 10 have ward rounds 7 times a week and the other 10 have ward rounds 5 times a week, you should put 6. If you have permutations outside of this please contact the SSNAP helpdesk).*

*For questions 2.4 - 2.7 only the nursing staff for the beds solely used for patients in the first 72 hours after stroke (i.e. the total entered for Q2.1c) should be included.*

**2.4** How many of the following *nursing* staff are there usually on duty at **10AM** for these beds? (Enter 0 if no staff of that grade). *Only the nursing staff for the beds which are solely used for patients in the first 72 hours after stroke (i.e. the total entered for Q2.1c).*

*(N.B. please do not double count any nurses/care assistants listed in Q2.9 and Q2.16)*

|                       | Weekdays             | Saturdays            | Sundays/Bank Holidays |
|-----------------------|----------------------|----------------------|-----------------------|
| (i) Registered nurses | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| (ii) Care assistants  | <input type="text"/> | <input type="text"/> | <input type="text"/>  |

**2.5** How many nurses are there usually on duty for these beds at **10AM** who are trained in the following? (Enter 0 if none).

*(N.B. please do not double count any nurses listed in Q2.10 and Q2.17)*

|                                       | Weekdays             | Saturdays            | Sundays/Bank Holidays |
|---------------------------------------|----------------------|----------------------|-----------------------|
| (i) Swallow screening                 | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| (ii) Stroke assessment and management | <input type="text"/> | <input type="text"/> | <input type="text"/>  |

**2.6** How many nurses are there usually on duty for these beds at **10PM**? (Enter 0 if no staff of that grade). *Only the nursing staff for the beds which are solely used for patients in the first 72 hours after stroke (i.e. the total entered for Q2.1c).*

*(N.B. please do not double count any nurses/care assistants listed in Q2.11 and Q2.18)*

|                       | Weekdays             | Saturdays            | Sundays/Bank Holidays |
|-----------------------|----------------------|----------------------|-----------------------|
| (i) Registered nurses | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| (ii) Care assistants  | <input type="text"/> | <input type="text"/> | <input type="text"/>  |

**2.7** What is the total establishment of whole time equivalents (WTEs) of the following bands of nurses for your Type 1 beds (beds solely for patients in the first 72 hours after stroke) in your site? *(Enter 0 if no establishment)*

| <b>Type 1 beds</b><br>(beds solely for patients in first 72 hours after stroke) | <b>Whole time equivalents (WTE)</b> |
|---|-------------------------------------|
| Band 1  |                                     |
| Band 2  |                                     |
| Band 3  |                                     |
| Band 4  |                                     |
| Band 5  |                                     |
| Band 6  |                                     |
| Band 7  |                                     |
| Band 8a   |                                     |
| Band 8b   |                                     |
| Band 8c   |                                     |

**2.7a** How are your type 1 beds currently funded? *Select only one option*

- Block contract
- Payment by results (PBR)
- Uplifted/enhanced tariff
- Unfunded (at risk)
- Not known
- Site in Wales or N/Ireland (N/A)

**Section 2B: Care on stroke unit beds used solely for patients beyond 72 hours after stroke (type 2 beds) (please answer based on ALL beds records in Q2.1(d))**

**2.8** How many days per week is there a stroke specialist consultant ward round for these beds?

days

*(If there is more than one location for these beds, please give an estimated average e.g. if there are 20 beds overall and 10 have ward rounds 7 times a week and the other 10 have ward rounds 5 times a week, you should put 6. If you have permutations outside of this please contact the SSNAP helpdesk).*

*For questions 2.9 - 2.13 only the nursing staff for the beds solely used for patients beyond 72 hours after stroke (i.e. the total entered for Q2.1d) should be included.*

**2.9** How many of the following *nursing* staff are there usually on duty at **10AM** for these beds? (Enter 0 if no staff of that grade) *Only the nursing staff for the beds which are solely used for patients beyond the first 72 hours after stroke (i.e. the total entered for Q2.1d) (N.B. please do not double count any nurses/care assistants listed in Q2.4 and Q2.16)*

|                       | Weekdays             | Saturdays            | Sundays/Bank Holidays |
|-----------------------|----------------------|----------------------|-----------------------|
| (i) Registered nurses | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| (ii) Care assistants  | <input type="text"/> | <input type="text"/> | <input type="text"/>  |

**2.10** How many nurses are there usually on duty for these beds at **10AM** who are trained in the following? (Enter 0 if none).

*(N.B. please do not double count any nurses listed in Q2.5 and Q2.17)*

|                                       | Weekdays             | Saturdays            | Sundays/Bank Holidays |
|---------------------------------------|----------------------|----------------------|-----------------------|
| (i) Swallow screening                 | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| (ii) Stroke assessment and management | <input type="text"/> | <input type="text"/> | <input type="text"/>  |

**2.11** How many of the following *nursing* staff are there usually on duty at **10PM** for these beds? (Enter 0 if no staff of that grade) *Only the nursing staff for the beds which are solely used for patients beyond the first 72 hours after stroke (i.e. the total entered for Q2.1d)*

*(N.B. Please do not double count any nurses/care assistants listed in Q2.6 and Q2.18)*

|                       | Weekdays             | Saturdays            | Sundays/Bank Holidays |
|-----------------------|----------------------|----------------------|-----------------------|
| (i) Registered nurses | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| (ii) Care assistants  | <input type="text"/> | <input type="text"/> | <input type="text"/>  |

**2.12** What is the total establishment of whole time equivalents (WTEs) of the following

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bands of nurses for type 2 beds (beds solely for patients beyond 72 hours after stroke) in your site? (Enter 0 if no establishment)

| <b>Type 2 beds</b><br>(beds for patients beyond 72 hours after stroke) | <b>Whole time equivalents<br/>(WTE)</b> |
|--|---|
| Band 1   |   |
| Band 2   |   |
| Band 3   |   |
| Band 4   |   |
| Band 5   |   |
| Band 6   |   |
| Band 7   |   |
| Band 8a  |   |
| Band 8b  |   |
| Band 8c  |   |

**2.13** How are your type 2 beds currently funded? *Select only one option*

- Block contract
- Payment by results (PBR)
- Uplifted/enhanced tariff
- Unfunded (at risk)
- Not known
- Site in Wales or N/Ireland (N/A)

**Section 2C: Care on stroke unit beds which are used for both pre- and post-72 hours care (type 3 beds) (please answer based on ALL beds records in Q2.1(e))**

**2.14** How many of these beds have continuous physiological monitoring (ECG, oximetry, blood pressure)?  beds

**2.15** How many stroke consultant ward rounds are conducted on your acute stroke ward per week?  ward rounds per week

*(If you have 2 consultant led ward rounds 7 days a week please enter 14. If there is more than one location for these beds, please give an average e.g. if there are 20 beds overall and 10 have ward rounds 7 times a week and the other 10 have ward rounds 5 times a week, you should put 6. If you have permutations outside of this please contact the SSNAP helpdesk).*

*For questions 2.16 - 2.19 only the nursing staff for the beds solely used for both pre- and post-72h hours care (i.e. the total entered for Q2.1e) should be included.*

**2.16** How many of the following *nursing* staff are there usually on duty at **10AM** for these beds? (Enter 0 if no staff of that grade). *Only the nursing staff for beds used for patients pre and post-72 hour care (i.e. the total entered for 2.1e).*

*(N.B. please do not double count any nurses/care assistants listed in Q2.4 and Q2.9.)*

|                       | Weekdays             | Saturdays            | Sundays/Bank Holidays |
|-----------------------|----------------------|----------------------|-----------------------|
| (i) Registered nurses | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| (ii) Care assistants  | <input type="text"/> | <input type="text"/> | <input type="text"/>  |

**2.17** How many nurses are there usually on duty for these beds at **10AM** who are trained in the following? (Enter 0 if none).

