where one day would concentrate on simulation including skill stations.

**Conclusion**  Our effort to establish a good RTW training has shown that trainees really appreciate it and would like more of it gain confidence for an effective patient care. Going forwards, we envisage more simulation training, onsite child care facilities and developing VLE package. The principles of this course can be applied to all other schools with individual adaptation.

**REFERENCES**


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**SC34**  **VIRTUAL PATIENT TECHNOLOGY FOR EDUCATING PHARMACISTS ON PATIENT COMMUNICATION SKILLS: A SYSTEMATIC REVIEW**

Charlotte Richardson*, Simon White, Stephen Chapman. Keele University, Keele, UK

10.1136/bmjstel-2019-aspihconf.71

**Background**  Virtual patients (VPs) are a sub-type of healthcare simulation that have been underutilised in health education. Their use is increasing but, applications are varied as are designs, definitions, and evaluations. Previous reviews have been broad, spanning multiple professions and without accounting for VP design differences.

**Summary of project**  The objective was to undertake a systematic narrative review to establish and evaluate the nature of the literature on VP use in pharmacy. This included VPs that were used to develop or contribute to communication or counselling skills, or similar, in pharmacy undergraduates, pre-registration pharmacists, and qualified pharmacists.

**Results**  Eight studies were identified using EBSCO and were assessed for quality. The eligibility criteria did not discriminate between study design or outcomes but focused instead on the design and purpose of the VP. Each study included used different VP applications and outcomes. Four themes were identified from the studies: knowledge and skills (including competency and ability), confidence, engagement with learning, and satisfaction. Results favored the VP but not all studies demonstrated this statistically due to the methods used. Comparisons between this range of methods were difficult due to the inability to make direct comparisons. Despite the varied applications there were similarities in that the VPs were found to improve users’ knowledge, confidence, skills, and competency. VP potential and usability were also highlighted as advantages, but technological problems can limit use. VPs can help the transition of knowledge to practice, particularly in Pharmacy undergraduate populations.

**Discussion, conclusion, and recommendations**  VPs are an additional valuable resource to develop communication and counselling for pharmacy students; use in other pharmacy populations has not been established. Individual VP applications require evaluation to demonstrate their value as they use different designs and technologies. Multiple studies commented on a VP purpose as allowing an opportunity for practice, an already recognised advantage of VPs. Two particular benefits appeared to be that VPs can provide richly contextualised learning applied to practice, but in such a way so that the user can safely learn from mistakes. This is in line with ideas of experimental learning where the focus is on learner-driven investigations, often in pursuit of a real or artificial task. Many studies were small-scale without robust findings, consequently further in-depth research is required. This should focus on implementation into practice and user-perspectives.

**REFERENCES**


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**SC35**  **PAEDIATRIC IN-SITU SIMULATION CURRICULUM – BUILDING MULTI-PROFESSIONAL ENGAGEMENT FROM STUDENT TO REGISTRAR. A REPORT ON THE CONCEPT, CHALLENGES AND CAUSES FOR CELEBRATION OF THE HOMERTON PAEDIATRIC SIMULATION TEAM**

Catherine Dous*, Julia Thomson, Meena Patel, Cauyer Pal, Sini John, Jacqueline Driscoll*. Homerton University Hospital, Hackney, UK

10.1136/bmjstel-2019-aspihconf.72

**Background**

- Embed a cultural shift in attitude to in-situ simulation through a programme that prioritises inclusivity, psychological safety and fun!
- Devise and utilise scenario’s that include learning outcomes suitable for all multi-professional team members.
- Encourage reflection on the role of human factors.
- Project description
- Our Trust actively supports in-situ simulation, employing a paediatric simulation fellow, PDN’s and paediatric simulation trained consultants.
- Simulations occur in the resuscitation bay and encourage familiarisation with rare equipment, algorithms and use of medications.
- Simulated, sim junior, baby and newbie are dedicated simulation resources whilst all consumables and drugs come from the workplace.
- Sessions run three times monthly before morning handover.
- Scenarios are inspired by recent complex patients and previous SIs.
- Some scenarios are written or adapted by the simulation team whilst others come from our healthcare education partners (UCLP) or the STAR app.
- Participation is incentivised through certificates and workplace based assessments.
- Sessions close with a debrief focusing on human factors and completion of the trust-wide feedback form which rates aspects of the simulation from 1 to 5 on a Likert scale.

**Results**

- There were 94 participants over 18 months. 53% were junior doctors, 13% nurses and 34% students. 26% had no prior simulation experience.
- The feedback was overwhelmingly positive.

When asked to rate the statement, ‘I found it a valuable learning experience within my usual work environment’, the participants mean response = 4.7 (95% Confidence Interval 4.6–4.8).
Similar means and confidence intervals were demonstrated for improved awareness of patient safety, communication skills and awareness of MDT working (full values available at conference).

