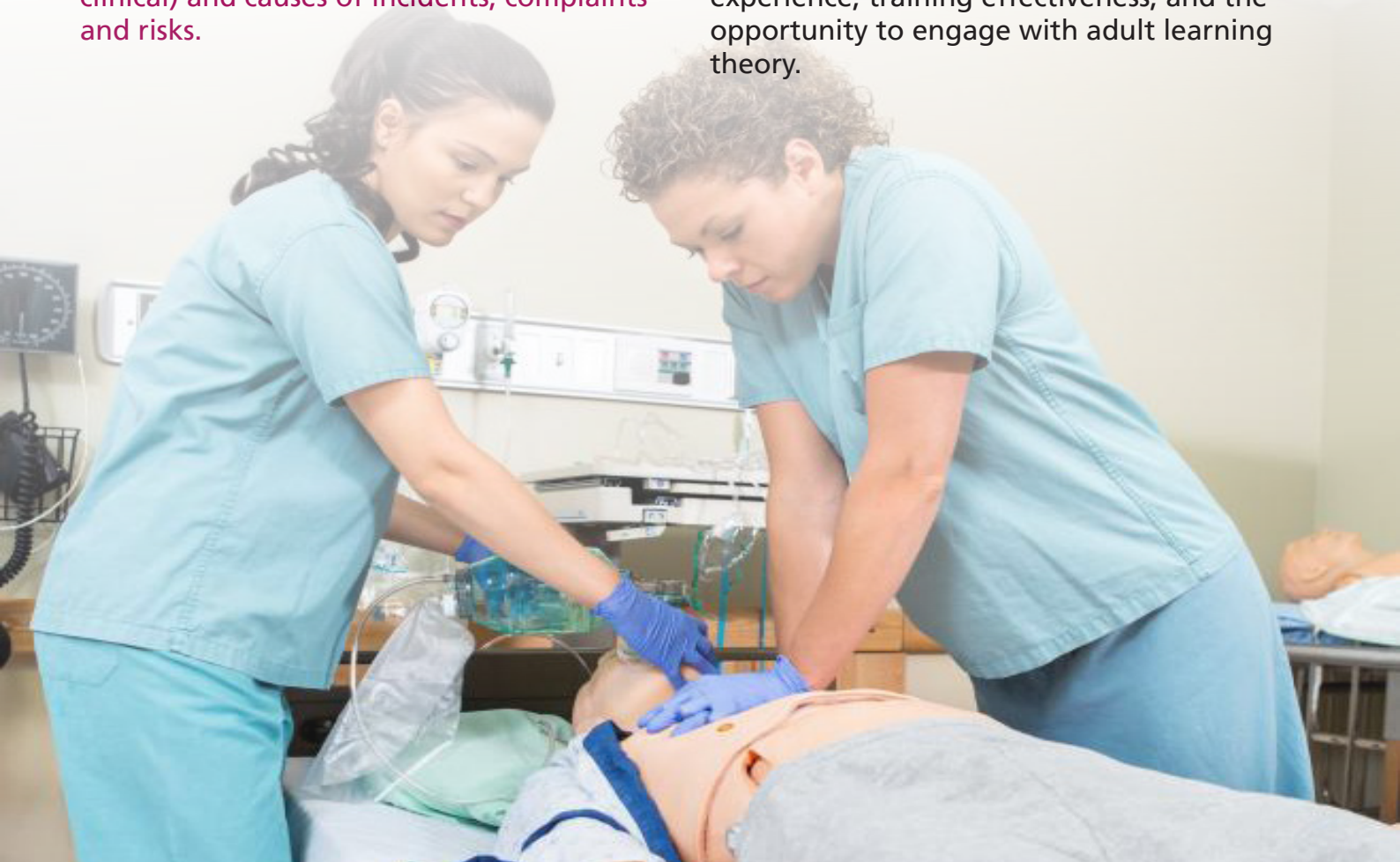


Case Study: Enhancing Patient Safety through Multi-Disciplinary In Situ Simulation

In March 2015, the Simulation and Skills Centre team at Blackpool Teaching Hospitals NHS Foundation Trust (BTH) commenced a multi-disciplinary in situ simulation patient safety programme. The premise for the programme was to identify latent risk, system issues and human factors within all working environments, across the organisation, which can compromise patient safety. The priorities for the patient safety programme were to address high risk areas (clinical and non-clinical) and causes of incidents, complaints and risks.

