



Observational study on the impact of feedback to Scottish Ambulance Service personnel to compliance with Stroke Care Bundle and ED management



C. Haigh; T. Dingwall; J. Thomson

Emergency Department, Victoria Hospital, Kirkcaldy; Scottish Ambulance Service

Background:

There is a drive to improve care of acute stroke patients presenting to the Scottish Ambulance Service. Guidelines are clear, aiming to reduce time to attendance in the ED, hence reducing overall time from onset of symptoms to thrombolysis.

We wanted to trial using a targeted feedback process to guide ambulance personnel and review the subsequent impact this had on the ED management of these patients.

Methods:

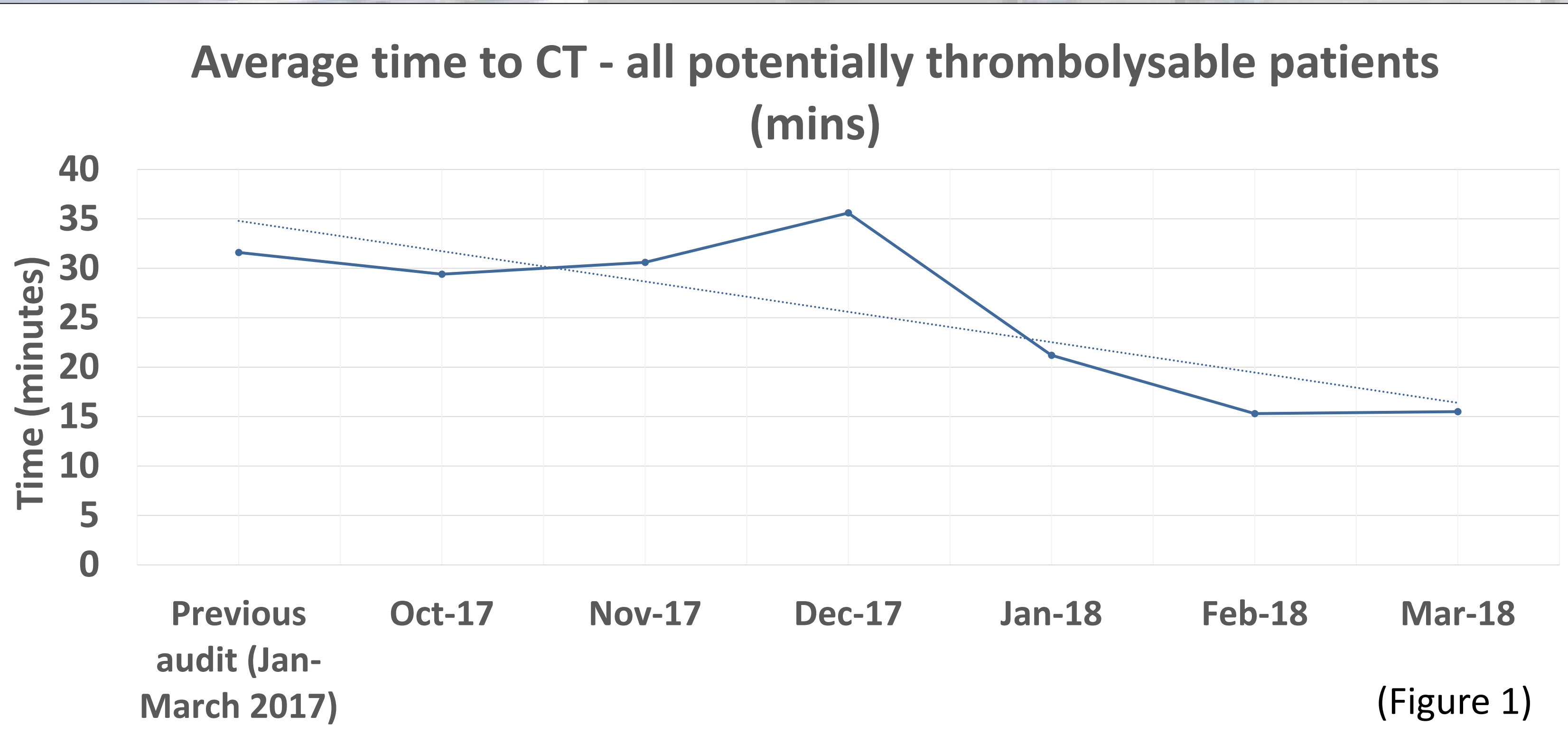
We prospectively collected data on all patients from October 1st 2017 to March 31st 2018 for whom we received a pre-alert for potential stroke. We reviewed pre-hospital and ED documentation as well as the final diagnosis as per the hospital discharge letter.

