Reducing ambulance on-scene times for suspected stroke through an evidence-based training package: an interim analysis

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Background and aims

Prehospital stroke care guidelines emphasize rapid assessment and transportation to improve treatment outcomes. Ambulance on-scene times (OST) for UK stroke patients have increased in recent years[1]. Training to reduce OST was developed in one ambulance service based upon literature review[2], clinical data[3] and interviews with paramedics. It aimed to minimise on-scene delays by discouraging: 1) unnecessary advanced clinical assessment; 2) 12-lead ECG recordings; and 3) intravenous (IV) cannulation. We report the training impact on OST and clinician feedback on the training.

Methods

Training was delivered to 93% (1377/1475) of North East Ambulance Service (NEAS) ambulance clinicians via an online video April to September 2022. Routinely collected data were used to compare OST, patient characteristics and ambulance assessment content before and after training as a service evaluation (VOWELS I). Clinicians were asked to complete a feedback survey three months post training (VOWELS II).

Results

This data is an interim analysis as the aim is to report 12 months complete data. Data are reported on 3,132 consecutive suspected stroke patients from 93 days pre-training (01/12/21 to 03/03/22) and 83 days post-training (12/09/22 to 03/12/22). There was a statistically significant 2-minute (6%) reduction in OST.

Sixty-eight clinicians (5%) completed the feedback survey. Most respondents found the video relevant (96%, n=68), useful (96%, n=68) and engaging (84%, n=68) and reported that it improved their stroke knowledge (87%, n=68). Respondents reported they had changed practice around cannulation (51%, n=65), advanced assessments (48%, n=65) and ECGs (43%, n=65). Mostly positive reactions from crewmates and hospital staff were reported by respondents.

	Pre-training	Post-training	P value
Suspected stroke cases	1670	1462	-
Age (years)[a]	75 (63-84) (n=1669)	76 (64-84)	0.176*
Gender (male)	50%	50% (n=1417)	0.983**
On-scene time (minutes)[a]	35 (27-45)	33 (25-42)	<0.001*
Advanced clinical assessment	40 (2%)	35 (2%)	1.000**
ECG performed	837 (50%)	545 (37%)	<0.001**
IV cannulation attempted	437 (26%)	322 (22%)	0.007**

Conclusions.

In this interim analysis OST was reduced and two out of three behaviours targeted during training were performed less often. Clinician feedback on the training was largely positive although a preference for face-to-face delivery over online training was expressed. Advanced clinical assessments aren't documented in the same standard fashion as ECGs and IV cannulation which may explain the low numbers reported. Further data will be collected to verify these interim results and further research is needed to show how this improvement can be maximised and sustained.

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