

Improving the governance of Prehospital Point of Care Ultrasound (POCUS) using a novel cloud-based system

Jon Barratt^{2, 1, 3, *}, Toby Edmunds^{4, 1, 5}, Rob Major^{4, 1}, Andrew Downes¹



Background

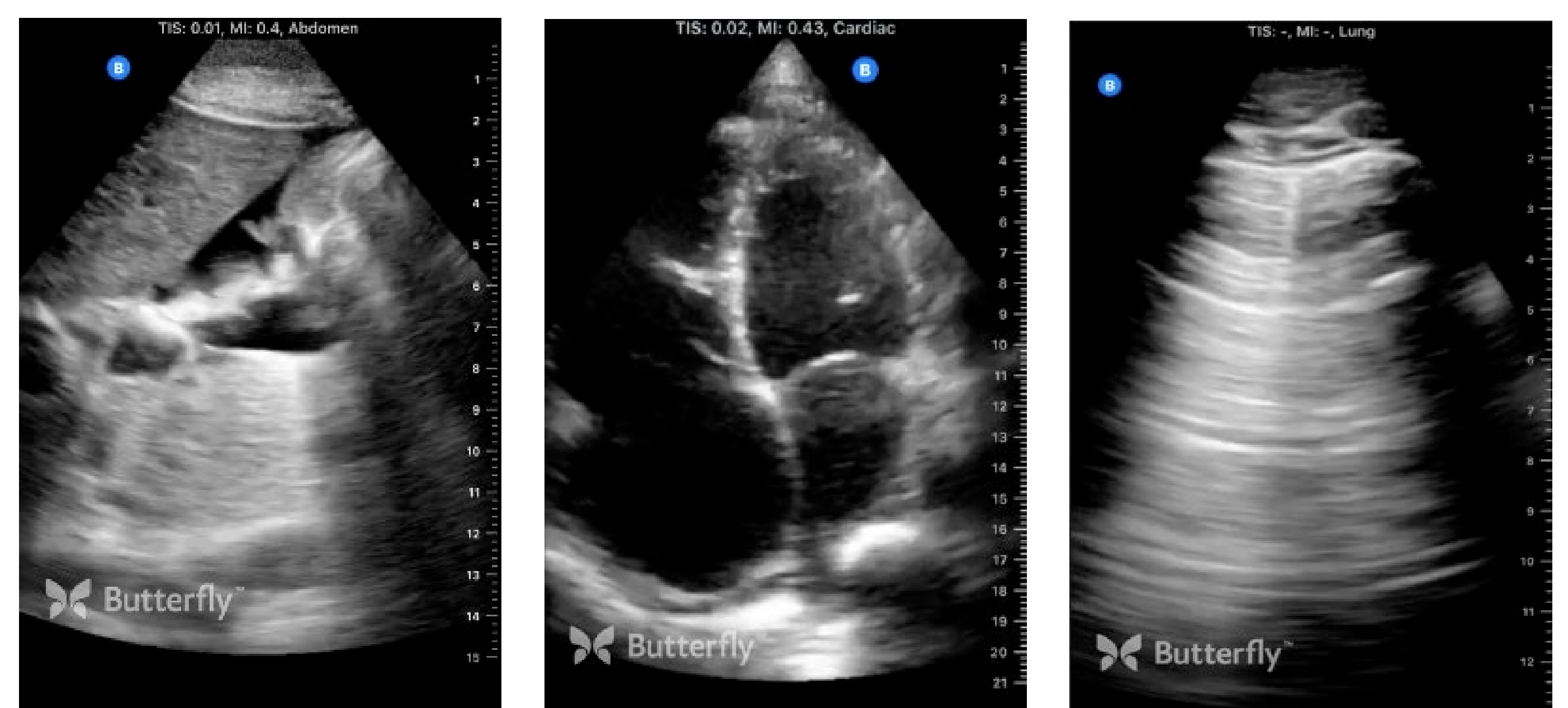
The use of **prehospital point of care ultrasound (POCUS)** has increased recently due to improved accessibility and portability of devices. Availability of **robust governance** remains a challenge for emergency medical systems using POCUS and a barrier to some clinicians from using prehospital POCUS¹.

East Anglian Air Ambulance (EAAA) is a mixed urban/rural helicopter emergency medical system (HEMS) that attends 1,800 patients per annum; since December 2020 they have utilised a **novel cloud-based** solution to improve their provision of **governance for POCUS**.

Methods

EAAA utilises a system of remote review and reporting of on scene POCUS studies. This is performed by **Senior HEMS** clinicians working **remotely** using cloud-based software. A service level agreement specifies reporting within 24 hours of a study being undertaken.

During the first 24 months, a qualitative reporting system was used. This changed in December 2022 to a more **robust quantitative system** that allows for individual clinician **accuracy** to be measured and system-wide **specificity** and **sensitivity** to be reported.



Baseline data

- **716** POCUS studies during the reporting period.
- **19%** of EAAA missions had POCUS performed.
- Diagnostic modality breakdown:
 - Echocardiography – **54%**
 - eFAST/abdomen – **30%**
 - Lung – **14%**



Results

117 studies analysed using quantitative reporting:

- **Sensitivity** – **93%**
- **Specificity** – **100%**

Gold standard: CT findings from hospital follow up if available or expert clinical review of POCUS images

Conclusion

Use of a remote, cloud-based system has **improved the governance of POCUS** at EAAA. Further research is required to understand whether wider implementation can lead to **better patient outcomes** across a broader population.

Reference

- ¹ National Survey of Prehospital Care Services of United Kingdom for Use, Governance and Perception of Prehospital Point of Care Ultrasound. Salman Naeem et al. POCUS, 2022, <https://doi.org/10.24908/pocus.v7i2.15739>

Affiliations

¹ Department of Research, Audit, Innovation and Development, East Anglian Air Ambulance, Norwich

² Academic Department of Military Emergency Medicine, Birmingham

³ University Hospitals of the North Midlands, Stoke-on-Trent

⁴ University of East Anglia, Norwich

⁵ North West Anglia NHS Foundation Trust, Peterborough



Contact:
Jon.Barratt@eaaa.org.uk