When asked whether they felt confident to contribute in the debrief (measured 1–5), participants mean equalled 4.53 (95% CI 4.37–4.69). Doctors felt most able to contribute (mean = 4.6, 95% CI 4.4–4.83), followed by nurses (mean = 4.5, 95% CI 4.2–4.9). The students felt least able to contribute.

Thematic analysis is underway on free text concerning the most useful things learnt, potential changes in practice and suggested improvements.

**Conclusions** The programme achieved our aims as the sessions were well received and feedback demonstrated many positives. The participants reflected the multi-professional team in the department. Psychological safety was maintained as measured by confidence in speaking up.

Our approach is an example of how regular high quality in-situ simulation can be embedded into a busy department through attention to resourcing, inclusivity, incentivisation and fun!

**Wednesday 6th November, 12.35–13.35**

SC36  **TEACHING NEW STAFF TO RAISE CONCERNS USING THE PACE APPROACH AND HIGH FIDELITY SIMULATION**

1Ben McNaughten, 1Carol Junk*, 1Catherine Diamond*, 1,2Thomas Bourke, 1Andrew Thompson. 1Royal Belfast Hospital For Sick Children, Belfast, UK; 2Centre for Medical Education, Queen’s University Belfast, Belfast, UK

**Background** Hierarchy and leadership are essential within any multidisciplinary team. However, team leaders can make mistakes irrespective of seniority. It is essential that everyone within the team feels confident in raising concerns to ensure patient safety. This can be particularly challenging for new staff joining established healthcare teams. We aimed to improve the confidence of new children’s nursing staff in raising concerns by introducing teaching on a structured method for raising concerns into their induction simulation session.

**Summary of education programme** New nurses undertook a simulated clinical scenario in which the doctor was deliberately hesitant and reluctant to administer appropriate emergency treatment. Teaching was then provided on the PACE approach for raising concerns. Each nurse then participated again in a similar scenario. Each of the 23 participants completed pre and post questionnaires.

**Summary of results** There was no difference in participants’ confidence between challenging a nurse or doctor (3.4/5) prior to training. Following the initial scenario the nurses reported feeling ‘frustrated’ and ‘scared’. After the session they stated that their confidence in challenging nurses and doctors had increased to 4.3/5 and 4.2/5 respectively. Free text comments included:

- ‘Hearing from doctors that they would rather be challenged was reassuring.’
- ‘Improved my confidence to speak up when querying a decision’

**Conclusions**/**Discussion** Nursing staff reported improved confidence in their ability to raise concerns. This can only serve to improve patient safety. We believe that similar training would also benefit new medical staff. Consequently, we plan to incorporate PACE training into all future medical and nursing induction programmes.

SC37  **IN-SITU SIMULATION-BASED TEAM TRAINING IN TRANSCATHETER AORTIC VALVE IMPLANTATION (TAVI) EMERGENCIES**

1Gillian Hardman*, 1Neil Berrigan, 1Gillian Liddle, 1Mark Hatch, 2Mike Dickinson, 1Antony H Walker. 1Department of Cardiothoracic Surgery, Lancashire Cardiac Centre, Blackpool, UK; 2Simulation and Skills, Blackpool Victoria Hospital, Blackpool, UK

**Background** Transcatheter Aortic Valve Implantation (TAVI) represents a complex procedure, performed in high risk patients, by a multidisciplinary team (MDT), in the catheter lab. When emergencies occur, they present significant Human Factors challenges. The importance of team training to the recovery of patients following TAVI emergencies is recognised.1

Following a TAVI emergency, a Serious Incident (SI) was raised. In response, we extended our existing Cardiac Surgery in-situ simulation programme to the catheter lab, with the aim of improving team performance, using interprofessional learning, in-situ simulation and deliberate practice with a Human Factors (HF) and non-technical skills (NTS) approach to debriefing.

**Summary of project** An introduction to the session was followed by a 40-minute simulated scenario of cardiac arrest in a patient at the end of a trans-femoral TAVI procedure. This was performed in-situ in the cardiac catheter lab (Figure 1). An emergency theatre, perfusion and surgical team were made aware of the session and briefed that they should attend if contacted.

Fourteen team members, representative of the MDT, participated in the scenario. The remaining 10 learners observed and actively contributed to the one-hour facilitated debrief. The final 30-minutes of the session was used for deliberate practice of specific emergency steps.

**Summary of results** A post-session online questionnaire using a 5-part Likert scale was used to evaluate the session. The questionnaire was completed by 19 individuals (response rate 79%). Results of the questionnaire are outlined in Table 1. All participants expressed a desire for further simulation-based education sessions.

Practice development areas identified during the debriefing were escalated to the management teams and quality improvement plans have been implemented.

**Discussion** In-situ simulation-based team training is now well established within our Cardiothoracic team at the Lancashire Cardiac Centre, with monthly in-situ team training.

An SI has prompted us to extend this education approach and successfully adapt it to a related working environment, providing real-time identification of practice development areas, fostering improved team working across disciplines and improving departmental patient safety culture.

**Conclusions and recommendations** Further work is required to assess the impact of this session on behaviour, patient safety and outcomes following emergency complications after TAVI.