*(N.B. please do not double count any nurses listed in Q2.5 or Q2.10)*

|                                       | Weekdays             | Saturdays            | Sundays/Bank Holidays |
|---------------------------------------|----------------------|----------------------|-----------------------|
| (i) Swallow screening                 | <input type="text"/> | <input type="text"/> | <input type="text"/>  |
| (ii) Stroke assessment and management | <input type="text"/> | <input type="text"/> | <input type="text"/>  |

**2.18** How many of the following *nursing* staff are there usually on duty at **10PM** for these beds? (Enter 0 if no staff of that grade). *Only the nursing staff for beds used for patients pre and post-72 hour care (i.e. the total entered for 2.1e).*

*(N.B. please do not double count any nurses/care assistants listed in Q2.6 and Q2.11.)*

|  | Weekdays | Saturdays | Sundays/Bank Holidays |
|--|----------|-----------|-----------------------|
|--|----------|-----------|-----------------------|

- |                       |                          |                          |                          |
|-----------------------|--------------------------|--------------------------|--------------------------|
| (i) Registered nurses | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| (ii) Care assistants  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

**2.19** What is the total establishment of whole time equivalents (WTEs) of the following bands of nurses for type 3 beds (beds for both pre and post 72 hour care)? (Enter 0 if no establishment)

| <b>Type 3 beds</b><br>(beds for both pre and post 72 hour care) | <b>Whole time equivalents</b><br>(WTE) |
|---|--|
| Band 1  |  |
| Band 2  |  |
| Band 3  |  |
| Band 4  |  |
| Band 5  |  |
| Band 6  |  |
| Band 7  |  |
| Band 8a   |  |
| Band 8b   |  |
| Band 8c   |  |

**2.19a** How are your type 3 beds funded? *Select only one option*

- |                                  |                       |
|----------------------------------|-----------------------|
| Block contract                   | <input type="radio"/> |
| Payment by results (PBR)         | <input type="radio"/> |
| Uplifted/enhanced tariff         | <input type="radio"/> |
| Unfunded (at risk)               | <input type="radio"/> |
| Not known                        | <input type="radio"/> |
| Site in Wales or N/Ireland (N/A) | <input type="radio"/> |

**TAB THREE****SECTION 3: THROMBOLYSIS AND THROMBECTOMY****Thrombolysis**

**3.1** Where are the majority of your patients thrombolysed for each procedure? *Select one option for bolus and one option for infusion*

|  | <b>Bolus</b>          | <b>Infusion</b>       |
|--|-----------------------|-----------------------|
| Emergency Department                       | <input type="radio"/> | <input type="radio"/> |
| In the CT scanner                          | <input type="radio"/> | <input type="radio"/> |
| Where your Type 1 or Type 3 beds are based | <input type="radio"/> | <input type="radio"/> |
| CCU/ITU/HDU                                | <input type="radio"/> | <input type="radio"/> |
| Acute Medical Unit /Medical Ward           | <input type="radio"/> | <input type="radio"/> |
| Neurology ward                             | <input type="radio"/> | <input type="radio"/> |

**Thrombectomy**

**3.2** Are you a thrombectomy centre?

Yes  No

**3.3** What are the hours of operation for your thrombectomy service? *Enter a value from 0-24 for each day*

|                     |           |
|---------------------|-----------|
| Monday              | [ ] hours |
| Tuesday             | [ ] hours |
| Wednesday           | [ ] hours |
| Thursday            | [ ] hours |
| Friday              | [ ] hours |
| Saturday and Sunday | [ ] hours |

**3.4** How many consultant level doctors from your site carry out thrombectomy? [ ]

*(Please do not include doctors who work primarily at other sites - each doctor should only be counted at one site. Please include doctors who have performed 1 or more thrombectomy procedures)*

For each of these consultants, please state their specialty.

| <b>3.4a</b> Which specialty is this consultant? | <b>Consultant:</b>    |                       |                       |                       |                       |                       |                       |                       |                       |                       |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|   | <b>1:</b>             | <b>2:</b>             | <b>3:</b>             | <b>4:</b>             | <b>5:</b>             | <b>6:</b>             | <b>7:</b>             | <b>8:</b>             | <b>9:</b>             | <b>10:</b>            |
| Interventional neuroradiology                   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Vascular interventional neuroradiology          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |



| 3.4a Which specialty is this consultant?   | Consultant: |    |    |    |    |    |    |    |    |     |
|--|-------------|----|----|----|----|----|----|----|----|-----|
|  | 1:          | 2: | 3: | 4: | 5: | 6: | 7: | 8: | 9: | 10: |
| Non-vascular interventional neuroradiology | 0           | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| Cardiologist                               | 0           | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| Neuro-surgeon                              | 0           | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| Stroke Physician                           | 0           | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |
| Other                                      | 0           | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   |

If no to Q3.2:

**3.5** Do you refer appropriate patients to a thrombectomy centre?

Yes  No  N/A

N/A only available to those with type 2 beds only

**3.6** Which centre do you refer patients to for thrombectomy? *Select the centre which the majority of your patients are referred to from the supplied list*

**3.7** For how many hours can you refer patients for thrombectomy each day? *Enter a value from 0-24 for each day*

|                     |          |
|---------------------|----------|
| Monday              | [] hours |
| Tuesday             | [] hours |
| Wednesday           | [] hours |
| Thursday            | [] hours |
| Friday              | [] hours |
| Saturday and Sunday | [] hours |

**3.8** How many patients have you transferred to a thrombectomy centre that **did not have the procedure** in the 12 months prior to October 2021? (Enter a number) []

**3.9** What is your usual process for IV thrombolysis prior to transfer for thrombectomy? *Select only one option*

- Give bolus and full infusion before transfer
- Give bolus and infusion but stop infusion at point patient ready to be transferred
- Give bolus and infusion which is continued in ambulance with support of stroke nurse on transfer
- Give bolus and infusion which is continued in ambulance with support of ED nurse on transfer
- Give bolus and infusion which is continued in ambulance with support from paramedic crew
- Process depends on ambulance service conveying patient (i.e. different protocols for different services)

