Letter by Price et al Regarding Article, “Does Use of the Recognition of Stroke In the Emergency Room Stroke Assessment Tool Enhance Stroke Recognition by Ambulance Clinicians?”

To the Editor:

We congratulate Fothergill et al1 for demonstrating that the correct identification of patients with stroke by paramedics was not improved by the collection of Recognition Of Stroke In the Emergency Room (ROSIER) data items in addition to the standard Face Arm Speech Test (FAST).1 However, we are surprised by the high sensitivity reported for FAST (97%) and the young average age of the study population (65 years). It is stated in the study methods that patients who were not transported to the Royal London Hospital were excluded. If the clinical service protocol relies on redirection triggered by paramedic recognition of suspected stroke symptoms, there would seem to be no mechanism to acknowledge FAST false-negative cases because these patients would not have been redirected. Without efforts to identify false-negative cases who were admitted to a local site, the denominator in the sensitivity calculation would be artificially low thereby inflating the apparent performance of the FAST.

In our systematic review of stroke thrombolysis services, we encountered this anomaly among redirection service descriptions and recommended a standardized format for the reporting of whole service activity to reduce the confounding effect of clinical service design on performance indices.2 By contrast, FAST application by paramedics in North East England during 2011 identified 1269/1547 (82%) emergency stroke admissions across all local sites,3 a similar proportion to that described during development of the FAST.4 We also found a statistically significant positive correlation between increasing age and FAST false-negative status, which may account for the young age of the London study population.

It is helpful to compare FAST against final diagnosis during examinations of service performance but when comparing between clinical scoring systems it is important to understand whether the information being used by paramedics was available but of no additional value, not recognized, wrongly applied, or simply unavailable. Without confirmation by a third party that relevant clinical details and symptoms were present at the point of admission, it is difficult to reach any conclusion about why the ROSIER did not improve the accuracy of stroke recognition when compared with FAST.

Although the main conclusion of the study of Fothergill et al1 is reassuring that paramedics should currently continue to identify unselected patients with stroke using FAST alone, it is important to acknowledge that the clinical service setting and choice of gold standard have an effect on the conclusions of health services research. It should not be assumed from this study that paramedics are able to identify patients with stroke who present via emergency ambulance with a sensitivity of 97% and the stated FAST positive predictive value of 62% is a more meaningful interpretation for clinical practice and service cost-effectiveness.

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