In situ simulation is a high fidelity, multi-disciplinary, and experiential-based method of training. It is distinct from training conducted in a simulation centre in the respect that it is physically integrated into the clinical environment, it is delivered in real-time, and it involves healthcare providers/learners working in their multi-professional or 'natural' teams. The advantages of conducting simulations in the clinical environment are numerous, including the reliability of the experience, training effectiveness, and the opportunity to engage with adult learning theory.



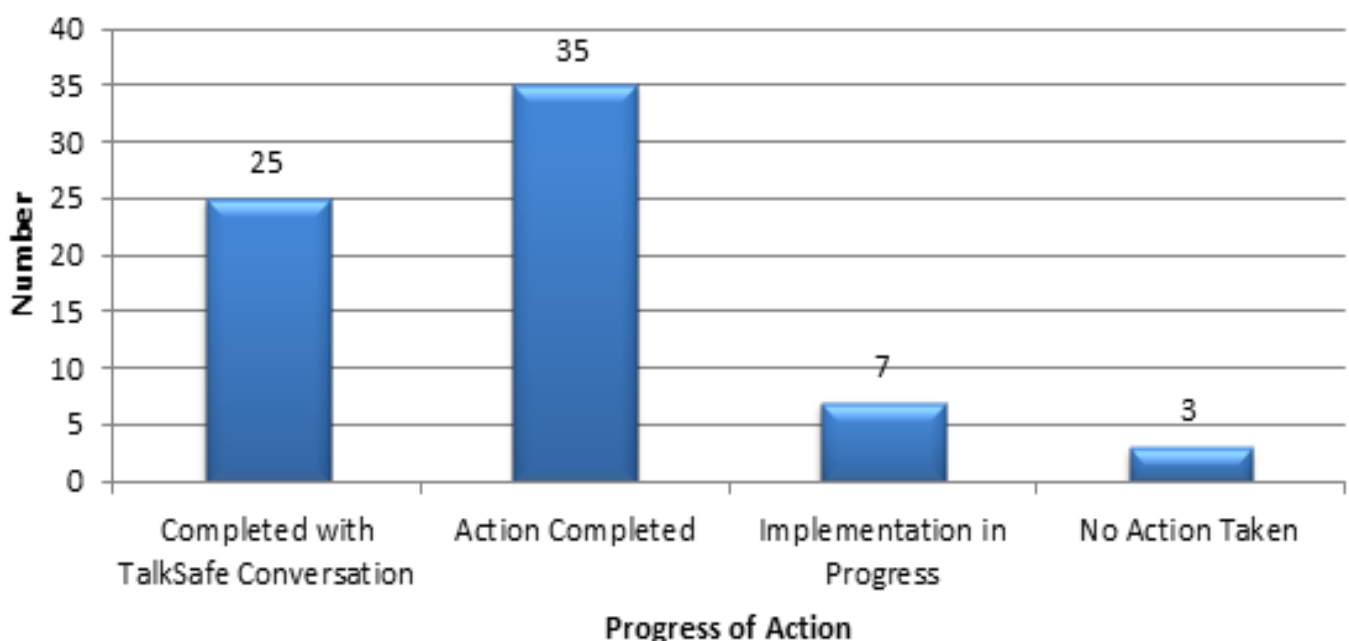
The programme consisted of twenty-seven planned in situ simulations over a ten month period. There was no defined time frame for the length of each individual scenario, as these would be conducted in the natural working environment and allowed to run the course of the patient experience. Following each in situ simulation all participants would take part in a debrief. The debrief was utilised to promote experiential learning and focus the multidisciplinary team of the positive aspects of the patient experience and those areas for improvement.

Key Outcomes

- Individual technical and non-technical proficiencies increased – The team have worked alongside individuals, teams and multi-agencies to highlight these areas. Areas of good practice were identified and the recommendations for improvement have been actioned.
- Individual and team behaviours reinforced - These were reinforced throughout and as with the technical and non-technical they were addressed, actioned and implemented across the multi-disciplinary team.

