

IN PRACTICE

A13 **NON-TECHNICAL TRAINING TAKES FLIGHT: A CROSS-INDUSTRY APPROACH TO ENHANCING NON-TECHNICAL TRAINING IN EMERGENCY MEDICINE**

Nikki Biggs¹, Alex Jolly², Russell McDonald², Lorraine Apps¹, Fielding Dave²; ¹Frimley Health Foundation Trust, United Kingdom; ²WingFactors, United Kingdom

Correspondence: nicola.biggs3@nhs.net

[10.54531/UZGM6662](https://doi.org/10.54531/UZGM6662)

Introduction: WingFactors, a collaboration between aviation professionals and NHS educators, has been working with healthcare simulation faculties since 2020 and with Frimley Park's Emergency Department (ED) since 2022. Drawing on aviation's established use of Crew Resource Management (CRM) [1], CRM-trained airline pilots contribute to medical simulation debriefs – an approach that has supported a clearer focus on non-technical skills (NTS). This exposed a lack in NTS-specific training within Emergency Medicine (EM) and positive feedback from clinicians informed the development of a dedicated NTS curriculum and a bespoke training programme.

Methods: Our objective was to design and deliver a training programme that strengthened NTS competencies in EM by applying CRM principles and experiential learning in a structured format.

We achieved this by reviewing thousands of non-technical data points from over 100 observed simulations in EDs, and in collaboration with key EM educators, identified 6 core NTS modules: Communication, Leadership, Situational Awareness, Decision Making, Managing Bandwidth and Startle.

We designed each training day to incorporate medical, aviation and abstract simulation to heighten engagement and develop critical thinking and problem-solving skills [2].

The programme was structured around Kolb's Experiential Learning Cycle [3]- concrete experience, reflective observation, abstract conceptualisation, and active experimentation. A model underpinned in both

aviation and healthcare simulation, reinforcing shared learning processes and supporting the transfer of cognitive strategies.

These modules were delivered across three training days with CRM-trained pilots participating as observers and co-debriefers, offering valuable insights into behaviour, communication, and decision-making under pressure.

These have been piloted within the Kent, Surrey, and Sussex (KSS) Deanery, with modules paired as follows:

Day 1: Communication and Leadership

Day 2: Situational Awareness and Decision Making

Day 3: Managing Bandwidth and Startle

Results: Feedback was overwhelmingly positive, with participants noting a greater appreciation for the NTS and the value of cross-industry perspectives:

“Such a valuable opportunity to look at NTS, not just as the ‘afterthought’ they usually are.”

“Very well delivered and lots of thought-provoking content.”

“Great to see human factors applied in a new way—this felt more relevant than some traditional teaching days.”

Discussion: Nine further training days are planned across the next academic year within KSS, with potential expansion to other regions under review.

This programme illustrates how aviation-derived CRM principles can enhance NTS training in healthcare. Anchored in a shared experiential learning model, it provides a structured, scalable approach to strengthening and developing NTS in medical education.

Ethics Statement: As the submitting author, I can confirm that all relevant ethical standards of research and dissemination have been met. Additionally, I can confirm that the necessary ethical approval has been obtained, where applicable.

REFERENCES

1. Dekker S, Lundström J. From threat and error management (TEM) to resilience. *Journal of Human Factors and Aerospace Safety*. 2006;12.
2. Kahneman D. A perspective on judgment and choice: Mapping bounded rationality. *American Psychologist*. 2003;58,697-720.
3. Kolb DA. *Experiential Learning Experience as the Source of Learning and Development*. Englewood Cliffs, NJ Prentice Hall; 1984.

