# 🗂 Sentinel Stroke National Audit Programme

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| **UPCARE: 1.0 Programme name - please do not change this field.*** | Sentinel Stroke National Audit Programme |
| **1.1 Abbreviation** | SSNAP |
| **1.2 Audit or non-audit** | Audit |
| **1.3 HQIP commissioned*** | Yes |
| **1.4 Programme unique identifier*** | HQIP115 |
| **Contract status** | Ongoing |
| **HQIP AD** | DS |
| **HQIP PM** | SB |
| **1.5 Lead organisation*** | Kings College London |
| **1.6 Programme homepage*** | https://www.strokeaudit.org/ |

**1.7 Programme summary**

The Sentinel Stroke National Audit Programme (SSNAP) is a major national healthcare quality improvement programme based in the School of Life Course and Population Sciences at King's College London.  SSNAP measures the quality and organisation of stroke care in the NHS and is the single source of stroke data in England, Wales, and Northern Ireland.

SSNAP measures both the processes of care (clinical audit) provided to stroke patients, as well as the structure of stroke services (organisational audit) against evidence based standards, including the 2016 National Clinical Guideline for Stroke. The overall aim of SSNAP is to provide timely information to clinicians, commissioners, patients, and the public on how well stroke care is being delivered so it can be used as a tool to improve the quality of care that is provided to patients.

**2.1 Organogram**

https://www.strokeaudit.org/SupportFiles/Documents/Oversight/SSNAP-organogram.aspx

**2.2 Organisations involved in delivering the programme**

King's College London, https://www.kcl.ac.uk, Host Organisation

Net Solving - subcontracted to host the online data capture tool which facilitates data collection and analysis - https://netsolving.com/, Web Developer

**2.3 Governance arrangements**

The following governance groups (including representatives from all key stakeholders) are responsible for oversight of the project:

Project team: Responsible for daily management and delivery of the programme. Project management staff are employed to ensure data definitions and support areas are kept up-to-date for inter-rater reliability and to chase teams with poor participation/data quality. The team of analysts are embedded within the project team, and are involved throughout the audit.

Management group: Responsible for resource, contract and finance monitoring. Responsible for day-to-day oversight of deliverables and operations, serving as the primary mechanism for which advisory groups and satellite reference groups feed into the top-level governance groups. The group meets quarterly and is chaired by Professor Martin James. Membership includes: SSNAP Programme Managers, King's College London contracts, finance and research management representatives.

Project group: Responsible for operational oversight of functions as they relate to the hosting organisation (King's College London). The group meets twice a year and is chaired by Professor Charles Wolfe. Membership includes: SSNAP Clinical Director, Stroke Programme Manager, Head of Department (Population Health Sciences) and School Manager (School of Life Course and Population Sciences).

Programme board: Responsible for oversight of all strategic and governance issues related to the programme. Also governs and oversees all external and stakeholder relationships. The group meets annually and is chaired by Professor Mark Barber. Membership includes representatives from King's College London, SSNAP, NHS Wales, NHS England, Stroke Association, PPV and HQIP.

External Reference Group (ERG): SSNAP seeks consultation from the ERG to review and provide constructive advice and criticism to the programme team to help deliver the aims of the programme. The group meets annually and is chaired by Dr Ajay Bhalla. Membership includes representatives from: SSNAP, NICE, International audits, Welsh Implementation Group, NIMAST, Royal College of Physicians, Public Health England and NCDs for Stroke, Cardiac, Cardiovascular Prevention and Mental Health.

Intercollegiate Stroke Working Party (ICSWP): A multi-speciality, multi-disciplinary national expert group committed to sustained long-term quality improvement int he care and treatment of people with stroke and their families and carers. Responsible for monitoring the progress of the audits, including monitoring trends in results, and annual dataset reviews. The group meets three times a year and is chaired by Professor Martin James. Membership includes: https://www.strokeaudit.org/About/Our-governance/Oversight.aspx

Scientific Advisory Group: Responsible for providing expert guidance on internal research priorities, external data requests and advising on quality improvement methodologies as they relate to national audit. The group is chaired by Professor Chris Price. Membership includes representatives from: SSNAP, Department of Population Health Sciences and PPV representative.

**Data sign off process:**

Only 'locked' data are included in SSNAP analysis. The process of locking ensures high data quality and signifies that the data have been signed off by the lead clinician and are ready for central analysis. SSNAP records can be locked at three levels depending on their level of completion: 'Locked to 72 hours' for patients who have received their acute care provision; 'locked to discharge' for

patients who have been discharged from one or more care provider; 'locked to six months' for patients for patients for whom 6 month assessment status has been recorded. Once submitted to SSNAP, reports are generated using these locked data and before being made available to teams are rigorously checked and then signed off by the head analyst, programme manager and clinical director.