- Active and latent systems issues were identified – System errors were established and fed back to the various disciplines.
- Lessons learnt were actively shared across the organisations – These have been shared across a variety of different platforms to communicate and share patient safety messages across the organisation.
- Developed a culture openly discussing both positive and negative behaviours – The team has introduced debrief to many different areas of practice, encouraging the honesty required to acknowledge our fallibility as human beings but also to praise the positive aspects of behaviour across the organisation.
- The benefits of in situ simulation have been realised by the organisation, teams and individuals.
- Actions from the in situ simulations were allocated to a person responsible to oversee the implementation of improvement actions within a designated timeframe. Actions were followed up by the simulation faculty six weeks following the simulation to check on progress. The graph below outlines the

Progress of Actions for In Situ Simulation



- The aim of the project was that 90% of the main themes and trends, highest reported in BTH (the main themes and trends had been extracted from the Learning from Incidents and Risk Committee reports) were integrated into an in situ simulation. Reflecting on the in situ simulation undertaken, approximately 80% of these have been covered, with Litigation, Patient Advice and Liaison Service (PALS) and Security requiring further development.

Background

Blackpool Teaching Hospitals NHS Foundation Trust (BTH) is situated on the west coast of Lancashire, and offers a full range of district hospital services and community health services to a population of 1.6 million in Lancashire and South Cumbria. BTH provides services to the 440,000 residents of Blackpool, Fylde & Wyre and North Lancashire, employing more than 6,500 staff, and have approximately 900 beds.

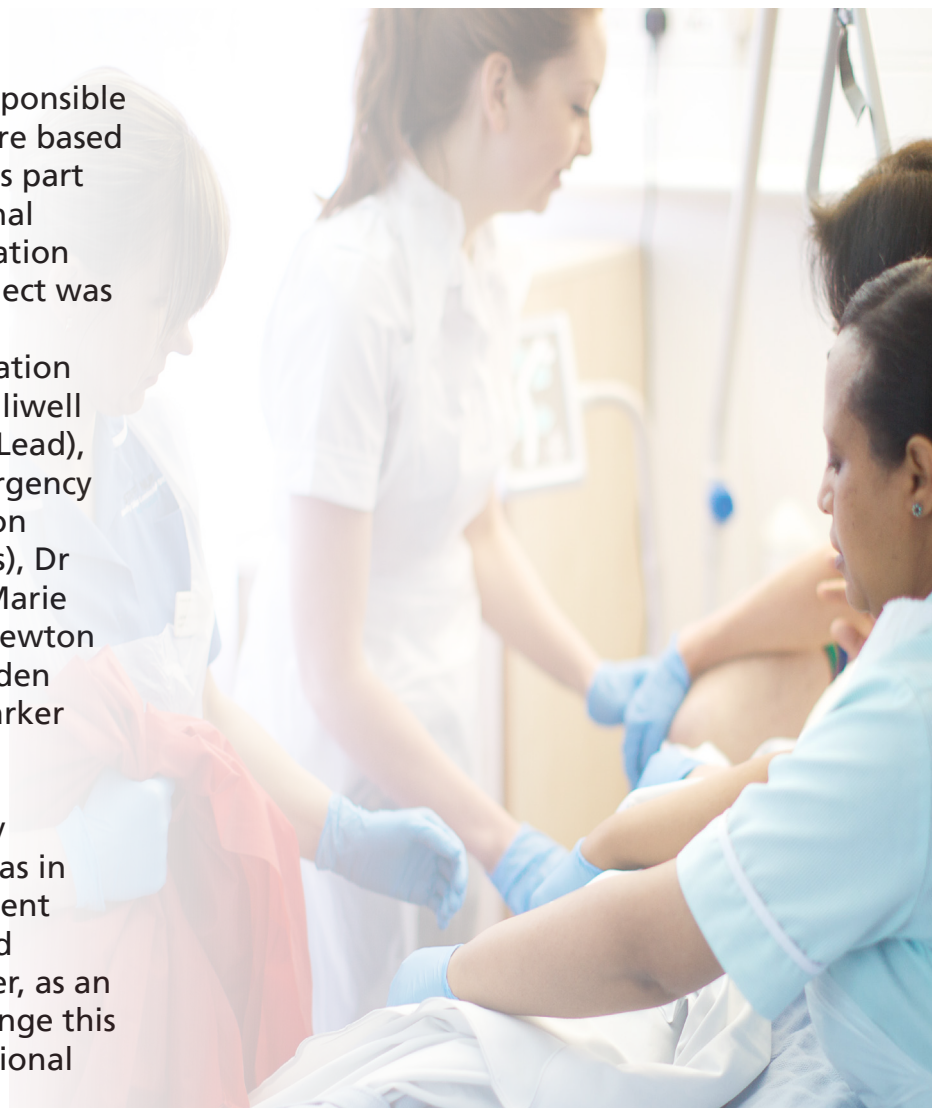
The Simulation and Skills team are responsible for the delivery of all simulation, centre based and in situ within the BTH. The team is part of Human Resources and Organisational Development Department (The Simulation and Skills team at the time of the project was headed by Alison Stewart).

