

Mimic Audit 2021

Sprint audit

This sprint audit aimed to improve our understanding of the national picture of stroke mimics, and the resources stroke teams were allocating to mimic activity.

The audit included stroke mimics seen by the stroke team between 1 and 30 September 2021 at hospitals in England and Wales. Data describing demographics, care quality metrics and final diagnosis of mimics were collected and recorded on SSNAP. The full dataset completed for each patient is available [here](#).



Data entry for these stroke mimics took place between 1 September and 5 November 2021 via the online SSNAP webtool. Where applicable, a contemporaneous comparison between stroke mimics and stroke admissions was made for the month of September 2021.

The stroke cohort is defined as any stroke patient directly admitted by a hospital which admitted at least one mimic during September 2021.

Stroke mimics



Diagnosing stroke can be challenging and many patients present with a wide variety of conditions with stroke like symptoms known as stroke mimics. **For the purpose of this audit, a stroke mimic was defined as a patient assessed by the stroke team as a suspected stroke but whose final diagnosis was not a stroke.** A significant proportion of stroke mimics occupy hyper-acute services

and as such, impact upon the resources deployed acutely. These include access to stroke units and their length of stay, stroke clinician time and thrombolysis use. There are no standards or performance targets for stroke mimics in the UK, therefore this report acts as a reflection on what was found in the sprint audit, and does not aim to provide any recommendations.

Participation in mimic month

This is the first nationwide audit of stroke mimic activity in England and Wales and provides an insight into mimic demographics and activity. However it should be acknowledged that this data is not a complete picture of stroke mimics across England and Wales.

National aggregate figures include all mimic cases entered during September. 90 of 118 (76%) routinely admitting teams in England and Wales submitted more than 10 mimics to the audit, plus 6 non-routinely admitting stroke teams. An additional 5 routinely admitting teams and 5 non-routinely admitting teams entered between 1 and 9 mimics. **National aggregated figures therefore represent data from 81% of routinely admitting teams in England and Wales.**

Hospital-level data highlight the large variation in the number of mimics recorded across the country. There is no measure for case ascertainment (how many mimics are expected at one team in a time period) or completeness for stroke mimics and so **caution should be taken when interpreting these results.** Variation between hospitals could be due to differing definitions of mimics, data entry practices (some providers entering data only for those seen on the stroke unit and later diagnosed as a mimic), or a genuine difference in mimic numbers.

A full portfolio (excel file) of all data items by named hospital is available [here](#).