Data deadlines are provided via our website and regular email reminders to participants. Teams are allowed a month of data entry following the reporting period prior to the data locking deadline ([https://www.strokeaudit.org/Audits/Dates-and-deadlines/Data-collection-deadlines.aspx](https://www.strokeaudit.org/Audits/Dates-and-deadlines/Data-collection-deadlines.aspx)). Once analysis is complete, reporting outputs are rigorously checked by the team before being phased to teams. Reports are initially only available to individual teams, so that each team can only see their own data – therefore providing teams with the ability to query and check the data before being made available to the wider NHS and subsequently the public.

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| **2.4 Stakeholder engagement** | The Intercollegiate Stroke Working Party (ICSWP) is vital in involving feedback from a wide variety of stakeholders. This comprises members from healthcare professions in the stroke care pathway; patient and carer representative organisations; patients; and representatives from King's College London (KCL). Meeting every 4 months, it monitors progress of the audit, including monitoring trends in results, and annual dataset reviews. |

Patient involvement continues to develop with close working with the Stroke Association, Stroke Research Patients and Family Group, Speakeasy and presence at a wide range of patient conferences. The work with patient groups is represented in lay outputs and accessible formats using data visualisation and is kept under review by the patient groups working closely with SSNAP. SSNAP aims to enable stroke patients and the general public to ask searching questions.

Since its inception SSNAP has had significant patient, carer and family engagement in addition to close collaboration with the Stroke Association. Patient representation will remain embedded in SSNAP governance and delivery through:

- Representation on the ICSWP, which includes two stroke survivors and two Stroke Association representatives;
- Representation on the SSNAP Programme Board;
- Establishment of a PPV focus group, including stroke charities, stroke research participants, and patient and carer representatives;
- Collaborating with KCL's PPV experts, including the stroke research patients and family group and the 'Improving the Lives of Stroke Survivors with Data' programme grant team.

Through these channels, patients will play a central role in developing, agreeing and finalising improvement goals and measures.  Specifically, they will be closely involved in:

- Discussions around SSNAP's Healthcare Improvement Strategy and QI initiatives;
- Consultation on information governance and fair use of patient data (e.g. our recent PPV work to support exemption from the National Data Opt-Out);
- Co-producing outputs for patients and public including infographics and Easy Access versions;
- Disseminating and 'road testing' audit outputs within their own networks.

SSNAP's existing Easy Access Versions (EAVs) of audit results were developed in response to feedback from and in collaboration with stroke survivors and carers.

They were and will continue to be developed with survivors themselves, particularly Speakeasy – a charity based in Bury which supports people with aphasia – and the Stroke Research Patient and Family Group, based at King's College London.

SSNAP also benefits from four clinical leads with extensive and successful experience in stroke care, audit and clinical improvement: a Clinical Director (Professor Martin James), and associate Clinical Directors Dr Ajay Bhalla, Ms Louise Clark and Dr Rebecca Fisher. They provide day-to-day clinical direction of the audit, assist the delivery team in addressing issues raised by teams, review and interpret results and develop clinical commentary for outputs. They also routinely advise on the design of new outputs and continue to be instrumental in SSNAP's ability to rapidly respond to new evidence e.g the emerging use of thrombectomy.

SSNAP also works closely with the Best Practice Tariff (BPT), which is a part of the National Tariff Payment System (a set of prices and rules to help providers of NHS care and commissioners provide best value to their patients). SSNAP offers a BPT tool to help teams calculate their outcomes relating to the BPT incentives. SSNAP also works closely with specialised commissioning, CQC and the NHS England Long Term plan for stroke.

SSNAP has also been working with the GIRFT programme to assist in their regional meetings, provide new slideshows and work on the Acute Organisational Audits 2019 and 2021.

**2.5 Conflict of interest policy**

Regularly updated lists of membership of the steering group (ICSWP) are available on the SSNAP website ([https://www.strokeaudit.org/About/Our-governance/Oversight.aspx](https://www.strokeaudit.org/About/Our-governance/Oversight.aspx)).

The ICSWP follows the NICE declarations of interest policy ([https://www.nice.org.uk/Media/Default/About/Who-we-are/Policies-and-procedures/declaration-of-interests-policy.pdf](https://www.nice.org.uk/Media/Default/About/Who-we-are/Policies-and-procedures/declaration-of-interests-policy.pdf)).