The team involved in the in situ simulation patient programme were Jo-Anne Halliwell (Clinical Skills Facilitator – Simulation Lead), Mr Simon Tucker (Consultant for Emergency Medicine and In situ Simulation), Alison Stewart (Head of Simulation and Skills), Dr Jen Field (Clinical Skills Tutor), Anne-Marie Walker (Clinical Skills Tutor), Martin Newton (Technical Support Officer), Clare Walden (Clinical Skills Facilitator) and Linda Parker (Clinical Skills Facilitator).

At the beginning of the patient safety programme BTH as an organisation was in the highest 25% of reporters for incident reporting (The National Reporting and Learning System, 2013 (NRLS); however, as an organisation BTH did not want to change this but utilise it to enhance the organisational learning culture.

The trust has a very “blameless” culture promoting use of incident reporting to identify areas for service development. Often - incident reporting is seen as a punitive action pointing the finger of blame. The team have moved away from this promoting incident reporting as an opportunity to identify unacceptable risk to engage and empower to influence change.

Within simulation - the team were able to use this information from a patient safety perspective to “target” key topics / locations where there were trends for recurrent incidents - thereby maximising the patient safety benefits by tackling the “big hitters” or recurrent problems. The team could approach managers in these key areas and provide them with a written report of recommendations from the debrief as evidence of their participation in quality improvement.



In fact, the change needed to come about by learning lessons and in turn reducing the degree of harm. The latest report from the NRLS highlighted that 1231 (28.6%) incidents in BTH resulted in harm, and thus the impact measure will be to reduce this percentage, especially in the low harm category as BTH are currently 3.6% over the average for large acute organisations.

The patient safety in situ simulation programme also seeks to further enhance incident reporting; one of the key recommendations identified following the Sir Bruce Keogh Report (2013) and the CQC report (2014).

Lessons learnt, patient safety and in situ simulation for the organisation were not merely focused around incident reporting, themes and trends were also identified from a variety of sources as shown in the diagram.



The Simulation and Skills team also sought to closely align the in situ simulation programme with BTH newly introduced Trust values, namely:

- **People-Centred:** In situ simulation clearly puts the patient safety agenda at the forefront of trust priorities and engages staff at all levels to learn in realistic, natural environments and multi-professional teams. In situ simulation and subsequent debrief allows staff involvement in assessing and reflecting on work processes and behaviours whilst deciding if they are fit for purpose and the safety of patients. Although the patient safety agenda is paramount it does not exclude the health and safety of the many staff, volunteers and visitors that work, assist or come to the organisation.
- **Excellence:** In situ simulation encourages learning and promotes an ethos of Excellence through gaining understanding of systems, processes, teams and communication in natural teams. Debriefing and TalkSafe conversations (a BTH initiative which aims to enhance safety for patients and staff by challenging risk taking behaviour and praising behaviours which promote the safety culture) promote reflection and changes in behaviours and cultures which are positive to the patient experience.
- **Compassion:** In situ simulation promotes compassion for our patients through striving for excellent teamwork and communication but also for staff, volunteers and visitors demonstrating organisational understanding of their environment and working practices.

- **Positive:** Every in situ simulation learning experience is a positive one, even if negatives have been realised within the simulation. In situ simulation draws on these experiences, identifies areas for improvement, and shares learning outcomes across the organisation.

Key Aims

In situ simulation was used as a catalyst for change in clinical and non-clinical processes and behaviours. Research has noted the success, adaptability and cost-effectiveness of in situ simulation, and therefore the key aims for the in situ simulation programme at BTH centred on utilising this efficiency to enhance patient safety.