**3.10** Who usually makes the decision that there is a large vessel occlusion on CTA imaging prior to transferring for thrombectomy? *Select one option for in hours and one option for out of hours*

|   | In Hours              | Out of Hours          |
|---|-----------------------|-----------------------|
| Stroke Junior Doctor making referral          | <input type="radio"/> | <input type="radio"/> |
| Stroke Consultant                             | <input type="radio"/> | <input type="radio"/> |
| General Radiologist                           | <input type="radio"/> | <input type="radio"/> |
| Neuroradiologist at your hospital             | <input type="radio"/> | <input type="radio"/> |
| Neuroradiologist at IAT Centre (if different) | <input type="radio"/> | <input type="radio"/> |
| Stroke team at thrombectomy centre            | <input type="radio"/> | <input type="radio"/> |
| Remote tele-radiology service off site        | <input type="radio"/> | <input type="radio"/> |
| No service                                    |                       | <input type="radio"/> |

**3.11** When a patient requires conveyance to thrombectomy centre at what point do you call the first responder ambulance service? *Select only one option*

- Paramedic crew are kept on standby and not released from initial call
- At the point IV thrombolysis is complete
- At the point CTA suggests occluded vessel
- When accepted by thrombectomy centre

**3.12** Do the stroke team use helicopter transfers for thrombectomy patients?

- Yes  No

**3.13a** What is the average time between call to ambulance from acute hospital to arrival of ambulance crew at acute hospital for your last 5 cases / over last 12 months? *Select only one option*

**Call to Arrival of ambulance crew**

|            |                       |
|------------|-----------------------|
| 10-30mins  | <input type="radio"/> |
| 31-60mins  | <input type="radio"/> |
| 61-90mins  | <input type="radio"/> |
| 91-120mins | <input type="radio"/> |
| >120 mins  | <input type="radio"/> |

**3.13 b** What is the average time between arrival of the ambulance at the acute hospital to departure from acute hospital for your last 5 cases / over last 12 months? *Select only one option*

**Time from arrival of ambulance crew to departure**

|            |                       |
|------------|-----------------------|
| 10-30mins  | <input type="radio"/> |
| 31-60mins  | <input type="radio"/> |
| 61-90mins  | <input type="radio"/> |
| 91-120mins | <input type="radio"/> |
| >120 mins  | <input type="radio"/> |

**3.14** What are your arrangements (governance processes) for discussion of patients referred for thrombectomy? *Select only one option*

- Most patients referred reviewed with thrombectomy centre as part of regional MDT
- Most patients referred reviewed locally as part of local MDT
- Informal feedback
- No regular discussion

**TAB FOUR****SECTION 4: SPECIALIST INVESTIGATIONS FOR STROKE AND TIA PATIENTS**

---

**4.1** What is the usual inpatient waiting time for patients to receive carotid imaging? *Select only one option*

- (i) The same day (7 days a week)
- (ii) The same day (5/6 days a week)
- (iii) The next day
- (iv) The next weekday
- (v) Within a week
- (vi) Longer than a week

**4.2** What is the usual inpatient waiting time for patients to receive carotid endarterectomy? *Select only one option*

- (i) The same day (7 days a week)
- (ii) The same day (5/6 days a week)
- (iii) The next day
- (iv) The next weekday
- (v) Within a week
- (vi) Longer than a week

**4.3** Do you ever image ***intra-cranial vessels*** of your ischaemic stroke patients?

Yes            No     

**4.3a** Which of the following best describes your practice for imaging these vessels? *Select only one option*

- It is a routine investigation
- Only for patients that would be amenable to specific treatment if abnormality detected

**4.3b** Which of the following methods do you usually use first line? *Select one option for in hours and one option for out of hours*

|               | <b>In hours</b>       | <b>Out of hours</b>   |
|---------------|-----------------------|-----------------------|
| CTA           | <input type="radio"/> | <input type="radio"/> |
| MRA – (CEMRA) | <input type="radio"/> | <input type="radio"/> |
| MRA – (ToF)   | <input type="radio"/> | <input type="radio"/> |
| No service    |                       | <input type="radio"/> |

**MRA – (CEMRA) = contrast enhanced magnetic resonance imaging, MRA – (ToF) = time of flight magnetic resonance imaging**

**4.4** Do you image **extra cranial vessels** of your ischaemic stroke patients?

Yes  No

**4.4a** Which of the following best describes your practice for imaging these vessels? *Select only one option*

- It is a routine investigation
- Only for patients that would be amenable to specific treatment if abnormality detected

**4.4b** Which imaging modality do you use as a first line to **image extra-cranial** vessels? *Select only one option for in hours and only one option for out of hours*

|                    | <b>In hours</b>       | <b>Out of hours</b>   |
|--------------------|-----------------------|-----------------------|
| Doppler Ultrasound | <input type="radio"/> | <input type="radio"/> |
| CTA                | <input type="radio"/> | <input type="radio"/> |
| MRA – (CEMRA)      | <input type="radio"/> | <input type="radio"/> |
| MRA – (ToF)        | <input type="radio"/> | <input type="radio"/> |
| No service         |                       | <input type="radio"/> |

**MRA – (CEMRA) = contrast enhanced magnetic resonance imaging, MRA – (ToF) = time of flight magnetic resonance imaging**

**4.5** What is your usual pathway for detecting paroxysmal atrial fibrillation? *Please list in the sequence of investigations you apply i.e. 1=1<sup>st</sup>, 2= 2<sup>nd</sup> etc. Choose “not available” if not available.*

|  |                    |
|--|--------------------|
| HASU telemetry monitoring                | 1-7; Not available |
| Inpatient 24 hour tape                   | 1-7; Not available |
| Outpatient 24 hour tape                  | 1-7; Not available |
| Extended cardiac recording: 48 hours     | 1-7; Not available |
| Extended cardiac recording: 5- 7 days    | 1-7; Not available |
| Implantable loop recorder                | 1-7; Not available |
| Transdermal patch (e.g. Ziopatch)        | 1-7; Not available |
| Repeat extended 5-7 days cardiac monitor | 1-7; Not available |

**4.6** In which stroke patients do you normally perform echocardiography? *Select all that apply*

- In the majority of patients post stroke
- Patients suggestive of cardioembolic source on brain imaging
- Patients with an abnormal ECG
- Patients with suspected valvular lesions
- Patients with new heart failure
- Patients with known heart failure
- We rarely do echocardiography (N/A)

**4.7** In which patients do you normally perform a bubble contrast echocardiography? *Select all that apply*

- All patients post stroke
- All patients with suspected cardioembolic source on brain imaging
- Patients with suspected cardioembolic source but initial transthoracic echocardiogram (TTE) normal
- We rarely do bubble contrast echocardiography (N/A)