When discussion occurs in relation to a declared competing interest of a member, that member is required to verbally reiterate his/her interest and depending on the type and level of interest (as judged by the chair of the ICSWP), that member is excluded from contributing to the discussion.

**3.1 Quality improvement goals**

The overarching QI objectives of SSNAP are to:

- Review and adjust metrics, to support national policies and priorities following on from the published NHS England National Stroke Service Model, Integrated Community Stroke Service Model and GIRFT recommendations
- Identify areas across the patient pathway for action through facilitation and stimulation of QI in relation to delivery and outcomes of care
- Assess whether stroke patients receive high quality, timely and equitable care and services when measured against adherence to agreed guidance and standards
- Ensure that all process measures have an aspirational % quoted for participating units to aim for
- Reduce unwarranted variation through benchmarking of performance and outcome measures
- Report outlier identification and management using the appropriate guidance

- Measure and report health inequality in relation to impact on the specified audit measures
- Maximise the potential for data collected to drive improvements in care at local (trust), network (ISDN), regional and national levels, involving patients and their families/carers in service improvement in a developmental way
- Share best practice and QI examples, and signposting to resources available in the wider stroke pathway landscape
- Adapt QI priorities in line with new evidence-based practice and guidance
- Enable data to support stroke policy development and quality control/assurance functions at funder level.

The SSNAP data driven healthcare quality improvement (QI) 3 year aims are to:

- Contribute to the improvement of the thrombolysis rate to 14.5% (with a NHS LTP target of 20% by 2029) for all patients who could benefit from it
- Contribute to the improvement of the mechanical thrombectomy rate to 8%-10% by 2029, including data and reporting to enable measurement for quality improvement through the communities of practice
- Ensure stroke patients spend 90% of their admission on a specialised stroke unit
- Ensure ongoing dynamic development of Integrated Stroke Delivery Networks (ISDNs) data dashboards to support ISDNs and Integrated Care/Health Boards and regional directorates.
- Evolve the post-acute care data set to enable community care and life after stroke services to measure for quality improvement including 6-month review, patient experience and outcome data
- Ensure workforce and organisational data in acute and post-acute care pathways is available to benchmark and inform processes for improved outcomes in stroke care
- Where possible, extend the audit to assess the quality of care delivered to patients who have had a stroke but are treated in non-stroke specific settings such as A&E or outpatient settings
- Understand the processes of care given to patients that have been managed by stroke teams but are missing from national stroke data sets including patients who have had TIAs (transient ischemic attacks), minor strokes and/or stroke mimics.

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| **3.3a Methods for stimulating quality improvement*** | Best practice tariff (BPT); Peer review programme; Sharing good practice repository; On-line Quality Improvement guides; Workshops; NHS England improvement programme; Getting It Right First Time (GIRFT) |
| **3.3b Quality improvement supplemental information** | Getting It Right First Time (GIRFT) |
| **4a) Please add the most recent date that you have reviewed and updated an online version of UPCARE (Programme section) on your project's website (click into the** | 06/03/2024 |

**response to see pop-up guidance).**

**4b) Please add a hyperlink to UPCARE (Programme section) on your website (click into the response to see pop-up guidance).\***

https://www.strokeaudit.org/About/About-SSNAP.aspx

# Sentinel Stroke National Audit Programme

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| **UPCARE: Programme name - please do not change this field.*** | Sentinel Stroke National Audit Programme |
| **Workstream name (if applicable) - please do not change this field.*** | Not applicable |
| **Contract status** | Ongoing |
| **Audit or non-audit** | Audit |
| **HQIP commissioned*** | Yes |
| **HQIP AD** | DS |
| **HQIP PM** | SB |
| **1.0 Included in current NHS Quality Accounts*** | Yes |
| **1.1a Geographical coverage - HQIP agreement*** | England; Wales |
| **1.1b Geographical coverage - External agreement** | Northern Ireland; Isle of Man; Jersey |
| **1.2a Topic - please select which ONE of the following best describes the topic area for the programme or workstream. If more than one apply, please select 'Other' and add comment to the next question.*** | Other (please describe in next question) |
| **1.2b If you selected 'Other' above, please provide details.*** | Stroke |
| **1.3a Healthcare setting*** | NHS secondary or tertiary care; NHS community care; NHS ambulance care |
| **1.4 Inclusion and exclusion criteria*** | All patients admitted to a hospital in England, Wales and Northern Ireland with a primary diagnosis of stroke coded as I-61, I-63, I-64 should be submitted to SSNAP. The minimum age for patient submission to SSNAP is 16. The dataset follows the patient from admission up to 6 months and has the potential to record care processes provided by any stroke service in England, Wales and Northern Ireland which treats at least 10 patients per year. |