The key aims of in situ simulation training were:

- Increase in individual technical and non-technical proficiencies
- Individual and team behaviours reinforced
- Active and latent systems issues are identified
- Lessons learnt are actively shared across the organisation
- To develop an open culture of learning where both positive and negative behaviours are discussed

Key Stages of Set-up



During the patient safety programme twenty-seven simulations were planned. The in situ simulations took place in the community and acute setting. The areas of focus for the simulations that took place were:

- Dealing with deteriorating patients in various clinical and non-clinical settings
- Paediatric trauma
- Research Centre and undertaking clinical trials
- Medicines Management
- Clinical skills, for example; Venous Blood sampling & Blood Gas sampling
- Treating patients alongside other agencies such as Police, Ambulance and Fire Services
- Implementing Policies, Procedures and Pathways
- Clinical environments

The first step was to contact the leaders for the multi-disciplines and highlight the simulation teams request to conduct a simulation in their area explaining why the team were making that particular request. In the later stages of the patient safety programme the team were no longer making the requests these were now being made by the leaders, as learning and the potential positive impact in situ simulation were realised. On agreement of the multi-disciplinary team, a scenario was formulated with specific learning outcomes, by the simulation team and presented. Prior to all simulations taking place all potential areas of in situ simulation were visited by a member of the simulation and skills team. During the pre-visit the following factors were given consideration:

- Patient, staff and visitor safety
- Confidentiality
- Health and Safety

- Public Perspectives
- Equipment and resources
- Risk Assessments

This was documented in the in situ simulation log book alongside actions to be completed before the simulation could take place. Another visit was conducted by the simulation and skills team immediately prior to the scenario being activated, as many of these were taking place in clinical environments where patient acuity must be taken into consideration.

The scenarios were conducted with all teams involved unaware it was a simulation until arriving at the scenario and being briefed. Each scenario was permitted to run the course of the patient experience or learning outcomes. Each scenario had a facilitator from the simulation and skills team to help assist those taking part with the manikin, as following the first scenario conducted it was apparent most people were unsure on the use of the manikin.

At the end of each in situ simulation a debrief took place which was vital for providing feedback to participants and to enabling reflective practice. Reflection on the Human Factors (the study of the ways in which people interact with their environment in order to undertake a task effectively) during the debrief can facilitate improvements when contributing to team working in the future. The team also adopts a TalkSafe approach to their feedback. Ultimately, TalkSafe draws upon Human Factors to transform organisational culture and practice. The ethos is to achieve changes in practice one conversation at a time by promoting open and transparent dialogue about safety issues. It is through conversation that our attitudes, beliefs and values – which underpin any organisational culture – can be transformed, and therefore TalkSafe is about empowering people to question current practice and behaviours that will, in turn, encourage personal reflection and positively reinforce safe practice.

All in situ simulations were then followed up with a small report highlighting what in situ simulation is, acknowledging those who took part, an overview of the scenario utilising an SBAR (Situation, Background, Assessment, Recommendation) handover approach, areas of good practice and actions for improvement. All actions for improvement were provided with a nominated person of responsibility and followed up in six weeks to ensure they had been actioned.

Resources

Funding was secured from Health Education England - North West for a wireless Sim Man Essential Manikin and a mobile camera (SMOTS) for video assisted debriefs. These resources were vital to the patient safety programme and being able to conduct simulation outside the simulation centre.

Conducting the in situ simulation could not have taken place without the extended team members. Each scenario relied on the assistance from a variety of disciplines across may different bands to make the scenario a viable learning experience.

From the perspective of the simulation and skills team, one band 7 and one band 6 were given 0.1 Whole Time Equivalent to spend on this programme from March 2015 to December 2016, which also included training faculty, report writing, following up of actions, and promoting in situ simulation to the organisation. Alongside this one consultant PA was provided, each week to assist in supporting and conducting the programme.

Key Challenges

- Establishment of faculty for the future - Although progress has been made in developing new members of the faculty, faculty for the future from inside the Simulation and Skills team would be a limiting factor to developing the programme further. The services of the Simulation and Skills team would always be required from a clinical governance prospective. The simulation and skills team have commenced work outside the department with a bespoke faculty development course being planned to assist with the development of future faculty and encourage others to join the team for their personal development.
- Clinical need – In situ simulation can be cancelled at the last minute. From the twenty seven in situ simulations planned, only twenty took place due to cancellation because of clinical need. It is important to conduct in situ in the natural environment patient safety and clinical need will always be the first priority. This can mean valuable time and resources are used in the planning of an in situ simulation but not always utilised.