Patient characteristics

52.8% of stroke assessments finally diagnosed as stroke mimics



70 years old
Average age of mimics

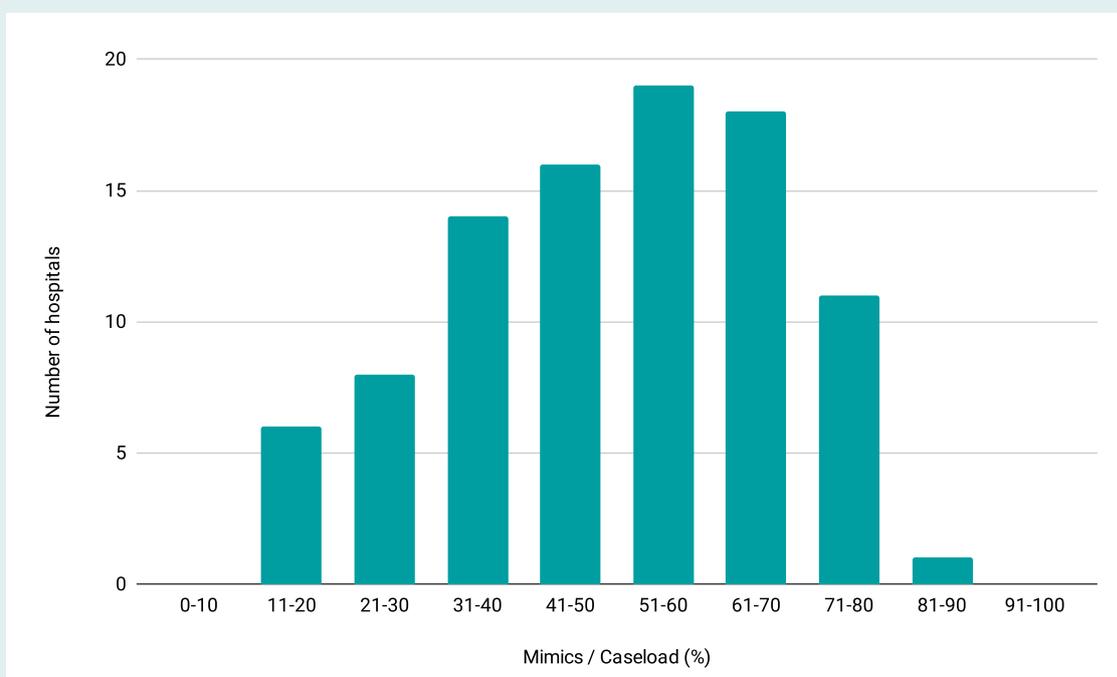


6,351 mimics reported **5,672** strokes reported



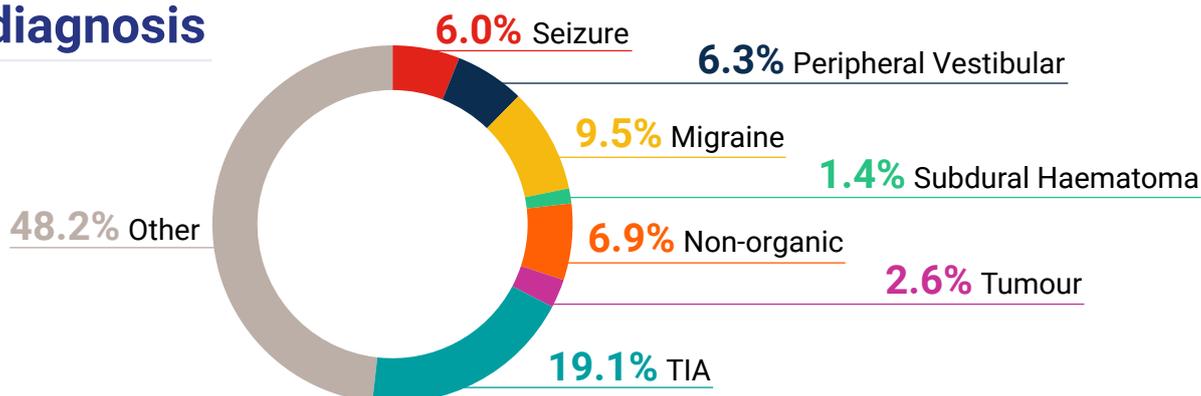
55.2%
of mimics were female

Distribution of stroke mimics as a proportion of total admissions during September 2021



There is wide variation in proportion of mimics assessed in hospital with a median rate of 52.2% (IQR 38.0-65.6%) with the highest rate being 83.3%.

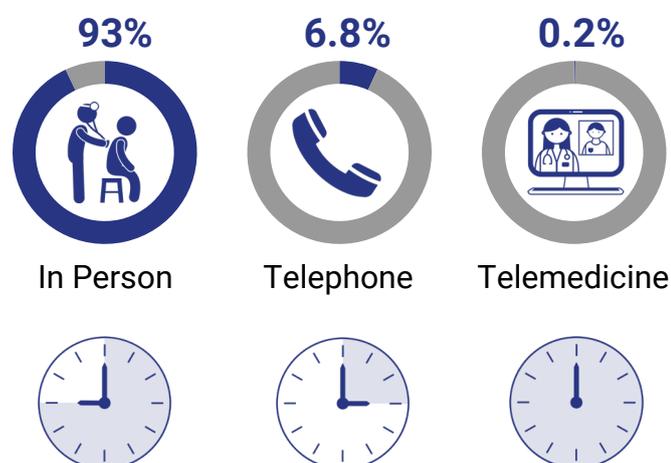
Mimic diagnosis



Common 'Other' mimics	48.2%
Bell's palsy	5.7%
Syncope	5.3%
Delirium	4.1%
Fall	3.8%
Decompensation of old stroke	3.7%
Headache	2.1%
Peripheral nerve / neuropathy/neuropaxia	1.8%

There are a wide range of medical and neurological conditions presenting as stroke mimics with **neurological mimics** making up the biggest group. 19.1% of stroke calls resulted in a diagnosis of TIA. Migraine, functional disorders ('non-organic'), vestibular syndromes and seizure activity are the next commonest stroke mimics. An important number of mimics included decompensation of a previous stroke which may occur in the setting of infection or metabolic insult. **In many of these circumstances of diagnostic uncertainty, urgent access to MRI is important** (see the National Optimal Stroke Imaging Pathway [here](#)).

Method of assessment by stroke clinician



The majority of patients assessed by a stroke clinician were reviewed in person. The median time for evaluating a patient varied depending on the evaluation method: 45 minutes for assessment in person; and 15 minutes for telephone assessments. Although a minority of patients were assessed by telemedicine, the median review time was 60 minutes, highlighting the complexity of making such assessments remotely.

