

Evaluating the role  
of virtual transient  
ischaemic attack (TIA)  
outpatient clinics





**This project generated rapid insights to guide service design, improvement and planning for transient ischaemic attack (TIA) outpatient clinics. It looked at the benefits and disadvantages to patients and healthcare professionals of three models (virtual, face-to-face and hybrid) and considerations regarding resource use, costs, health inequalities and environmental sustainability for each of these models.**

## Project summary

Virtual clinics for managing TIA were introduced during the COVID-19 pandemic in most NHS trusts (as set out in [\*Adapting stroke services during the COVID-19 pandemic: an implementation guide\*](#)). While some trusts have continued this model, others have returned to face-to-face clinics or now offer a hybrid approach.

The effectiveness, efficiency, and patient and staff experience in a virtual clinic model are unclear. We compared face-to-face and virtual clinics by:

1. Mapping the different care pathways in 14 clinics across 12 NHS trusts.
2. Interviewing 15 patients and 12 healthcare professionals to gather their views and explore variation in experiences.
3. Estimating the resource implications and costs of the different pathways.
4. Exploring the environmental impact of virtual versus face-to-face consultations.

We found there were significant variations across TIA services, with services developed around local contexts and clinician preferences. There was limited consistency even where services used the same model, however, we developed and used the following definitions:

- **Face-to-face model** – most patients are seen in person for their clinic appointments.
- **Virtual model** – most patients' appointments and consultations are completed remotely.
- **Hybrid model** – a blended approach of the above, dependent on patient and service need.

## | Addressing health inequalities

Provision to address health inequalities and digital exclusion should be taken into account when designing TIA services.

There is concern that models of care which rely on digital capability and access, such as virtual TIA clinics, may exacerbate existing health inequalities for some groups.

During our evaluation we carried out an equalities and health inequalities impact assessment (EHIA) to assess the potential impact of differing models of TIA care. This included assessing the potential for digital exclusion. The EHIA was supported by a review of existing TIA/stroke health inequalities literature.

We included groups of people experiencing health inequalities in TIA for the patient/carer interviews (including different ethnic groups, geographical locations and socio-economic groups). Our evaluation found that digital technology used by participating virtual clinics was predominantly phone rather than more advanced face-to-face screen-based technologies. Patients and clinicians did not favour video consultations due to set-up barriers and concerns around equity of access.

Additional factors include:

- Some groups are at higher risk of having a TIA including older people (>55+), transgender people undergoing reassignment on gender-affirming hormone therapy, Black and Asian people, people who are pregnant, the LGBTQ community, and women who are less likely to receive a diagnosis of a minor ischaemic stroke and experience disparities across cardiovascular risk factors.
- Chronic conditions, including cardiovascular disease (CVD), are more common among: low-income families, people with poor literacy or poor health literacy, people living in areas of socio-economic deprivation; refugees, homeless, travellers (60% of Roma people have poor physical health including CVD); asylum seekers, drug users and sex workers. In addition, some groups experience inequalities in accessing healthcare. For example, people on low incomes are less likely to have their stroke/TIA recognised by health professionals.



**“The delivery of high-quality rapid access TIA services is paramount to reducing the burden of recurrent stroke through early treatment. This work offers a unique and highly valuable insight into the patient and clinician experience of the varying models of face-to-face and virtual consultations.”**

David Hargroves, Consultant Stroke Physician; Clinical lead for Stroke: South East, NHS England; National Speciality Adviser for Stroke Medicine, NHS England; National Clinical Lead for Stroke Medicine - NHS England GIRFT programme.

## | Outcomes

There were three key findings:

1. Large variability between TIA clinics in the same model type, for referral, triage, imaging use, clinical assessment sequencing, diagnosis discussion and treatment plan. Pathways are dependent on imaging availability. Triage referrals is key for development in a pathway and can include simple assessment of urgency, decisions on using virtual or face-to-face, investigations and imaging required, likely diagnosis, and treatment plan.
2. Virtual TIA clinics work well for some patients (e.g. the frail elderly who may not have imaging, older patients with co-morbidities and/or poor mobility, young working people, carers or those living in rural areas) but not all. Virtual clinics were perceived to be better suited to specific parts of the pathway (e.g. follow-up and triage) or where avoiding travel was a priority. Being seen by a healthcare professional was very important for some patients and supported emotional wellbeing. Inconvenience of travel/ care arrangements were acceptable trade-offs to be seen face-to-face. Benefits to clinicians include flexibility and improved time efficiency/ management.
3. Most virtual clinics use telephone consultations. Patients or clinicians did not favour video consultations, due to set-up barriers and concerns around equity of access.

The findings add to the body of knowledge as there has been limited work to date evaluating TIA services. The evaluation highlights areas of duplicate resource usage and opportunities to manage unpredictable demand through streamlining.

## | Implications for service improvement

A framework on service design should be created to include development and adoption of an improved referral system, enabling providers to decide which type of patients would be best for virtual care, taking into consideration wider system factors and the preferences of patients/carers. The hybrid model may offer the greatest potential benefits to patients and clinicians, in terms of experience, operational efficiency and environmental impact, if services adopt the best aspects of virtual and face-to-face models.

Clinicians (in particular, junior staff) will benefit from specific training in communication skills for virtual care (establishing a rapport or breaking bad news may be trickier for example). Current training focuses on face-to-face settings, where non-verbal communication supports interactions. There also needs to be better signposting and patient-facing information to guide patients so they understand how care will be delivered, particularly for hybrid and virtual models.

## I Next steps

We do see potential to use virtual consultation for some patients. From the limited sample in this evaluation, no significant safety concerns were highlighted. Development of a framework for commissioners and services to support service design is key and patient input will be essential. The framework should describe benefits and disadvantages of the different models, identify when virtual consultation is most appropriate, and address issues around clinic capacity and imaging requirements.

We recommend TIA services periodically collect patient and staff views, combining this with routine data capture for ongoing monitoring and evaluation at both trust and regional Integrated Stroke Delivery Network (ISDN) level.

We will take forward the findings of this evaluation and work with GIRFT and ISDNs to support the above changes.

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The views expressed in this report are those of the authors and not necessarily those of NHS England, the National Institute for Health and Care Research, or the Department of Health and Social Care.

### Resources

- [NIPP project page](#)
- [NICE guideline \[NG128\]: Stroke and transient ischaemic attack in over 16s: diagnosis and initial management](#)

### Key partners

Five Integrated Stroke Delivery Networks (ISDNs) in the South East region:

- Frimley and Surrey Heartlands
- Wessex and Dorset
- Kent and Medway
- Sussex
- Buckinghamshire, Oxfordshire and Berkshire West

NHS GIRFT (Getting It Right First Time) Stroke team

NHS TIA and Minor Stroke Services in the South East



## More information

### Health Innovation Oxford and Thames Valley

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#### Care settings

- ✓ Acute Trusts – outpatients
- ✓ Primary Care
- ✓ Ambulance
- ✓ Urgent and emergency

#### Clinical areas

- ✓ Stroke
- ✓ Cardiovascular disease
- ✓ Neurological disorders

#### Cross-cutting themes

- ✓ Digital transformation
- ✓ Quality improvement and culture
- ✓ Patient safety
- ✓ Health inequalities
- ✓ Diversity, inclusion, and equality
- ✓ Workforce
- ✓ Patient and public involvement and co-design
- ✓ Environmental sustainability

#### Solution themes

- ✓ Management
- ✓ Operations or logistics
- ✓ Communication and consultation
- ✓ Diagnosis
- ✓ Prevention

#### Innovation types

- ✓ Service

#### Innovation status

- ✓ Proof of value