**4.8** In which patients do you normally perform TOE (trans-oesophageal echocardiography)? *Select all that apply*

- All patients post stroke
- All patients with suspected cardioembolic source on brain imaging
- Patients with suspected cardioembolic source but initial transthoracic echocardiogram (TTE) normal
- If patient has had a positive bubble contrast echo
- We rarely do trans-oesophageal echocardiography (N/A)

**4.9** Is PFO closure available locally for your stroke patients? (this refers to NHS rather than private provision)

Yes        No   

**4.9a** Are all patients discussed at a specialist stroke/cardiology MDT before PFO closure is offered?

Yes        No   

**4.10** Which imaging modality do you most frequently use in your neurovascular clinic for suspected TIAs? *Select only one option for brain imaging and one option for carotid imaging*

**4.10a** First line brain imaging:

|                   |                       |
|-------------------|-----------------------|
| CT                | <input type="radio"/> |
| MRI               | <input type="radio"/> |
| Rarely image TIAs | <input type="radio"/> |

**4.10b** First line carotid artery imaging:

|                   |                       |
|-------------------|-----------------------|
| Carotid Doppler   | <input type="radio"/> |
| CTA               | <input type="radio"/> |
| MRA – (CEMRA)     | <input type="radio"/> |
| MRA – (ToF)       | <input type="radio"/> |
| Rarely image TIAs | <input type="radio"/> |

**MRA – (CEMRA) = contrast enhanced magnetic resonance imaging, MRA – (ToF) = time of flight magnetic resonance imaging**

**4.11** How frequently do you use this first line imaging modality in your neurovascular clinic for suspected TIAs? *Select one option for brain and one option for carotid arteries*

|                    | Brain                 | Carotid arteries      |
|--------------------|-----------------------|-----------------------|
| Frequently (>70%)  | <input type="radio"/> | <input type="radio"/> |
| Sometimes (30-70%) | <input type="radio"/> | <input type="radio"/> |
| Rarely (<30%)      | <input type="radio"/> | <input type="radio"/> |

**TAB FIVE****SECTION 5: SERVICES AND STAFF ACROSS ALL STROKE UNIT BEDS**

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**5.1** Does your stroke unit have access to the following within 5 days of referral? *Select yes or no for each option*

|                         | <b>Yes</b>            | <b>No</b>             |
|-------------------------|-----------------------|-----------------------|
| a) Social work          | <input type="radio"/> | <input type="radio"/> |
| b) Orthotics            | <input type="radio"/> | <input type="radio"/> |
| c) Orthoptics           | <input type="radio"/> | <input type="radio"/> |
| d) Podiatry/foot health | <input type="radio"/> | <input type="radio"/> |



**5.2** What is the total establishment of whole time equivalents (WTEs) and number of individuals of the following qualified professionals and support workers for all your stroke unit beds? (Enter 0 if no establishment).

**NB** Only tick the 6 day working or 7 day working option if these professionals treat stroke patients *in relation to stroke management* at weekends *on the stroke unit*.

|  | Whole time equivalents (WTE) | Individuals | 5 day working | 6 day working | 7 day working |
|--|------------------------------|-------------|---------------|---------------|---------------|
| (i) Clinical Psychology (qualified)            |                              |             | 0             | 0             | 0             |
| (ii) Clinical Psychology (support worker)      |                              |             | 0             | 0             | 0             |
| (iii) Dietetics (qualified)                    |                              |             | 0             | 0             | 0             |
| (iv) Dietetics (support worker)                |                              |             | 0             | 0             | 0             |
| (v) Occupational Therapy (qualified)           |                              |             | 0             | 0             | 0             |
| (vi) Occupational Therapy (support worker)     |                              |             | 0             | 0             | 0             |
| (vii) Physiotherapy (qualified)                |                              |             | 0             | 0             | 0             |
| (viii) Physiotherapy (support worker)          |                              |             | 0             | 0             | 0             |
| (ix) Speech & Language Therapy                 |                              |             | 0             | 0             | 0             |
| (x) Speech & Language Therapy (support worker) |                              |             | 0             | 0             | 0             |
| (xi) Pharmacy (qualified)                      |                              |             | 0             | 0             | 0             |
| (xii) Pharmacy (support worker)                |                              |             | 0             | 0             | 0             |
| (xiii) Nursing (registered): Band 6            |                              |             | 0             | 0             | 0             |
| (xiv) Nursing (registered): Band 7             |                              |             | 0             | 0             | 0             |
| (xv) Nursing (registered): Band 8a             |                              |             | 0             | 0             | 0             |
| (xvi) Nursing (registered): Band 8b            |                              |             | 0             | 0             | 0             |
| (xvii) Nursing (registered): Band 8c           |                              |             | 0             | 0             | 0             |

**5.2a** How many MDT staff members are there usually on duty across all stroke beds at 10am who are trained in Level 1 & 2 psychological interventions? (Enter 0 if none)

Weekdays

[]

Saturdays

[]

Sundays/Bank Holidays

[]

**Junior Doctor Sessions**

**5.3** How many sessions of junior doctor time are there per week in total for all stroke unit beds?

- a. Specialty trainee 3 (ST3)/registrar grade or above  sessions
- b. Foundation years/core training/ST1/ST2 or below  sessions
- c. Non training grade junior doctor  sessions

**5.4** Do you have Physician Associates as part of your clinical team?

Yes  No

**5.4a** How many whole time equivalents do these Physician Associates (Physician Assistants) work across your stroke service?  WTEs

**Venous thromboembolism prevention**

**5.5** What is your first line treatment for preventing venous thromboembolism for patients with reduced mobility? *Select only one option*

- i) Short or long compression stockings
- ii) Intermittent pneumatic compression (IPC) device
- iii) Low molecular weight heparin
- iv) None of the above

**5.5a** Which of the 7 site-level practices set out in the 'HSIB Best Practice Consensus for reducing Venous Thromboembolism post-stroke' do you employ at your site? *Select all that apply*

|   |                          |
|---|--------------------------|
| Generic Trust VTE assessment within 24 hours of admission with daily ward round review and/or whenever clinical situation changes   | <input type="checkbox"/> |
| If high risk of VTE, IPC are used within first 3 days of acute stroke for up to 30 days or until mobile or discharged   | <input type="checkbox"/> |
| IPC devices prescribed on electronic or paper prescription charts and are reviewed on a daily basis by medical, nursing and pharmacy teams  | <input type="checkbox"/> |
| Information provided to patient/family/carer of the risk of hospital acquired VTE and benefits of IPC in reducing risk of DVT and improving survival  | <input type="checkbox"/> |
| All members of multi-disciplinary team are trained in awareness and benefits of IPC, and in the application of IPC sleeves after therapy, nursing interventions or investigations           | <input type="checkbox"/> |
| If patients cannot tolerate IPC, discussion with a senior member of the clinical team to document consideration of alternative treatments, e.g. earlier use of Low Molecular Weight Heparin | <input type="checkbox"/> |
| Regular review of SSNAP data on IPC use through clinical governance programmes to maintain and improve compliance with VTE pathways and use of IPC devices                                  | <input type="checkbox"/> |
| None of the above   | 0                        |