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| **1.5 Methods of data submission*** | Bespoke data submission by healthcare provider; Extraction from existing data source(s) |
| **1.6a 2023/24 data submission closes - please indicate date, series of dates or frequency.*** | Quarterly results data-locking deadlines: |
| | April-June 2023 - 8 August 2023 |
| | July-September 2023 - 6 November 2023 |
| | October-December 2023 - 5 February 2024 |
| | January-March 2024 - 7 May 2024 |
| | Annual results data-locking deadline: |
| | April 2023-March 2024 - 7 May 2024 |
| **1.6b 2024/25 data submission closes - please indicate date, series of dates or frequency.*** | Quarterly results data-locking deadlines: |
| | April-June 2024 - 5 August 2024 |
| | July-September 2024 - 4 November 2024 |
| | October-December 2024 - 3 February 2025 |
| | January-March 2025 - 6 May 2025 |
| | Annual results data-locking deadline: |
| | April 2024-March 2025 - 6 May 2025 |
| **1.7 Data flow diagram** | https://www.strokeaudit.org/SupportFiles/Documents/Legal/SSNAP-data-flow-diagram.aspx |
| **1.8 Data quality & analysis plan** | **Data analysis** |

SSNAP reports frequencies, medians, inter-quartile ranges and other summary statistics by team, ISDN and ICS/LHB (previously CCG) grouped by region to enable comparison between teams and the national results. Results are tailored for different types of teams. Team reports show both the national average benchmark, and the national expectation, which is the agreed "best practice" standard of performance, to encourage improvement beyond average performance. The complex but robust scoring systems, including the composite overall SSNAP score that rates a team as A-E, continue to be utilised to enable everyone from the public to clinicians to compare services in their region or across England and Wales. This also allows multiple dependencies to be met, including the use of SSNAP data for the CQC and previously CCG OIS.

Prior to the dissolution of CCGs in July 2021, population-level reanalysis of the data was utilised for CCG/LHB comparisons where the patient was assigned to a CCG/LHB based on their postcode of residence, rather than based on the provider who treats them. This was particularly important for reporting CCG OIS measures to allow commissioners to understand the care received by their population and bespoke CCG and LHB dashboards were created to compare performance with other CCGs and LHBs using caterpillar

plots. Similar analysis will be performed based on the new Integrated Care Systems (ICSs).

Team-level run charts on a range of key metrics are made available to teams in a slideshow so that the multidisciplinary team can review their performance and discuss ways to improve.

Patient-level root-cause analysis tools are produced for key interventions such as thrombolysis to allow teams to compare their individual patient performance with evidence-based best practice and identify key delays or failings.

SSNAP continues to collect data, analyse and report on both performance on care processes, and patient outcomes. Different statistical techniques are employed for different types of measures and outputs. This mix of approaches has proven extremely effective over the last ten years of SSNAP, as illustrated by the significant improvements in multiple key indicators.

For reporting of performance on care processes, specific exclusion criteria is recorded in the audit, and for all other patients, the percentage compliance is compared to set national expectations. Compliance is visualised in a range of graphics including run charts and caterpillar plots.

For patient outcomes, risk adjustment is utilised. Case-mix adjustment is used for 30-day mortality analyses undertaken once a year, and SSNAP has incorporated the most up to date 2021 HQIP outlier process guidance on outlier detection and continues to use this for reporting mortality outliers. Mortality results are displayed using funnel plots. The casemix adjustment for 30-day mortality is recalibrated each year, but will continue to use the same identified variables in the model from the peer-reviewed and externally validated model outlined here:
https://www.ncbi.nlm.nih.gov/pubmed/25293667

For other risk adjusted models, the adjustment is derived in conjunction with the KCL statistical team to ensure appropriate modelling and inclusion of variables.

Other types of outliers in SSNAP (e.g. those teams who have consistently failed to improve over the past 4 years or who are declining) are approached via the peer review and National Clinical Director review process that SSNAP has developed.

The key methodology is available here: https://www.strokeaudit.org/Audits/Clinical-audit-information/Data-analysis-and-methodology.aspx

Additional information can be found in the "Technical information" tab in all SSNAP Results Portfolios.

