Analysis Method Notice

Acute Stroke Quality Improvement Measures (QIMs): Percentage Thrombolysed within 45 Minutes

This notice describes an Analysis Method that has been developed for use in the production of published national outcome indicators, performance measures and/or currencies, which are derived directly from NHS Wales data.

The Analysis Method has been reviewed by the Analysis Methodologies Group and its output submitted to the Welsh Information Standards Board (WISB) for potential accreditation.

*It should be noted that, where the data flow on which the analysis is being undertaken has not been reviewed by WISB (see 'Status of WISB Data Standards Assurance' below), accreditation of the analysis method **cannot** be interpreted as an approval of the underlying data standards or the quality of the data used.*

It is recognised that formal review and/or assurance of the data flow may have been undertaken by other bodies, where those data are being formally published; for example, as Official Statistics'. In such circumstances, users of this method are advised to contact the relevant organisations should they require further information on the underlying quality of the specified data source.

For further details about the group, including Terms of Reference and membership, please visit the following website:

http://howis.wales.nhs.uk/sites3/page.cfm?orgid=742&pid=56696

WISB Reference: ISRN 2018 / 009

Please address enquiries about this Analysis Method the NHS Wales Informatics Service Data Standards Team.

E-mail: data.standards@wales.nhs.uk / Tel: 029 2050 2539

WISB Analysis Method Appraisal Assessment	**Accredited** This Analysis Method has been appraised by WISB and is felt to: • Meet the specified indicator requirement, in that it is suitable for its calculation / derivation; • Is reproducible by organisations, where appropriate.
WISB Analysis Method Appraisal Outcome(s)	

Status of Data Standards Assurance	**WISB Reviewed** The data used in this Analysis Method are based on data item standards that have been through the Information Standards Assurance Process.
WISB Decision	**Approved**
Data Standards Assurance Outcome(s)	

Indicator

The percentage of thrombolysed patients with a door-to-needle time of less than or equal to 45 mins.

Target:
12 month improvement trend

Rationale / Context

The use of appropriate care interventions as an approach to improving the reliability of care has been demonstrated successfully via the use of the current stroke bundles, and is also backed by a growing body of published results in medical journals.

Acute Stroke Quality Improvement Measures (QIMs) build on the success of All Wales Stroke Services Improvement Collaborative (AWSSIC) Intelligence Targets through the continued application of approaches to continuous improvement, and have been derived from the RCP's ongoing clinical audit process (SSNAP).   This is in line with the recommendations of the Palmer Report for Welsh Government (2014), the RCP (2014) and the NHS Wales National Clinical Audit and Outcome Review Plan (2014/15).

The indicators themselves and their methodologies align with clinically recognised evidence based best practice, and have already undergone a process of rigorous assurance as part of the RCP's section 251 powers set out under the NHS Act 2006.

In Wales, these indicators have been widely consulted and agreed upon by UHBs, WG Clinical Lead for Stroke and the Stroke Implementation Group, as well as all-Wales clinical bodies the Welsh Association of Stroke Physicians (WASP) and the Welsh Stroke Alliance (WSA).

Full details regarding the national clinical guidelines for stroke can be found at the following address:
https://www.rcplondon.ac.uk/sites/default/files/national-clinical-guidelines-for-stroke-fourth-edition.pdf

Data Source(s)

RCP Sentinel Stroke National Audit Programme (SSNAP) https://www.strokeaudit.org/

Definitions:

Definitional Guidance:

Data Items:

Measure	Related Data Item	SSNAP Question	Question
Denominator	S2Thrombolysis	2.6	Was the patient given thrombolysis?
Clock Start	S1OnsetinHospital	1.10	Was the patient already an inpatient at the time of stroke?
	S1OnsetDateTime	1.11	Date/time of onset/awareness

	S1FirstArrivalDateTime	1.13	Date time patient arrived at first hospital
			of symptoms
Percentage of thrombolysed patients with a door-to-needle time of less than or equal to 45 mins	S2ThrombolysisDateTime	2.7	Date and time patient was thrombolysed.

Terms:

SSNAP Key Indicator Technical Information
https://www.strokeaudit.org/SupportFiles/Documents/Clinical-Audit-Resources/Simplified-Technical-Info-version-3-(September-201.aspx

Detailed Specification

This measure is calculated based on a time from 'clock start' to intervention. Clock start is defined as:
- If the patient is an inpatient stroke (Q1.10 – Was the patient already an inpatient at the time of stroke? = 'Y'), then Q1.11 S1OnsetDateTime is used.
- Else if patient is not an inpatient stroke (Q1.10 – Was the patient already an inpatient at the time of stroke? = 'N'), then Q1.13 S1FirstArrivalDateTime is used.

The intervention included is based on:

Numerator	Numerator Title in SSNAP
The percentage of thrombolysed patients with a door-to-needle time of less than or equal to 45 mins.	S2ThrombolysisDateTime (Q 2.7)

Calculation:

Numerator
The number of patients who were thrombolysed within and including 45 mins of clock start.

Denominator
Total number of patients that have been thrombolysed

Reporting Format / Frequency

Reporting Frequency	Monthly
Time Delay of Reported Data?	10 working days after month end

Discussion Points / Areas for Future Development

This section details any areas the Analysis Methodologies Group felt needed further consideration / review by the 'owner' of the method.

Appendix A – Additional Information

The below is an extract taken from the RCP SSNAP technical information document relating to all indicators and updated to the Welsh targets. The link to this can be found in the "Related Data Definitions" section of this document.

Percentage of thrombolysed patients given it within 45 mins of clock start (door to needle time within 45 mins)

Included: all patients who were thrombolysed are included in this indicator.

Excluded: all patients who were not thrombolysed are excluded from this indicator

45 Mins Numerator = the number of patients who were thrombolysed within and including 45 minutes.

Denominator = the total number of patients who were thrombolysed.

To calculate whether a patient is included in the numerator:
For newly arrived patients, the difference between the date and time patient was thrombolysed (Q 2.7) and date and time of arrival (Q 1.13) must be between 0 minutes and 45 minutes.
For patients already in hospital at the time of their stroke (Q 1.10 is 'Yes'), the difference between the date and time patient was thrombolysed (Q 2.7) and the date and time of symptom onset (Q 1.11) must be between 0 minutes and 30/45 minutes.

$$Cohort\ percentage: 100 * \frac{numerator}{denominator}$$

Example

Patient K arrived (clock start) at hospital at 12:15 on Friday. They were thrombolysed at 12:40 that same day. Patient K has achieved the indicator because 12:15-12:40 = 25 minutes.
Patient L had an onset in hospital (clock start) at 16:01 on Friday. They were thrombolysed at 16:37 that same day. Patient L has achieved the indicator because 16:01-16:37 = 36 minutes.
Patient M arrived (clock start) at hospital at 10:15 on Tuesday. They were thrombolysed at 11:16 that same day. Patient M has not achieved the indicator because 10:15-11:16 = 61 minutes.
Patient N arrived (clock start) at hospital at 20:08 on Saturday. They were not thrombolysed. Patient N is excluded because they were not thrombolysed.
Patient O arrived (clock start) at hospital at 08:10 on Tuesday. They were thrombolysed at 09:30 that same day. Patient O has not achieved the indicator because 08:10-09:30 = 80 minutes.
Therefore the cohort percentage is 0.50 or 50% or 2 / 4 or

$$\frac{(Patient\ K, Patient\ L)}{(Patient\ K, Patient\ L, Patient\ M, Patient\ O)}$$

Appendix B – SQL Code (where applicable)

n/a