### Discharge information

**5.6** Do patients receive specific falls prevention advice or training before discharge?

Yes        No   

**5.7** Do you provide personalised stroke information to patients before discharge (e.g. Stroke Passport)?

Yes        No   

**5.8** Do you routinely collect patient-reported experience measures (PREMs) at any point before or after discharge?

Yes        No   

**5.9** Do you regularly refer to voluntary sector services before or at discharge? (e.g. Stroke Connect in England)

Yes        No

**5.9a** What proportion of your patients have access to at least one of these voluntary sector services if needed? []%

**Post Discharge Reviews**

**Reviews at 6 weeks**

**5.10** Do you offer your stroke patients a post discharge review within **6 weeks** of discharge from hospital?

Yes        No   

**5.11** Who usually completes the **6 week** reviews post discharge from hospital? *Select only one option*

- Primary care
- Acute trust stroke team consultant/registrar
- Stroke Nurse in hospital/community
- Voluntary sector e.g. Stroke Association
- ESD team
- Community therapy team
- Not routinely arranged

**Reviews at 6 months**

**5.12** Are you commissioned (or in Wales and Northern Ireland expected) to carry out **6 month** reviews?

Yes        No   

**5.13** Are the patients that you discharge given a **6 month** post stroke review?

- All
- Some
- None

**5.14** Who usually carries out your **6 month** reviews post discharge from hospital? *Select only one option*

- Specialist Stroke Nurses within hospital
- Specialist Stroke Nurses in community
- Stroke Association
- Other voluntary sector
- Primary care
- Stroke Consultant/registrar at Acute Trust
- MDT 6 month review clinic i.e. with therapy support
- Community Therapists

**5.15** On the 1 October 2021, how many patients on your stroke ward are 'medically fit for discharge' (i.e., no longer requiring hospital bed based care)?

*Total must not be greater than total number of stroke unit beds*

**5.16** Do you move patients no longer receiving specific stroke intervention to other wards if you need the bed for another stroke patient? *Select only one option*

- Yes
- No
- Only in exceptional circumstances

**TAB SIX****SECTION 6: REHABILITATION AFTER LEAVING HOSPITAL**

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**EARLY SUPPORTED DISCHARGE TEAM****Definitions:**

**Early supported discharge team** refers to a multidisciplinary team which provides rehabilitation and support in a community setting with the aim of reducing the duration of hospital care for stroke patients.

**Specialist Early Supported Discharge Team: A stroke/neurology specific team** is one which treats stroke patients either solely or as well as general neurology patients. This question should not include non-stroke/neurology specific teams.

**6.1** Do you have access to at least one **stroke/neurology specific** early supported discharge multidisciplinary team?

Yes        No   

**6.1a** How many Specialist Early Supported Discharge (ESD) teams does your site have access to? (*Only include teams which see more than 10 patients a year.*)     ESD teams

**6.1b** What percentage of your patients have access to at least one of these teams if needed? %

Please answer for the team providing care for the majority of your patients if you have multiple providers

**6.1c** For the ESD team that the majority of your patients attend, what duration of time post discharge are they commissioned for? (please select option closest to the duration) *Select only one option*

6 weeks                      
 6 months                     
 12 months                   
 Needs based                 
 No time limit             

**6.2** Do you have access to specialist spasticity services for the majority of your patients?

Yes        No

### LONGER TERM COMMUNITY REHABILITATION TEAM

**Definition:** A team working in the community delivering rehabilitation services.

**We will ask you about two types of CRT team in this part - stroke/neurology specialist and non-specialist (please make sure you answer the correct section(s) - this could be none, either or both)**

**Specialist Community Rehabilitation Team:** A stroke/neurology specific team is one which treats stroke patients either solely or as well as general neurology patients.

**6.3** Do you have access to at least one **stroke/neurology specific** community rehabilitation team for longer term management?

Yes        No   

**6.3a** How many specialist Community Rehabilitation teams does your site have access to? (*Only include teams which see more than 10 patients a year.*)                   

**6.3b** What percentage of your patients have access to at least one of these teams if needed? %

### Non-specialist Community Rehabilitation Team

**Definition:** A non-specialist team is one which treats stroke patients, general neurology patients and other types of patients.

**6.4** Do you have access to at least one non-specialist community rehabilitation team for longer term management?

Yes        No   

**6.4a** How many non-specialist Community Rehabilitation teams does your site have access to? (*Only include teams which see more than 10 patients a year.*)                   

**6.4b** What percentage of your patients have access to at least one of these teams if needed? %

**TAB SEVEN****SECTION 7: TIA/NEUROVASCULAR SERVICE**

---

**7.1** Does your site have a neurovascular clinic?Yes        No    **7.2** If no, who provides this for your patients? *Select one option only*(i) Another site within our trust        \_\_\_\_\_  
Please give name and site code    [    ] 3 digit code(ii) Another site not within our trust        \_\_\_\_\_  
Please give name and site code:    [    ] 3 digit code**7.3** How many clinics within a 4 week period?    []**7.4** How many new patients were seen during the past 4 weeks?    []**7.4a** How many of these new patients had a final diagnosis of a TIA? []**7.5** What is the current average waiting time for an appointment from referral? [] days**7.6** How are patients usually referred into your TIA / neurovascular service? *Select only one option*Via email/electronic referral      
Fax      
Written referral via post to stroke team      
Written referral via post to Choose and Book      
Telephone referral to stroke team    **7.7** Do the stroke team triage referrals to the TIA /neurovascular service?Yes        No    **7.8** Does this involve a telephone call to the patient?Yes        No    **7.9** Who usually triages the referrals? *Select one option for in hours and one option for out of hours*



|   | In Hours              | Out of Hours          |
|---|-----------------------|-----------------------|
| Stroke Consultant                                 | <input type="radio"/> | <input type="radio"/> |
| Stroke Junior Doctor                              | <input type="radio"/> | <input type="radio"/> |
| Stroke Specialist Nurse                           | <input type="radio"/> | <input type="radio"/> |
| Stroke Specialist Nurse followed by Stroke Doctor | <input type="radio"/> | <input type="radio"/> |
| Admin staff based on triage criteria              | <input type="radio"/> | <input type="radio"/> |
| Stroke team contact all patient (tele-triage)     | <input type="radio"/> | <input type="radio"/> |
| Other   | <input type="radio"/> | <input type="radio"/> |