**Data quality**

The webtool has built in validations, prompts and a system of "locking" which ensures that the data inputted is logically consistent (e.g. the date/time of discharge from a stroke unit must be after arrival at the stroke unit). In addition, in-depth casemix data is reported back to teams regularly highlighting any anomalous fields so that they can be reviewed to determine if it is a genuine difference in casemix or a data entry error. These comprehensive validations ensure as much as is possible that complete, robust data are collected.

The success of SSNAP depends on complete and timely data being submitted so that there is rapid turnaround of reporting to facilitate change.

SSNAP provides an "audit compliance" score for each participating team in order to ensure that the data are complete, of high data quality and produced as close to the time the patients were admitted or discharged as possible. Individual teams are provided with a weighted audit compliance score to provide a context in which to interpret their process of care results and identify areas of improvement.

The audit compliance score includes measures of high usage of "unknown" data items, in particular the elements of the NIHSS. In response to feedback from post-acute teams, some measures of speed of data entry and data transfer were added to ensure that these teams are able to complete their sections in a timely way so that the rapid turnaround of results can be maintained. Full details of this score can be found here - https://ssnap.zendesk.com/hc/en-us/articles/115003840345-Audit-Compliance-How-is-it-calculated-

**Data linkage**

SSNAP only share patient-level data following a strict governance procedure to ensure compliance with the Data Protection Act. SSNAP have permission to link patient-level data with other national databases on a case-by-case basis, only for the agreed purpose outlined in the section 251 agreement. As part of this process SSNAP must assure the confidentiality advisory group that SSNAP will use the patient information to improve patient care and serve the wider public interest. SSNAP holds current Data Sharing Agreements with NHS England (previously NHS Digital) that grants permission for SSNAP to link data collected in England and Wales with Hospital Episode Statistics (HES) and Office of National Statistics (ONS) data. NHS England are the data controllers of HES and ONS data i.e. they are the organisation in control of processing the data. Linkage with HES data enables SSNAP to compare the number of records submitted to SSNAP with the number recorded retrospectively in HES to ensure high data quality. This linkage also enables analyses on the associations between stroke and other medical conditions. Linking with ONS data allows SSNAP to report all-cause mortality rates in the first 30 days after patients are admitted to hospital with stroke. Aggregate level mortality data is reported at hospital level annually and, once reviewed by all hospitals, are made available in the public domain.

Process for data linkage: KCL will send cohort information to NHS England for linkage, they send NHS Number, Full postcode, Name, and a unique SSNAP ID.

NHS England return:

- Non sensitive pseudonymised HES data with SSNAP ID for patients in cohort
- Non sensitive pseudonymised HES data for patients with a diagnosis of stroke
- Identifiable ONS date and cause of death

KCL combine HES and ONS data with SSNAP data and combine into separate databases; one with SSNAP and ONS data and the other with SSNAP and HES data.

Pseudonymised HES Data is then analysed to calculate case ascertainment information for the audit. HES data is also used to validate some of the information collected in the audit. No HES data is stored or processed by Netsolving, all processing is undertaken at KCL.

Identifiable ONS data is analysed to produce 30 day mortality at CCG level and stroke team level (team usually equates to a hospital). Cause of death is used to disaggregate stroke specific deaths and deaths from other causes.

For statistical purposes such as monitoring trends identifiable ONS death data is also passed back (via the secure webtool hosted by Netsolving) to registered individuals at participating trusts whereby they can access date of death for patients they submit to the audit. All arrangements for 3rd party access will be controlled through sublicensing agreements and will be for the benefit of health and care; all arrangements will be approved by the NHS England before data being sent.

All individuals with access to the data are substantive employees of King's College London.

**1.9 Outlier policy**

SSNAP stroke mortality outlier policy: https://ssnap.zendesk.com/hc/en-us/articles/115004491389-Outlier-policy-SSNAP-stroke-mortality-reporting

**2.1 Outcome measures**

- 30 day mortality data reporting - Provided on an annual basis (a full information sheet on mortality data reporting is available here - https://ssnap.zendesk.com/hc/en-us/articles/115005129885-Mortality-Information-Sheet)
- Institutionalisation rates (reported quarterly)
- Modified Rankin Scale (MRS) at 3 time points (reported on quarterly)
- In-hospital mortality (reported annually)
- 6 month outcomes after stroke (reported quarterly)
- NIHSS after Intra-arterial treatment (IAT) and Thrombolysis (tPA) (reported annually)
- Pneumonia and infection rates (reported quarterly)

**2.2 Process measures**

The SSNAP clinical audit primarily reports on process metrics, such as initial process of care timings and whether various assessments are achieved. Every 3 months and annually SSNAP reports on a large variety of process metrics, all of which are publicly available here: https://www.strokeaudit.org/Results2/Clinical-audit.aspx,  additional focus is put upon the 44 Key Indicators which are used for scoring trusts, a list of which is available here: https://www.strokeaudit.org/SupportFiles/Documents/Clinical-audit-information/SSNAP-Domains-and-Key-Indicators.aspx.

