



**Project name** A multi-specialty in situ simulation programme; with human factors debriefing delivered by airline pilots

**Project Team** Lloyd R, Parker L, Jolly A, Fielding D, Mooncey M, Baldeweg F, Bell A, Batte K, Ma L, Robinson K, Ip D, Vidal J, Collins S, Abdey P.



**Aims**

To improve MDT training by introducing a multi-specialty in situ simulation (ISS) programme.

To utilise the human factors expertise of senior airline pilots during ISS.

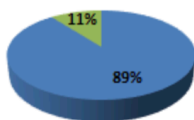


Simulation-based education (SBE) provides opportunities for healthcare teams to acquire, develop and maintain essential knowledge, skills, values and behaviours needed for safe and effective patient care. During the COVID-19 pandemic, we were fortunate to be the pilot site for 'Project Wingman' where grounded airline staff came on site and set up a support lounge. For decades, the aviation industry has been considered a world leader in terms of safety practice in a safety-critical industry. This is in large part due to the emphasis placed on airline crew human factors training (2). We decided to join forces to use their expertise in human factors to aid our SBE and enhance safety in this way.

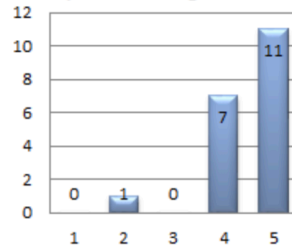
1. Human Factors in Healthcare. A Concordat from the National Quality Board, 2013.
2. Black Box Thinking. Syed, M; 2015.

**Would you like future simulations to include human factors feedback from pilots?**

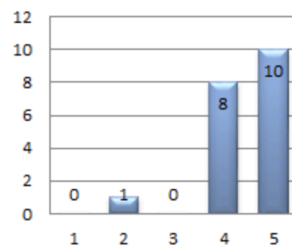
■ Yes ■ No ■ Undecided



**"My understanding of human factors principles has improved following this sim"**



**"This training was more useful than HF training I have had in the past"**



**What did we do?**

- A weekly ISS programme was started in the ED to improve performance when managing COVID-19 patients. We invited the airline pilots from Project Wingman to observe our ISS sessions.
- We divided ISS debriefs into a "technical debrief" and "human factors debrief". Pilots delivered the human factors debrief and a write-up of key learning points was distributed to all participants. Learning points were compared with aviation examples. We have now run 20 sessions.
- Paediatrics, acute medicine and anaesthetics started running ISS sessions with the same structure. Increasingly ISS sessions included more than one specialty (which is reflective of a "real-life" MDT approach to emergencies).
- The pilots developed an observation tool based on four key human factors principles (communication, situational awareness, workload management and decision-making). This tool guided their debrief and write-up points.

**Human factors in healthcare:** "Enhancing clinical performance through an understanding of the effects of teamwork, tasks, equipment, workspace culture and organisation on human behaviour; and application of that knowledge in clinical settings" (1).

*"Very valuable experience in highlighting key aspects of human factors training which we need to place more focus on within our clinical practice"*

*"I have already witnessed how as a team we have taken on board the HF learnt in sims and applied it on the ward and ED"*

*"I am more conscious of the impact non-technical human factors can make on the success of a team managing an acutely unwell patient. I will try to incorporate these factors into my daily practice"*

**Aviation-inspired human factors principles highlighted during the programme:**

- Immediate **"Readback"** of critical instructions to minimise error.
- **"Pressure-testing decision-making"** by asking why a decision might be wrong.
- Taking a **"Golden 5 minutes"** to prepare the team at the start of a scenario.
- **Empower your team** by asking their opinion as opposed to "conducting an orchestra"

**Next Steps**

We are continuing the ISS programme and are applying to HRA to conduct a qualitative research project. Our plan is to perform a thematic analysis of pilot write-ups, along with semi-structured interview data from pilots, trainees, and faculty.