Thrombolysis

0.7% Average proportion of stroke mimics thrombolysed

10% Average proportion of stroke patients thrombolysed



1 in 13 thrombolysed patients was a mimick



The benefits of intravenous thrombolysis are time dependant and as such, attempts to reduce the door to needle time and increase the proportion of patients receiving reperfusion therapies may lead to **stroke mimics receiving such treatment inadvertently**. The proportion of stroke mimics receiving thrombolysis ranged between sites from **0 to 10.7%**. Stroke mimics were younger (58 years) compared with stroke patients (74 years).

Stroke unit access

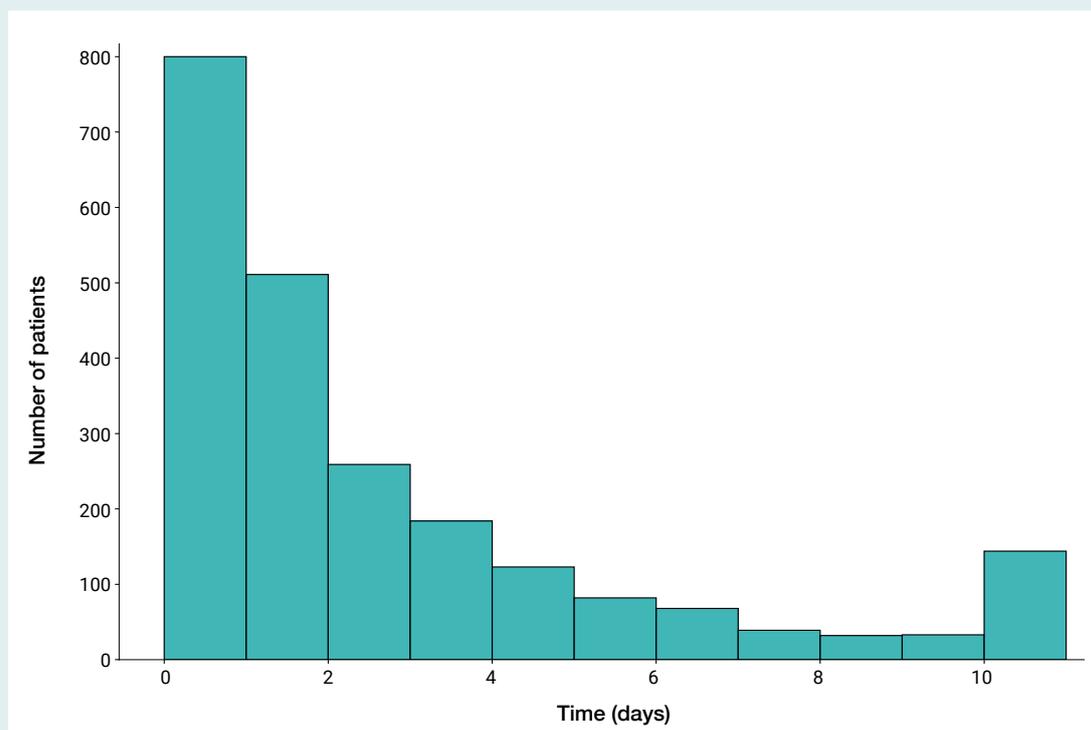


35.8% Mimics were admitted to a stroke unit



4 hs 25 mins Was the median time from hospital arrival to being admitted to a stroke unit for mimic patients

Mimics length of stay on the stroke unit



Stroke mimics were rapidly discharged from the stroke unit with a median length of stay of 1.7 days (IQR: 0.8 to 3.8 days). However, 6.3% of mimics had a length of stay of 10 days or more.

Hospital discharge



33.3% Mimics discharged from hospital the same day as arrival



24.4% Mimics discharged from hospital the day after arrival



42.4% Mimics discharged from hospital more than two days after arrival

The Sentinel Stroke National Audit Programme (SSNAP)

SSNAP is a national healthcare quality improvement programme measuring the quality and organisation of stroke care in the NHS, covering England, Wales and Northern Ireland.

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.

SSNAP is commissioned by the Healthcare Quality Improvement Partnership (HQIP) on behalf of the NHS in England and Wales, as part of the National Clinical Audit and Patient Outcomes Programme (NCAPOP).

Credit: Text: Ajay Bhalla, Ellie McMullen, Kaili Stanley, Martin James. Analysis: Artur Ganeev, Evelina Kälđ, Sabrina Ralph. Design: Nahuel Durante.