**7.10** Do you classify your patients as high risk or low risk of stroke using the ABCD<sup>2</sup> score?

Yes  No

**7.11** Within what timescale can you typically see, investigate and initiate treatment for ALL your TIA patients? *Select yes or no for each service*

| Tick which service(s) you have:   | a) Inpatient Yes <input type="radio"/> No <input type="radio"/> | b) Outpatient Yes <input type="radio"/> No <input type="radio"/> |
|-----------------------------------|---|--|
| (i) The same day (7 days a week)  | <input type="radio"/>   | <input type="radio"/>  |
| (ii) The same day (5 days a week) | <input type="radio"/>   | <input type="radio"/>  |
| (iii) The next day                | <input type="radio"/>   | <input type="radio"/>  |
| (iv) The next weekday             | <input type="radio"/>   | <input type="radio"/>  |
| (v) Within a week                 | <input type="radio"/>   | <input type="radio"/>  |
| (vi) Within a month               | <input type="radio"/>   | <input type="radio"/>  |
| (vii) Longer than a month         | <input type="radio"/>   | <input type="radio"/>  |

### TIA patients at your site

**7.12** What is the total number of inpatients with confirmed or suspected TIA across all primary admitting hospitals on 1 October 2021?  patients

**7.13** How many inpatients with confirmed or suspected TIA are in **stroke unit beds** across all primary admitting hospitals on 1 October 2021?  patients

**TAB EIGHT****SECTION 8: SPECIALIST ROLES**

---

**8.1** Do you have at least one accredited specialist registrar in a post registered for stroke specialist training?

Yes        No   

**8.2** How many accredited specialist registrar posts do you have at your site?     posts

**8.3** How many of the posts in Q8.2 are currently filled?     posts

**Workforce Planning for the service as on 1 October 2021**

The aim of this section is to match the stroke care you provide to the type of consultant workforce that is, and may in the future, be available in your site. This may improve both national planning for training of future consultant physicians working in stroke medicine and their equitable distribution

**8.4** Do you have any unfilled stroke consultant posts?

Yes        No   

**8.4a** How many programmed activities (PAs) do these posts cover?     PAs

**8.4b** For how many months have these posts been funded but unfilled?  months

**Existing posts**

**8.5** How many programmed activities (PAs) do you have in total for Stroke Consultant Physicians?

PAs

**8.5a** How many consultants (individuals) are these PAs divided amongst?     Consultants

**8.5b** How many of these PAs are Direct Clinical Care (DCCs) for Stroke?     PAs

**Planned future posts**

This section refers to changes planned in the next **2 years**.

**8.6** How many new/additional programmed activities (PAs) do you plan to have for Stroke Consultant Physicians?     PAs

**8.6a** How many new/additional consultants (individuals) will these PAs be divided amongst?

Consultants

**8.6b** How many of these new/additional PAs will be for Direct Clinical Care (DCC) for Stroke?

[] PAs

**TAB NINE****SECTION 9: QUALITY IMPROVEMENT, TRAINING & LEADERSHIP AND PATIENTS**

---

**9.1** What level of management takes responsibility for the follow-up of the results and recommendations of the Sentinel Stroke Audit? *Select all that apply*

- (i) Executive on the Board
- (ii) Non-executive on the Board
- (iii) Chairman of Clinical Governance (or equivalent)
- (iv) Directorate Manager
- (v) Stroke Clinical Lead
- (vi) Other
- (vii) No specific individual

**9.2** Is there a strategic group responsible for stroke? *Select only one option*

Yes  No

**9.2a** Which of the following does it include? *Select all that apply - select at least one option*

- (i) Ambulance trust representative
- (ii) Clinician
- (iii) Patient representative
- (iv) Commissioner
- (v) Social Services
- (vi) Stroke Network representative
- (vii) Trust board member

**9.3** Do you have formal meetings with your coding department to improve the quality of stroke coding?

Yes  No

**9.3a** How frequently are these formal meetings held? *Select only one option – the one which is closest to the timeframe*

- (i) Weekly
- (ii) Monthly
- (iii) Quarterly
- (iv) Annually
- (v) Ad hoc/occasionally

**9.4** Do you have “breach” meetings to review performance against SSNAP quality standards?

Yes  No

**9.4a** How often are these meetings held? *Select only one option*

- (i) Daily
- (ii) Weekly
- (iii) Monthly
- (iv) Quarterly
- (v) Annually

**9.5** Do you have stroke specific mortality meetings within your Trust? (i.e. formal process to discuss all stroke deaths with stroke MDT team)

Yes  No

**9.5a** Which format is used? *Select only one option*

- Some deaths reviewed
- All deaths reviewed

**9.6** Is there funding for external courses available for nurses and therapists?

Yes  No

**9.6a** If yes, how many external training sessions have these nurses and therapists attended in the last 12 months? (1 session = half day)  sessions

**9.6b** How many internal and external training sessions attended by nurses and therapists have related specifically to psychological skills training?

(1 session = half day)  sessions

**9.7** How often is there a formal survey seeking patient/carer views on stroke service? (*This does not include the Friends and Family test*) *Select only one option*

- (i) Never
- (ii) Less than once a year
- (iii) 1-2 times a year
- (iv) 3-4 times a year
- (v) More than 4 a year
- (vi) Continuous (every patient)

**Stroke audit**

**9.8** What is the total number of whole-time equivalents (WTEs) allocated in your site for stroke data collection?  WTEs

**9.8a** Which disciplines are covered by the WTEs for stroke data collection? *Select all that apply*

- Doctor
- Manager
- Nurse
- Therapist
- Clinical Audit/Clinical Governance staff member
- Data clerk/analyst with specific responsibility for stroke
- Data clerk/analyst with general audit responsibilities

**Links with patients and carers**

**9.9** Does the Stroke service have formal links with patients and carers organisations for communication on any of the following?

Yes  No

**9.9a** Which areas are included? *Select all that apply*

- (i) Service provision
- (ii) Audit
- (iii) Service reviews and future plans
- (iv) Developing research

**9.10** Does the stroke service have formal links with community user groups for stroke?

Yes  No

**Research**

**9.11** How many open stroke research studies are registered with your Research & Development Department on 1 October 2021? Total

**9.11a** How many of the studies in 9.11 have enrolled at least 1 participant in the 12 months to 30 September 2021?  studies

**9.12** How many participants in total has your site recruited into NIHR portfolio research studies in the 12 months to 30 September 2021?  participants

**9.12a** How many of the participants in 9.12 were recruited in a randomised controlled trial (RCT)?  participants

**9.13** Number of current Good Clinical Practice (GCP)-certified members of staff involved in delivering stroke research on the 1 October 2021?

(i) Clinical staff

(ii) Research Network/CLRN staff

**9.14** How many inpatients over the last 4 weeks had documented screening undertaken for inclusion in stroke specific clinical research trials?  patients

## Appendix 3: Full introduction and Methodology

### Introduction

This report presents the results of the Sentinel Stroke National Audit Programme (SSNAP) 2021 Acute Organisational Audit. It describes the organisation of stroke care in England, Wales and Northern Ireland as of 1 October 2021 and includes all acutely admitting hospitals. It provides continuity from the 2012, 2014, 2016 and 2019 acute organisational audits and previous biennial NSSA audits. The audit is based on standards agreed by representatives of the Intercollegiate Stroke Working Party (ICSWP).