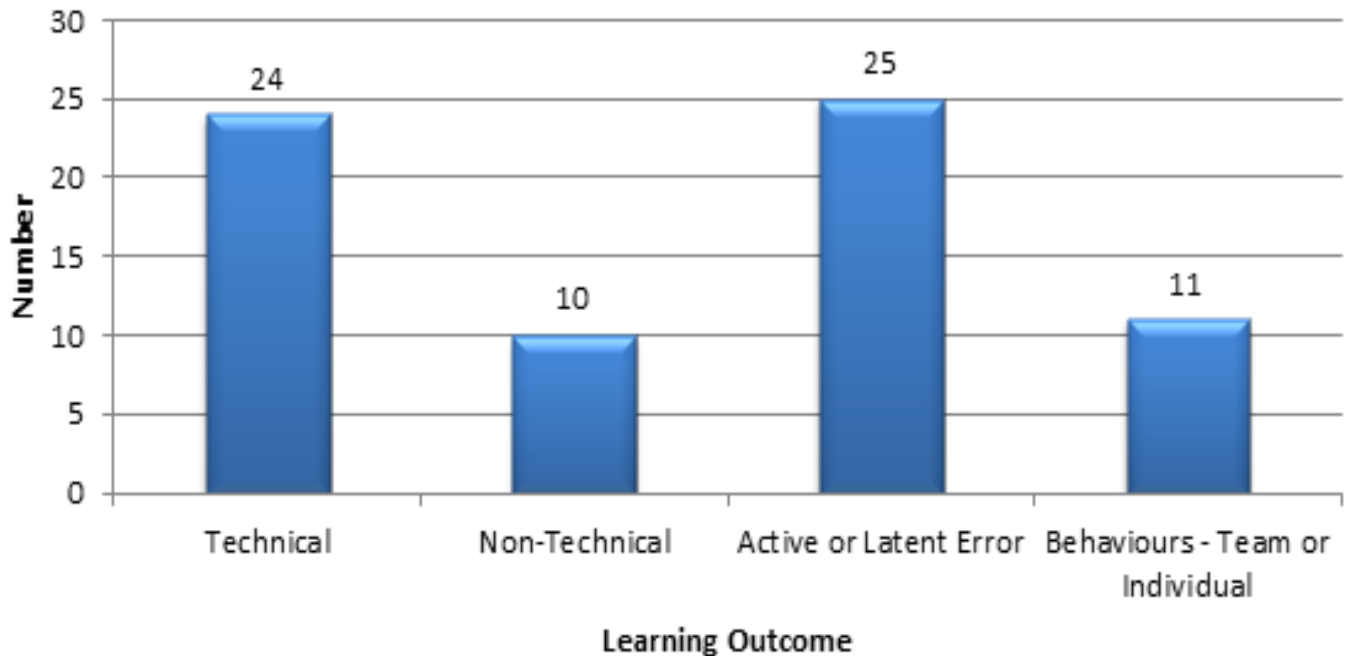
Key Learning

During the in situ simulations, a member of the faculty collated learning experiences to be discussed at the debrief. Examples of these experiences were categorised within the learning outcomes and a synopsis of these are outlined below.

Learning Outcome	In Situ Simulation Experiences
Technical	Inconsistencies in Basic Life Support
	Sharp Safety
	Gloves not being worn
	Incorrect use of equipment or resources
	Hand hygiene
Non- Technical	Situation/Background/Assessment/Recommendation Information
	Communication during escalation
	Providing information to patients
	Communicating with relatives
	Communication with other agencies – Police / Fire Service
Active or Latent Error	Role identification during Trauma
	Crashnet not available on homepage of computers
	Systems for venepuncture in the community setting
	Response time to answer emergency alarm
	Patient dignity
Behaviours	Not using personal protective equipment
	Failure to confirm patient details
	Falls monitor awareness

Seventy actions were formulated from the in situ learning experiences to improve patient safety. These were categorised to reflect the learning outcomes:

Number of Actions Against Learning Outcomes of the Patient Safety Programme

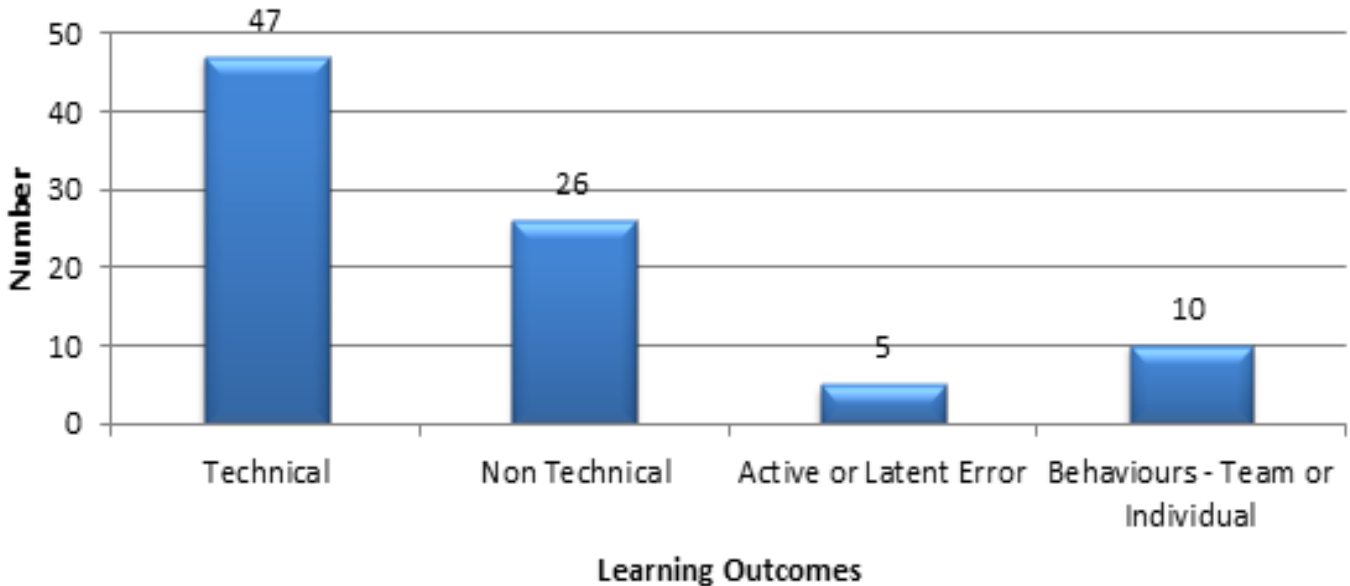


Alongside the learning experiences from in situ simulation the faculty also wanted to highlight the evidence of good practice. Examples below were taken from the simulations and these themes were evident in many of the simulations.

Learning Outcome	Areas of Good Practice
Technical	Management of pain relief
	Disposal of Controlled Drugs
	Deteriorating patient
	A-E Assessment
Non- Technical	Situational awareness
	Patient communication
	Leadership
	Anticipation
Active or Latent Error	Critical Incidents
	Storage facilities
Behaviours	Empathy
	Interagency effective partnerships
	Patient Dignity

In all eighty eight areas of good practice were highlighted. These encompassed areas of practice as a whole, for example; leadership.

Number of Areas of Good Practice Against Learning Outcomes of the Patient Safety Programme



The Simulation and Skills Centre's initial proposal for this programme was to have developed a sustainable in situ simulation programme, which is inclusive of the organisation as a whole, but also has the ability to test systems and processes and share lessons learnt. From the evidence submitted it is believed the faculty has achieved these aspects and built a substantial patient safety programme, which can be further developed for the future. Meeting the learning out and delivering key outcomes has served as a worthy marker of the success of the