**2.3 Organisational measures**

Any mention of organisational measures collected by SSNAP in this document refer to organisational audits completed up to 31 March 2023. The organisational audits are being reviewed and reworked for the contracting periods 1 April 2023-31 March 2026.

The acute organisational audit provides a biennial 'snap-shot' of the quality of stroke service organisation in acute settings. The last five rounds of this audit (2012, 2014, 2016, 2019 and 2021) have achieved 100% participation;

with full information available here: https://www.strokeaudit.org/Audits/Acute-organisational-audit-information/About.aspx

The post-acute organisational audit provides a 'snapshot' of the structure and organisation of post-acute stroke services in England, Wales and Northern Ireland. The audit has been run twice, the first in 2015 and the second in 2021. Full information available here: https://www.strokeaudit.org/Audits/Post-acute-organisational-audit-information/About.aspx

**2.4 Patient reported outcome measures**

EQ5D-5L after stroke was added to the 6 month assessment dataset from 1 July 2021.

**2.6a Do measures align with any of the following sources of evidence (select all that apply)**

NICE clinical guideline; NICE quality standard; Royal College

**2.6b Evidence supplemental information**

The SSNAP clinical core dataset was developed and is overseen by the ICSWP in collaboration with other major stakeholders in the stroke community including NHS England and Wales. Measures are reviewed annually by the project team, clinical leads and ICSWP taking account of updated standards and guidelines to ensure appropriate measurement that weighs burden on participants against the benefit for services and patients.

Process measures related to timing of important evidenced based processes are reported in sufficient detail to be able to provide discriminant analysis, changes over time and to compare key times of day and day of the week, month of the year.

The results from the SSNAP clinical audit compare delivery of care with standards derived from systematically retrieved and critically appraised research evidence and agreed by experts in all disciplines involved in the management of stroke. The strength of evidence is outlined in the guidelines. All evidence and standards used in the SSNAP audits are available in the following:

- National clinical guideline for stroke 5th edition (Royal College of Physicians, 2016)
- Stroke and transient ischaemic attack in over 16s: diagnosis and initial management [NG128] (NICE, 2019)
- Stroke rehabilitation in adults [NG236] (NICE 2023)
- NICE Quality Standard for Stroke 2016

The current current datasets can be seen here:

Clinical: https://ssnap.zendesk.com/hc/en-us/articles/115003811269-SSNAP-Clinical-Audit-Datasets

Acute organisational: https://www.strokeaudit.org/Audits/Acute-organisational-audit-information/Dataset-and-helpnotes.aspx

Post-acute organisational: https://www.strokeaudit.org/Audits/Post-acute-organisational-audit-information/Dataset-and-helpnotes.aspx

In summary, these cover:

Organisation

- staffing
- quality of stroke unit
- stroke unit coverage, access to stroke unit; acute care organisations
- TIA/neurovascular service
- multidisciplinary working

Process

- acute care processes
- door to needle time
- time to scan
- time to stroke unit
- medical, nursing and therapy assessments and screening
- therapy intensity
- use of IPC for prevention of DVT

Outcomes of care

- complications (e.g., pneumonia)
- 30 day mortality
- modified Rankin score at discharge and at 6 months

It is important to note that each measure was selected and is reviewed on the basis that it enables clinical teams and managers to make incremental improvements in evidence based processes.

An outline of the key evidence for each of the 10 Domains of care in the SSNAP Clinical Audit are provided below. These 10 domains are the areas on which SSNAP teams are scored.

**Scanning Domain**

*RCP National Clinical Guideline for Stroke, 5th Edition*

2.3.1 E Acute stroke services should have continuous access to brain imaging including CT angiography and should be capable of undertaking immediate brain imaging when clinically indicated.

3.4.1 B Patients with suspected acute stroke should receive brain imaging urgently and at most within 1 hour of arrival at hospital.

**Stroke Unit Domain**

*RCP National Clinical Guideline for Stroke, 5th Edition*

2.2.1 B People with an acute neurological presentation suspected to be a stroke should be admitted directly to a hyperacute stroke unit which cares predominantly for stroke patients.

C Acute hospitals receiving medical admissions that include people with suspected stroke should have arrangements to admit them directly to a hyperacute stroke unit on site or at a neighbouring hospital, to monitor and regulate basic physiological functions such as neurological status, blood glucose, oxygenation, and blood pressure.

