

Comparison of pre-hospital stroke care between private and care home settings: secondary analysis of an ambulance clinical record dataset

Owen Finney^{1,2,3}owen.finney@neas.nhs.uk, Graham McClelland^{1,2}, Lisa Shaw¹, Chris Price¹

¹Stroke Research Group, Population Health Sciences Institute, Newcastle University, ²North East Ambulance Service NHS Foundation Trust, ³University of Sunderland



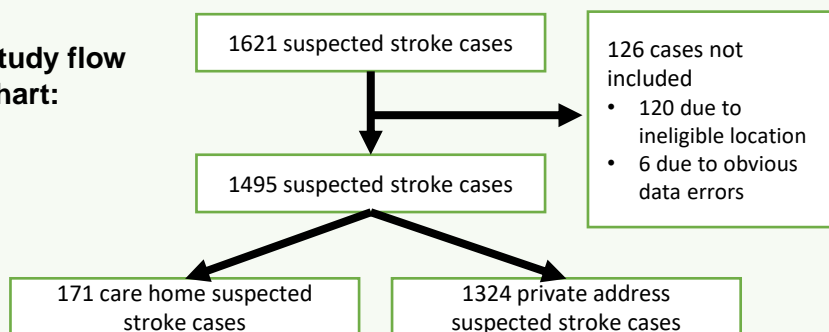
Background:

- Stroke is a common time-sensitive medical emergency
- Effective pre-hospital care is focused on early stroke recognition and rapid transportation to an appropriate hospital for treatment.
- There are approximately 340,000 older people in England living in care homes across the UK.
- Care home residents may have more complex health needs which could influence emergency care processes.

Aim: This study aimed to describe the ambulance care of suspected stroke patients according to residential status of any care home versus private address.

Methods: Secondary analysis of an existing ambulance clinical record dataset from a UK ambulance service (December 2021 to April 2022) was performed. Patient demographics, paramedic assessment, ambulance response times, and paramedic interventions provided were summarised according to residential status using descriptive statistics. Categorical data were compared using chi-square testing and continuous data using Mann-Whitney U testing.

Study flow chart:



Results:



Ambulance response

- The ambulance response and hospital transport times were **similar across both groups**
- However, ambulance crews spent **6 minutes longer on-scene with care home patients** (median) experiencing a suspected stroke (41minutes (IQR:13-36) versus 35 minutes (IQR:27-45) ($p < 0.001$))



Patient characteristics

- Care home patients were **older** (Median 86 years (IQR:79-91) versus 75 (IQR:63-83) ($p < 0.001$))
- They also had higher rates of **multimorbidity** (95.3% versus 80.4% ($p < 0.001$)) and **polypharmacy** (67.8% versus 47.2% ($p < 0.001$)) in comparison to private address patients



Ambulance assessment

- Care home patients were more likely to be **unable to complete the FAST test** (10.0% versus 3.0% ($p < 0.001$))
- They also had **higher rates of facial droop** when FAST assessment was possible in comparison to private address patients (55.6% versus 40.0% ($p < 0.001$))

Conclusions: Suspected stroke patients assessed at care homes had more complex healthcare needs, differences in FAST assessment and longer on-scene times. Clinician awareness of differences between residential settings may be important for improving the delivery of emergency stroke care and further research is needed to optimise ambulance assessment when stroke is suspected in care homes.