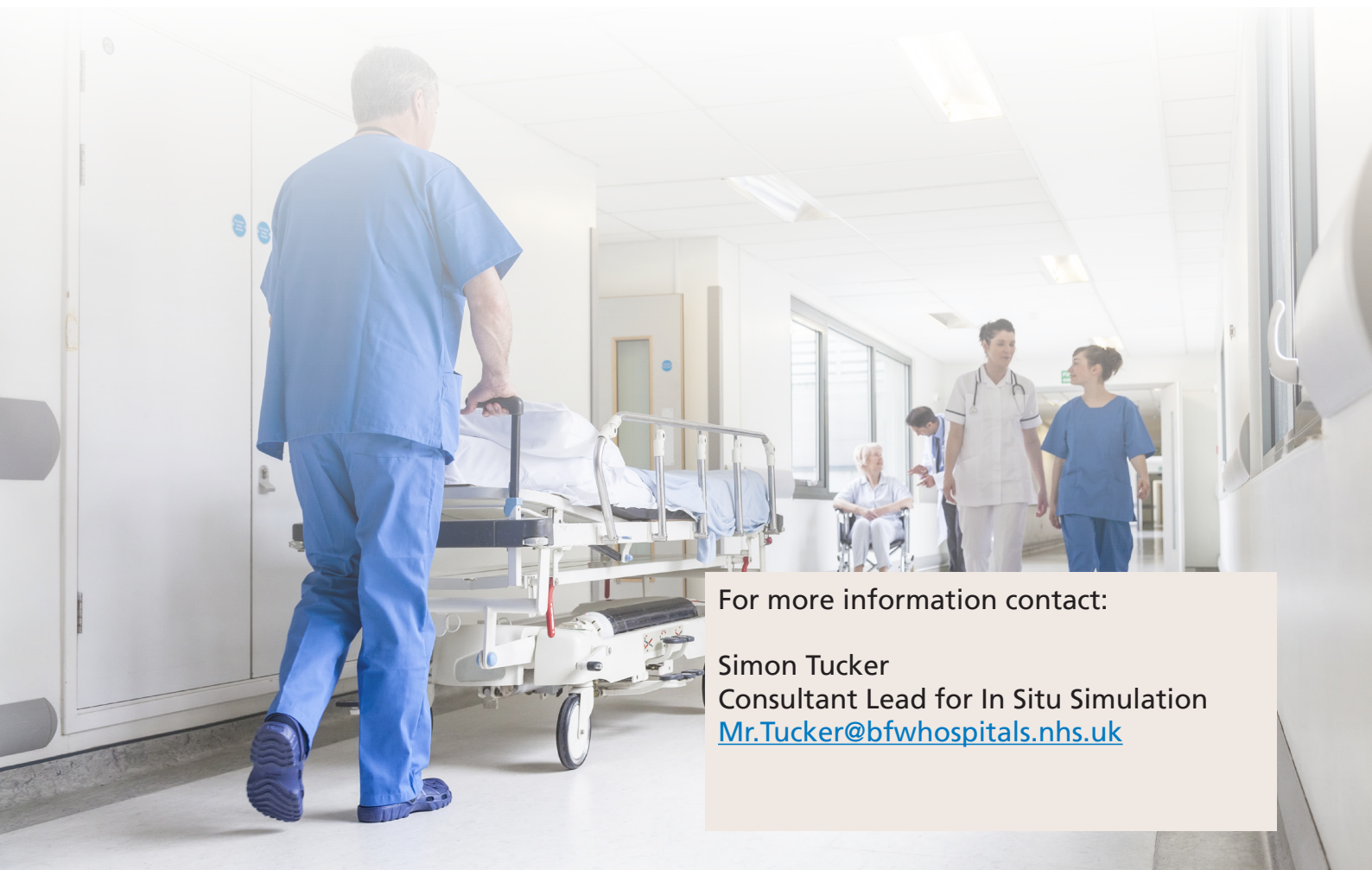
Sustainability

In situ simulation is now an integrated part of the patient safety programme within BTH. Although there is still improvements to be made, in terms of faculty; there has been a shift in the simulation and skills team requesting to do simulations to departments getting involved and requesting us to do in situ. All disciplines have embraced this as a learning experience thus far. The challenge in future practice is to maintain the momentum, as patient demand tests the ability for in situ simulation to take place in naturalistic environments.

Building partnerships for the future is an essential aspect of the in situ simulation programme and is necessary in order for the simulation and skills team to continue to build and truly put patient safety at the heart of everything it does. Enhancing patient safety through in situ simulation has achieved this as the team have built partnerships which allow multidisciplinary working in the future. All partnerships share a common ethos on patient safety and strive to develop a culture which supports the patient safety agenda by building a cohesive workforce and by sharing lessons learnt.

Next Steps

- **Further in situ simulations** – Continue to develop the in situ simulation programme that looks at the themes and trends of the organisation. The national agenda pertaining to patient safety also ought to be considered when developing new scenarios.
- **Developing in situ simulation which is multi-disciplinary and organisation wide** – All disciplines have a role to play in the patient safety agenda and it is important that the simulation and skills faculty continue to be inclusive of the organisation as a whole.
- **Faculty development** - The Simulation and Skills centre is at present considering how best to develop our faculty on aspects of simulating and technical use of the equipment. The faculty have discussed our initial plans with North West Simulation Education Network, and how best we can support each other in this venture.
- **Increasing simulated patients** – Increasing simulated patients will allow a wider scope for in situ simulation. Simulated patients will allow in situ to take place when a high-fidelity manikin is not appropriate and the use of a real patient would be a better use of resources. This group of resources have the future potential to increase the educational experiences, for all disciplines.
- **Participant evaluation** – The faculty felt the promotion of in situ simulation should come before asking participants to comment on their involvement. The faculty believed it was important to establish in situ simulation within the organisation, and the benefits to patient safety and sharing lessons learnt. For the future the team will consider the use of participant, faculty and, if appropriate, management comments and feedback from in situ simulation.



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