Its questions are well understood and the majority are comparable with previous rounds of the audit. SSNAP also comprises of the SSNAP clinical audit which has prospectively collected a minimum dataset for every stroke patient, including acute care, rehabilitation, 6-month follow up, and outcome measures since December 2012. As a result of this SSNAP is the single source of stroke data for England, Wales and Northern Ireland. The organisational audit complements the continuous clinical audit and results from the SSNAP clinical audit are available to view using the results portal (<http://www.strokeaudit.org/results>).

### The aims of the SSNAP Acute Organisational Audit

1. To audit against the National Clinical Guideline for Stroke 2016 and other relevant evidence and policy documents;
2. To enable trusts to benchmark the quality of their stroke services nationally and regionally;
3. To measure the extent to which the recommendations made in the 2019 acute organisational audit have been implemented;
4. To measure changes over time in the resources available for specialist acute stroke care, particularly workforce.

### Organisation of the Audit

Data were collected at site level within trusts (or Health Boards in Wales) using a standardised method. Clinical involvement and supervision at team level is provided by a lead clinician in each hospital who has overall responsibility for data quality. The audit is guided by a multi-disciplinary steering group responsible for the Sentinel Stroke National Audit Programme – the Intercollegiate Stroke Working Party (ICSWP).

Details of membership of the ICSWP can be found in Appendix 4.

### Availability of this Report in the Public Domain

A full national results portfolio was made available to participating hospitals (sites) in February 2022. All named site results were published in April 2022 in line with the transparency agenda subject to Healthcare Quality Improvement Partnership (HQIP's) standard reporting process.

### Participation

There is 100% participation of eligible trusts (130). These trusts covered 157 sites which contained a total of 182 acute hospitals with 158 in England, 15 in Wales, 8 in Northern Ireland and 1 in the Isle of Man.

### Methods

#### Eligibility and Recruitment

All sites that routinely treat patients within 7 days of stroke were eligible to participate. Pre 2012, only hospitals which directly admitted acute stroke patients were eligible, but due to the centralisation of stroke services and the establishment of a hyperacute model of stroke care in



different parts of the country this was changed in 2012. Registration forms were submitted by each site which confirmed service configuration and details of the lead clinician and clinical audit lead. 100% of eligible sites were recruited and participated in the 2021 audit. Due to changes in service configurations and trust mergers the total number of sites has changed from 169 to 157 since the 2019 organisational audit.

### **Standards in the Audit**

A number of changes were made to the 2021 audit proforma (Appendix 2) from the 2019 audit in order to investigate some additional areas.

### **Data Collection Tool**

Data were collected at site level which can be either the only site within a trust or several sites within a trust (Health Board in Wales) using a standardised method. Clinical involvement and supervision at team level is provided by a lead clinician in each hospital with overall responsibility for data quality. Data were collected using a web-based tool accessible via the internet. Security and confidentiality were maintained through the use of hospital codes and high data quality was ensured through the use of built in validations which prevented illogical data being entered. All sites were asked to export and check their data before final sign off on 5 November 2021. No changes to the data were possible after this point.

Each participating site was provided with a standardised help booklet containing data definitions and clarifications and this was context specific. These helpnotes were also available within the web-based proforma itself. A telephone and email helpdesk was provided to answer any individual queries. As this is a snapshot audit, sites were asked to reflect their service as of 1 October 2021.

### **Evidence Based Audit**

The acute organisational audit measures the structure of acute stroke services. It is evidence-based using standards and evidence from sources including the RCP National Clinical Guideline for Stroke, 4th edition, NICE Guidelines and the NICE Quality Standards.

### **Key Indicators of Acute Stroke Organisation**

In order to future proof the acute organisational audit, SSNAP has invested existing resources to streamline its data collection, analysis and reporting, ensuring future efficiencies in result dissemination. Participating sites have been measured against the specific criteria for 10 Key Indicators of acute stroke organisation identified for the 2019 audit. These Key Indicators were identified using the domains and Key Indicators from the 2016 audit as well as recent research and evidence. The full results portfolio includes site specific results for the 10 Key Indicators of acute stroke organisation and all data items are benchmarked against national averages.

### **Standards**

The current standards against which acute stroke services are compared are outlined throughout the report. They include the 10 Key Indicator standards (blue boxes), the updated NICE Quality Standards (green boxes) and the RCP Guidelines for Stroke (orange boxes). Some of the acute criteria against which hospitals were measured in 2016 have been incorporated into the results portfolio.

### **Definitions**

#### **Definition of a 'Site'**

Lead clinicians were asked to collect data on the basis of a unified service typically within a trust. For most trusts the 'site' was the trust. For some trusts there were several 'sites' each offering a discrete service. A site may include several hospitals.

Please note in this report 'trusts' is used as a generic term; however, it is acknowledged that in Wales, these are Health Boards.

### **Definition of a 'Stroke Unit'**

The definition used for a stroke unit (and used in this audit) is: Stroke unit - a multi-disciplinary team including specialist nursing staff based in a discrete ward which is geographically defined and has been designated for stroke patients.

There are three categories of stroke unit beds used at different parts of the care pathway which are referenced in this report:

*Type 1 beds* - used solely used for patients in the first 72 hours after stroke

*Type 2 beds* - solely used for patients beyond 72 hours after stroke

*Type 3 beds* - beds used for both the first 72 hours of care and beyond

### **How to Read this Report**

This report presents national level data for many important aspects of the organisation of stroke services. National results are presented as percentages or summarised by the median. The median is the middle point of the data where 50% of the values lie on either side. Ratios of staffing numbers per 10 stroke unit beds (or 30 beds for Key Indicator 2) are given rather than staffing numbers per stroke unit (SU) to allow comparison to national standards.

### **Denominators**

It is important to note that denominators vary throughout this report depending on the number of hospitals to which the analyses relate. To illustrate, denominators can include all sites which participated (157), sites with type 1 beds (83), sites with type two beds (98) and sites with type three beds (73).

In addition, there is 1 site that have patients referred to them for intra-arterial treatment; however, their participation in SSNAP is confined only to submitting data on the provision of thrombectomy. This site has submitted data on their provision of thrombectomy only. Therefore, in these instances the denominator will be 158.

### **Relationships between the acute organisational audit and the SSNAP clinical audit**

The SSNAP clinical audit prospectively measures the processes of stroke care for every patient through the longitudinal clinical audit and the acute organisational audit is a component of SSNAP that measures the quality of acute stroke services.

### **Presentation of Results**

Key aspects of acute stroke care organisation are addressed, including each of the 10 Key Indicators for the audit. There are comparisons with the 2014, 2016, 2019 and 2021 acute organisational audit (shown in the dark and light grey sections of data tables). Where possible throughout the report results are placed in the context of clinical processes for patients and national standards and guidelines (green and peach boxes). Clinical commentary is also given throughout.

