Using Simulation to Improve Medical Registrars’ Confidence in Out-of-Hours Stroke Management
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Introduction
• For General Internal Medicine (GIM) trainees in the South West there are considerable inter-hospital variations in hyperacute stroke care delivery. This is down to different staffing levels, experience and services offered between primary and comprehensive Stroke Centres.
• Variations also occur in training, most often being presented as online NIHSS training and ad-hoc discussions.
• What is common is that hyperacute stroke care needs to be delivered in a rapid manner for improved patient outcomes.
• We introduced a stroke simulation programme to address these issues and improve trainee confidence.

Method
• Following a successful pilot and with deanery COVID recovery funding, the South West Deanery and the University Hospital Plymouth Neurology Team developed a multi-disciplinary Stroke simulation programme.
• This comprised of three stroke scenarios including thrombolysis, thrombectomy and management of blood pressure complications.
• It was offered to all GIM trainees in the South West.
• Participant questionnaires collected pre-course and post-course ratings on stroke knowledge, confidence and overall usefulness of the scenarios.

Results
• Average confidence improved from 2.52 to 4.22/5, range (1-4) to (3-5).
• 100% of participants would recommend this to other GIM colleagues.
• 100% participants questioned up to three months after the programme felt it had improved their door-to-needle time.

Open feedback:
“Vital for all who are involved in stroke assessment. I think this should be mandatory for IMT3 and treated like ALS with repeated certification every 2-3 years.”
“Excellent coverage of a broad range of consideration in context of acute stroke/thrombolysis/thrombectomy.”
“Going through the sim session has improved my awareness and ability to manage a patient requiring thrombolysis.”

Discussion
• This stroke simulation programme identified consistent improvements in participant confidence of managing hyperacute strokes.
• The surveyed GIM SpRs have suggested at least yearly opportunities for further simulation sessions.
• All respondents felt that stroke thrombolysis should be offered at trust induction. 89% felt this should be an absolute requirement.
• We faced difficulties in terms of COVID limiting participation including isolation and work pressures causing cancellations.
• This programme was offered through the dedication of two GIM trainees which is not sustainable. Further work includes petitioning the deanery and Comprehensive Stroke Centre to create a sustainable and reliable training programme.

Plans for the future
• Deanery/local discussions about making it akin to ALS with regular simulation opportunities extending to the MDT including the Overnight Acute Care and ED Team.
• Further scenarios are being developed to include basilar artery thrombosis, post-thrombolysis bleed and spontaneous Intracranial haemorrhage.
• There is a planned IMT2 stroke Simulation training which will be also open to return to work registrars. To make it sustainable, regular funding and dedicated consultant time is being petitioned.