Harnessing A Human Factors Approach to Improve Patient Safety

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SUMMARY (for short papers, 2 pages max)

The interest in employing Human Factors (HF) in healthcare is increasing. The SCReaM HF and Team Resource Management (TRM) programme is aimed at raising the awareness, understanding and application of the science of HF within healthcare to help staff improve their safety and wellbeing and that of their patients. The programme is divided into three strands: rolling training, HF Projects and HF Engineering. The programme has been successfully embedded into an NHS Trust and provides a good model for how HF can be introduced and utilised within healthcare.

KEYWORDS

Healthcare, Patient Safety, Systems Thinking

Introduction

SCReaM Human Factors (HF) and Team Resource Management (TRM) is a programme developed to improve patient/staff safety and wellbeing through the understanding and application of HF. HF in healthcare is often misunderstood, having been historically based on crew resource management (CRM) training adapted from aviation.

However the true scope of HF in healthcare reaches far beyond this and lies in understanding and applying systems thinking methodology in this complex adaptive industry. The programme encapsulates CRM principles, Quality Improvement (QI) methodology, and HF methodology to enable staff to design their system to best fit their ways of working and improve theirs and their patients' safety and wellbeing.

The programme is divided into the strands: A rolling training programme; HF projects, primarily stemmed from recurring 'pledge' themes; and HF Engineering, the provision of our HF expertise to Trust-wide Transformation programmes.

Background

The SCReaM programme (formerly Surrey Crisis Resource Management) began in 2013 when two anaesthetists identified that during emergencies key lifesaving steps are omitted because human memory and performance are negatively affected by stress. They developed and introduced the first set of UK emergency prompt cards for operating theatres. These cards were supported with the introduction of multidisciplinary training available to all theatre healthcare workers. In December 2018, the word 'Crisis' was removed from the already established brand and the programme re-focussed on the proactive, rather than reactive, nature of HF. A rolling training programme was created to ensure staff could maintain up-to-date knowledge and skills, and 'pledges' were introduced into the courses. Pledges, based on the PDSA (Plan-Do-Study-Act) cycle, are small simple changes delegates make to their work system based on something they learnt on the course.

Training Programme

The training is accredited and advertised by the Royal College of Nursing (RCN), Royal College of Surgeons (RCS), Royal College of Anaesthetists (RCoA) and the Chartered Institute for Ergonomics and Human Factors (CIEHF), and the Clinical Human Factors Group (CHFG). This, along with the option to attend courses virtually or in the classroom, means delegates from other Trusts can easily attend the courses; for which there is a continual uptick in demand.

To-date over 107 courses have been carried out, filling over 1117 training spaces. Courses have been run in the ED, cardiology, aseptics, and radiology departments, as well as the newer rolling programmes running in theatres and oncology. Courses are multidisciplinary, tailored to each department, and are facilitative. They cover CRM principles as well as specific HF concepts such as the SHEEP model (Rosenorn-Lanng, 2014), varieties of human work (Shorrock, 2016), three-models of safety (Vincent and Amalberti, 2016), and the importance of systems thinking.

A key indicator of success is that course delegates understand what HF is and its impact. Post-course questionnaires suggest delegates are accurately taking away the key messages, with 80% including key phrases when asked to describe what HF is, models of safety, teaming, and stress.

HF Projects

To-date 515 pledge ideas, resulting from the training, have been created, with 223 (42%) of these successfully completed leading to improved safety and wellbeing. Some pledges related to enhanced quality of care: improving the team brief, identifying antibiotic requirements, and reducing multi-tasking. Other pledges addressed patient experience of care: better tracking of allergies, introducing the team to patients before treatment, minimising distractions during anaesthetising. Others related to the staffs' ability to manage that care: notably, since Covid-19 hit, pledge themes dramatically skewed towards Stress & Wellbeing (from ~4% pre pandemic to ~25% now), specifically focussing on breaks, providing support groups, and actively living by the values of kindness and civility. Of the completed pledges, 76% stated they would continue to "do it like this from now on" or "try it again… twice". This demonstrates that the delegates are finding success in their improvements.

HF Engineering

Having a Chartered Ergonomist integrated into the Trust's Transformation team has meant the Trust is starting to better understand the symbiotic nature of HF and QI. Notably the Trust has started to utilise HF to support the roll out of the new Patient Safety Incident Response Framework (PSIRF) as part of the patient safety incident response system. Elsewhere in the Trust the SCReaM team have been used to improve staff escalation in maternity; creating the TEACUP framework for escalation and identifying six people & system-based interventions.

Conclusion

This programme is unique: there is currently no 'best practice' guidance for integrating HF into healthcare. No other NHS Trust has a rolling HF training programme as part of their business as usual strategy, nor have any employed a Chartered Ergonomist integrated into the Trust's Transformation team to support wider transformation programmes. The benefits of utilising HF are well documented, but when it comes to providing quantitative evidence that budget holders often need to justify expenditure, evidence can be thin on the ground. This programme will continue to build on the good work already undertaken, record its successes, and share these amongst the HF community to help others integrate HF into healthcare.

References

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