## Appendix 4: Intercollegiate Stroke Working Party Membership

### Chair

Professor Martin James, Consultant Stroke Physician at the Royal Devon & Exeter Hospital, Exeter; Honorary Clinical Professor at the University of Exeter Medical School; Clinical Director, King's College London Stroke Programme

### Associate Directors, Stroke Programme

Dr Ajay Bhalla, Consultant Stroke Physician and Lead Clinician at Guy's and St Thomas' Hospital, London; Associate Clinical Director, King's College London Stroke Programme

Ms Louise Clark, Head of Occupational Therapy and AHP Lead for Stroke, Dorset County Hospital Foundation Trust; Associate Director of the Sentinel Stroke National Audit Programme

Dr Rebecca Fisher, Stroke Association Senior Lecturer at the University of Nottingham; Associate Director, King's College London Stroke Programme

### Working Party Members

#### *Association of British Neurologists*

Professor David Werring, Professor of Clinical Neurology, Stroke Research Centre, UCL Queen Square Institute of Neurology

#### *Association of Chartered Physiotherapists in Neurology (ACPIN)*

Professor Sarah Tyson, Professor of Rehabilitation, University of Manchester

#### *British and Irish Orthoptic Society*

Professor Fiona Rowe, Professor in Orthoptics, University of Liverpool

#### *British and Irish Association of Stroke Physicians*

Professor Gillian Mead, President of BASP; Professor of Stroke and Elderly Care Medicine, University of Edinburgh; Honorary Consultant Physician, NHS Lothian

#### *British Dietetic Association*

Ms Cara Lewis, Stroke Dietitian, Nutrition and Dietetics, St Thomas' Hospital

#### *British Geriatrics Society*

Dr Khalid Ali, Senior lecturer in Geriatrics and Stroke Medicine (Brighton and Sussex Medical School)

#### *British Psychological Society*

Dr Mark Griffiths, Consultant Lead Clinical Psychologist & Head of Psychology, Liverpool Heart & Chest NHS Foundation Trust

Dr Shirley Thomas, Associate Professor in Rehabilitation Psychology, Division of Rehabilitation and Ageing, University of Nottingham

#### *British Society of Neuroradiologists*

Dr Andrew Clifton, Interventional Neuroradiologist, St George's University Hospitals NHS Foundation Trust

### *British Society of Rehabilitation Medicine/Society for Research in Rehabilitation*

Professor Diane Playford, Professor of Neurological Rehabilitation/Honorary Consultant in Rehabilitation Medicine, Division of Health Sciences, Warwick Medical School

### *College of Paramedics*

Mr Joseph Dent, Advanced Practitioner, Salford Royal Hospital; Lead for stroke at College of Paramedics (British Paramedic Association)

### *Getting It Right First Time (GIRFT)*

Dr David Hargroves, National Clinical Lead for Stroke, Getting it Right First Time & Urgent and Emergency Stroke Care Work Stream Lead, Clinical Policy Unit, both for NHS England & NHS Improvement. Consultant Stroke Physician and Clinical Lead for Stroke, East Kent Hospital University Foundation Trust & NHS England and NHS Improvement – South East (Kent Surrey Sussex)

### *Health Economics Advice*

Professor Anita Patel, Director of Health Economics & Evaluation at Ipsos MORI; Honorary Professor at Queen Mary University of London

### *Healthcare Quality Improvement Partnership (HQIP)*

Mr Mirek Skrypak, Associate Director for Quality and Development, Healthcare Quality Improvement Partnership (HQIP)

### *SSNAP Data Science Project Director*

Dr Andrew Hill, Consultant Stroke Physician and CCIO for St Helens and Knowsley Teaching Hospital

### *King's College London*

Professor Charles Wolfe, Professor of Public Health, School of Life Course and Population Sciences

### *Patient representatives*

Mr Danny Lloyd

Mr Robert Norbury

Ms Marney Williams

### *National Clinical Director for Stroke (England)*

Dr Deborah Lowe, National Clinical Director for Stroke, National Specialty Advisor for Stroke Medicine – GIRFT, NHSI. Consultant Stroke Physician, Wirral University Teaching Hospital NHS Foundation Trust

### *NIMAST (Northern Ireland Multidisciplinary Association of Stroke Teams)*

Dr Patricia Gordon, Chair, NIMAST; Stroke Consultant, Royal Victoria Hospital, Belfast

Ms Nicola Moran, Website Liaison, NIMAST; Clinical Physiotherapy Specialist in Stroke, Royal Victoria Hospital, Belfast

#### *Royal College of General Practitioners*

Dr Iain Marshall, GP partner, Greyswood Practice, London; Clinical Academic Fellow, King's College London; RCGP Clinical Representative for Stroke

#### *Royal College of Nursing*

Dr Gill Cluckie, Stroke Nurse Consultant, St George's University Hospitals NHS Foundation Trust  
Ms Maria Ines de Sousa de Abreu, Neurology and Neurorehabilitation Clinical Nurse Specialist, Bromley Healthcare Care Coordination Centre

#### *Royal College of Occupational Therapists and Special Section Neurological Practice*

Ms Louise Clark, Head of Occupational Therapy and AHP Lead for Stroke, Dorset County Hospital Foundation Trust; Associate Director of the Sentinel Stroke National Audit Programme  
Professor Avril Drummond, Professor of Healthcare Research and Occupational Therapist, School of Health Sciences, University of Nottingham

#### *Royal College of Physicians*

Professor Thompson Robinson, Pro Vice-Chancellor and Head of the College of Life Sciences, and Dean of Medicine, College of Life Sciences, University of Leicester

#### *Royal College of Radiologists*

Professor Philip White, Professor of Interventional and Diagnostic Neuroradiology, Translational & Clinical Research Institute, Newcastle University

#### *Royal College of Speech & Language Therapists*

Professor Sue Pownall, Head of Speech & Language Therapy and Clinical Lead in Dysphagia, Sheffield Teaching Hospitals NHS Foundation Trust

#### *Stroke Association*

Dr Rubina Ahmed, Associate Director of Systems Engagement, and Interim Executive Director of Locality Impact  
Mrs Juliet Bouverie, Chief Executive, Stroke Association

#### *Stroke Implementation Group (Wales)*

Dr Shakeel Ahmad, National Clinical Director for Stroke (Wales), Consultant Stroke Physician, MBChB, FRCP  
Ms Niki Turner, Welsh National AHP Lead for Stroke  
Ms Claire Bryant, Welsh National Nursing Lead for Stroke

## Appendix 5: Summary of Denominators Used in the Report

| Summary of denominators used in the report |     |
|--|-----|
| Total Number of Sites                      | 157 |
| Sites with 72h service                     | 133 |
| Sites with type 1 bed                      | 83  |
| Sites with type 2 beds                     | 98  |
| Sites with type 3 beds                     | 73  |
| Thrombectomy only sites                    | 1   |
| Sites in England                           | 136 |
| Sites in Wales                             | 12  |
| Sites Northern Ireland                     | 8   |