Compliance with the key areas of the 'Pre-Hospital Stroke Care Bundle' were reviewed including FAST status; measurement of blood glucose and blood pressure. A note was made of time from initial call to arrival in hospital (aim < 60 minutes), on scene time (aim < 20 minutes) and time from arrival in ED to CT scan. Individual feedback was given to SAS staff via team leaders detailing compliance with Stroke Bundle and outcome for the patient during the audit period.

Results:

A total of 222 patients were pre-alerted as a potentially thrombolysable stroke over the 6 month period: median age 72.5yrs; IQR1 66 yrs; IQR3 81yrs; minimum 15yrs; maximum 98yrs.

On reviewing Stroke Bundle compliance, there was a steady improvement from 82% in October 2017 to 100% compliance by March 2018. Patients arriving in ED within 60 minutes of initial call improved from 68% to a maximum of 85% of cases in January 2018 falling to 70% in March 2018, which may reflect difficulties with extreme weather conditions. There was no corresponding improvement in scene time.



Overall, 48 patients were potentially thrombolysable and had immediate CT imaging performed. Of these, 27 were thrombolysed. Time to CT scan from attendance to ED for these cases improved from average 29.4 minutes in October 2017 to 15.5 minutes in March 2018. (Figure 1)

There was no difference in recognition of patients suitable for thrombolysis during this period. However, it was noted that 45 cases (20.3%) had resolving symptoms or mild symptoms on arrival to the ED; 41 cases (18.5%) had no clear onset time and 9 had onset time outwith thrombolysis delivery. Current pre-hospital guidelines advise ambulance personnel to give a pre-alert for all of these cases.

Discussion and Conclusion:

Giving feedback to key ambulance personnel appears to have increased awareness of the Stroke Care Bundle, showing improved pre-hospital documentation and improved transfer times.

An increased understanding of key information/bundle compliance and therefore improved handover quality at pre-alert has helped the Emergency Department team expedite CT for appropriate patients and improved door to CT time with consequent reduction in time to thrombolysis.

Ongoing work highlights the importance of minimising on scene delays, and modifying SAS guidelines to target patients who may derive maximum benefit from thrombolysis.

SAS Stroke Standby Feedback Form

PATIENT DETAILS	
NAME	AGE.....
DATE OF ATTENDANCE	TIME OF ATTENDANCE
PRF NUMBER.....	
SAS STAFF MEMBERS INVOLVED	

PRF ANALYSIS	
STROKE BUNDLE COMPLETED	
FAST POSITIVE	YES / NO
BLOOD GLUCOSE MEASURED	YES / NO
BLOOD PRESSURE MEASURED	YES / NO
ONSET TIME OR LAST SEEN WELL RECORDED	YES / NO
STANDBY GIVEN	YES / NO
TIME FROM CALL TO ED ARRIVAL WITHIN 1 HOUR	YES / NO

ED MANAGEMENT	
TIME OF CT	
PATIENT THROMBOLYSED	YES / NO
IF NOT THROMBOLYSED REASON GIVEN	

HOSPITAL MANAGEMENT	
PATIENT OUTCOME & FINAL DIAGNOSIS	
.....	
.....	
.....	