D Acute hospitals that admit people with stroke should have immediate access to a specialist stroke rehabilitation unit on site or at a neighbouring hospital.

2.3.1 B People with suspected acute stroke (including when occurring in people already in hospital) should be admitted directly to a hyperacute stroke unit and be assessed for emergency stroke treatments by a specialist physician without delay.

2.4.1 A People with stroke should be treated on a specialist stroke unit throughout their hospital stay unless their stroke is not the predominant clinical problem.

K A facility that provides treatment for in-patients with stroke should include:

- a geographically-defined unit;
- a co-ordinated multi-disciplinary team that meets at least once a week for the exchange of information about in-patients with stroke;
- information, advice and support for people with stroke and their family/carers;
- management protocols for common problems, based upon the best available evidence;
- close links and protocols for the transfer of care with other in-patient stroke services, early supported discharge teams and community services;
- training for healthcare professionals in the specialty of stroke.

NICE Quality Standards

Statement 1: Adults presenting at an accident and emergency (A&E) department with suspected stroke are admitted to a specialist acute stroke unit within 4 hours of arrival. [2010, updated 2016]

**Thrombolysis Domain**

*RCP National Clinical Guideline for Stroke, 5th Edition*

3.5.1A Patients with acute ischaemic stroke, regardless of age or stroke severity, in whom treatment can be started within 3 hours of known onset should be considered for treatment with alteplase.

3.5.1E Alteplase should only be administered within a well-organised stroke service with: - - processes throughout the emergency pathway to minimise delays to treatment, to ensure that thrombolysis is administered as soon as possible after stroke onset;

− staff trained in the delivery of thrombolysis and monitoring for post-thrombolysis complications;

− nurse staffing levels equivalent to those required in level 1 or level 2 nursing care with training in acute stroke and thrombolysis;

− immediate access to imaging and re-imaging, and staff appropriately trained to interpret the images;

− protocols in place for the management of post-thrombolysis complications.

**Specialist Assessments Domain**

*RCP National Clinical Guideline for Stroke, 5th Edition*

2.3.1B People with suspected acute stroke (including when occurring in people already in hospital) should be admitted directly to a hyperacute stroke

unit and be assessed for emergency stroke treatments by a specialist physician without delay.

3.10.1E Patients with acute stroke should have their swallowing screened, using a validated screening tool, by a trained healthcare professional within four hours of arrival at hospital and before being given any oral food, fluid or medication.

**Occupational Therapy Domain**

*RCP National Clinical Guideline for Stroke, 5th Edition*

2.11.1A People with stroke should accumulate at least 45 minutes of each appropriate therapy every day, at a frequency that enables them to meet their rehabilitation goals, and for as long as they are willing and capable of participating and showing measurable benefit from treatment.

*NICE Quality Standards*

Statement 2: Adults having stroke rehabilitation in hospital or in the community are offered at least 45 minutes of each relevant therapy for a minimum of 5 days a week. [2010, updated 2016]

**Physiotherapy Domain**

 RCP National Clinical Guideline for Stroke, 5th Edition

2.11.1A People with stroke should accumulate at least 45 minutes of each appropriate therapy every day, at a frequency that enables them to meet their rehabilitation goals, and for as long as they are willing and capable of participating and showing measurable benefit from treatment.

NICE Quality Standards

Statement 2: Adults having stroke rehabilitation in hospital or in the community are offered at least 45 minutes of each relevant therapy for a minimum of 5 days a week. [2010, updated 2016]

**Speech and Language Therapy Domain**

RCP National Clinical Guideline for Stroke, 5th Edition

2.11.1A People with stroke should accumulate at least 45 minutes of each appropriate therapy every day, at a frequency that enables them to meet their rehabilitation goals, and for as long as they are willing and capable of participating and showing measurable benefit from treatment.

NICE Quality Standards

Statement 2: Adults having stroke rehabilitation in hospital or in the community are offered at least 45 minutes of each relevant therapy for a minimum of 5 days a week. [2010, updated 2016]

**Multidisciplinary team working Domain**

RCP National Clinical Guideline for Stroke, 5th Edition

4.4.1.1.1A People with communication problems after stroke should be assessed by a speech and language therapist to diagnose the problem and to explain the nature and implications to the person, their family/carers and the multidisciplinary team. Reassessment in the first four months should only

be undertaken if the results will affect decision making or are required for mental capacity assessment.

**Standards by Discharge Domain**

RCP National Clinical Guideline for Stroke, 5th Edition

2.12.1F Services for people with stroke should include specialist clinical neuropsychology/clinical psychology provision for severe or persistent symptoms of emotional disturbance, mood or cognition.

4.7.1F Patients with stroke who are unable to maintain adequate nutrition and fluids orally should be:

− referred to a dietitian for specialist nutritional assessment, advice and monitoring;

− be considered for nasogastric tube feeding within 24 hours of admission;

 − assessed for a nasal bridle if the nasogastric tube needs frequent replacement, using locally agreed protocols;

− Assessed for gastrostomy if they are unable to tolerate a nasogastric tube with nasal bridle

**Discharge Processes Domain**

RCP National Clinical Guideline for Stroke, 5th Edition

2.7.1A Hospital in-patients with stroke who have mild to moderate disability should be offered early supported discharge, with treatment at home beginning within 24 hours of discharge

NICE Quality Standards

Statement 4: Adults who have had a stroke are offered early supported discharge if the core multidisciplinary stroke team assess that it is suitable for them. [2016]

| | |
|---|---|
| **3.1 Results visualisation** | Interactive online portal (run charts not available); Static data files; Annual report; Patient report |
| **3.2a Levels of reporting*** | National; Trust or health board; Hospital or specialist unit; Integrated care system (ICS); NHS region or other geographic area; Other (please describe in next question) |
| **3.2b If you selected 'Other' above, please provide details*** | Ambulance trust |
| **3.3 Timeliness of results feedback** | Within 3 months |
| **2023/24 Dataset covers the period FROM/TO (within financial year 01/04 to 31/03)*** | 01/04/2023 - 31/03/2024 |

| | |
|---|---|
| **2024/25 Dataset covers the period FROM/TO (within financial year 01/04 to 31/03)\*** | 01/04/2024 - 31/03/2025 |
| **Dataset #1 name** | Clinical Dataset |
| **Dataset #1 type\*** | Clinical audit |
| **Dataset #1 population coverage\*** | All eligible patients |
| **Dataset #1 use of existing national datasets** | Hospital episode statistics (HES); Office for National Statistics (ONS) |
| **Dataset #1 specification** | Full core dataset available here: https://ssnap.zendesk.com/hc/en-us/articles/115003811269-SSNAP-Clinical-Audit-Datasets |
| | Full helpnotes for questions within the dataset are available here: https://ssnap.zendesk.com/hc/en-us/articles/115003811129-SSNAP-Help-Notes |
| | Further detail, including FAQs and detailed technical information (such as how each indicator is calculated) are available via our Help centre - ssnap.zendesk.com  specifically the Simplified Technical Guidance section: https://ssnap.zendesk.com/hc/en-us/categories/360003171177-Simplified-Technical-Guidance |
| | The dataset for pre-hospital data is available to download here: https://ssnap.zendesk.com/hc/en-us/articles/115003811269-SSNAP-Clinical-Audit-Datasets |
| **Dataset #2 name** | Acute Organisational Audit |
| **Dataset #2 type\*** | Organisational audit |
| **Dataset #2 specification** | 2021 dataset available here: https://www.strokeaudit.org/Audits/Acute-organisational-audit-information/Dataset-and-helpnotes.aspx |
| **Dataset #3 name** | Post-acute organisational audit |
| **Dataset #3 type\*** | Organisational audit |
| **Dataset #3 specification** | 2021 dataset available here: https://www.strokeaudit.org/Audits/Post-acute-organisational-audit-information/Dataset-and-helpnotes.aspx |
| **Dataset #4 name** | Not applicable |
| **When was your Healthcare Improvement Plan (sometimes referred to as a Quality Improvement Plan)** | 27/10/2023 |

**last reviewed? Please upload under 'Files' below using naming convention ('yyyymmdd_PROGRAMME-Workstream-HIplan').**

**National report publication date (within calendar year 01/01 - 31/12/2023)\***  09/11/2023

**Published/planned national report publication date (within calendar year 01/01 - 31/12/2024)\***  14/11/2024

**Planned national report publication date (within calendar year 01/01 - 31/12/2025)\***  13/11/2025

**Please add the most recent date that you have reviewed and updated an online version of UPCARE Workstream section(s) on your project's website (click into the response to see pop-up guidance).**  06/03/2024

**Please add a hyperlink to UPCARE Workstream section(s) on your website (click into the response to see pop-up guidance).\***  https://www.strokeaudit.org/About/About-SSNAP.aspx

**Files**  20231027_SSNAP_HIplan.pdf