



CS MEN – Simulation Publications Update

August 2020

Bulletin on Interprofessional Learning

Welcome

Welcome to the Simulation Publications Update a service brought to you by CSMEN in partnership with NES Knowledge Services.

The focus for this Simulation bulletin is on INTERPROFESSIONAL LEARNING. The articles may be of interest or relevance to your current role in NHS Scotland. The articles may also be of use in your research. The articles are from those journals we currently subscribe to. If there are any journals that you would like us to add/consider please let us know.

Until now we have tried to provide approximately 30 links to articles on all aspects of simulation. We are now moving to shorter more frequent Bulletins with a clear focus on an aspect of simulation. INTERPROFESSIONAL LEARNING in simulation is key to providing high standards of safe learning experiences for participants which they can then transfer to their teams in the workplace.

If you would like to suggest a focus topic or become a reviewer, please also let me know.

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The plan is to widen this service to focus on topic areas and to monitor its use and effectiveness so feedback would be much appreciated.

This bulletin has been developed by Jean Ker clinical lead CSMEN in partnership with Alan Gillies from NES Knowledge Services.

Access to Journals

Different journals have different processes for login so please follow the instructions for accessing the full text of the articles through the links provided.

On your behalf NES Knowledge Services subscribes to some journals direct and others via aggregators (i.e. journal collections or full text databases). We use something called a 'link resolver' to link you via the best route using your NHS Scotland OpenAthens password.

Some journals can detect that you're logging in from NHS premises, so won't ask for the OpenAthens password, but if you're accessing from home you may have to login.

None of the links should require you to set up a separate login – where there are login boxes for personal accounts, look for an OpenAthens or 'institutional login' option as well, which will accept your OpenAthens password.



Focus: Interprofessional Learning in Simulation based Education

['Ward for the day': A case study of extended immersive ward-based simulation](#). Davies H., et al, Nurse Education Today, Vol 90, 104430. 2020.

The opportunities to use simulation based education for interprofessional learning are increasingly been explored and reported in the literature and includes the need for interprofessional faculty development . The use of the NHS Louisa Jordan nightingale hospital in Glasgow, which was part of NHS Scotland's preparation for the Covid-19 pandemic as a National Skills Education Hub (NSEH) has presented a wonderful opportunity to explore the piloting of a simulated on call IPL ward.

This article by Davies et al acknowledges the safe learning environment that a simulated workplace can provide for learning one's role for practice and is one of three articles on this theme in this bulletin

This study from Western Australia involved senior nursing students being immersed in a mixed medical/surgical ward working in three hour shifts looking after eight different patient scenarios with doctors office and pharmacy available. There were a number of interruptions and distractions provided by confederates and students had to undertake two consecutive shifts so that they could put what they had learnt into practice. Senior colleagues were available for advice. A facilitated debriefing took place at the end of each shift.

Students experience was captured using a survey instrument and both quantitative and qualitative data was analysed. The immersive simulation was positively evaluated with highest satisfaction reported around reflection items and opportunities for clinical learning. Students appreciated the realism and the opportunity to prepare for practice of their roles and to learn about their professional strengths and weaknesses.

What would have enhanced this 'ward for the day' experience would have been the presence of other senior health care students to make it interprofessional. Is this something that could be piloted at the NSEH?

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Cognitive appraisals and team performance under stress: A simulation study, Carenzo, L., et al, Medical Education, Vol 54, 3, 254-263. 2020.

This study explored how challenge and threat responses to stress relate to performance, anxiety, confidence, team identity and team characteristics (time spent in training and postgraduate experience) in a medical simulation-based team competition. The data showed that both demands and resources have positive effects on performance; however, this is balanced by a negative interaction between the two. A high level of resources was associated with better performance until demands became very high. Cognitive and somatic anxieties were found to be correlated with demands. Time spent training was associated with greater perceptions of resources.

'Ward for the day': A case study of extended immersive ward-based simulation. Davies H., et al, Nurse Education Today, Vol 90, 104430. 2020.

In this study involving nursing students in Australia, eight demonstration rooms were re-configured to resemble a mixed medical/surgical ward. Nursing students and manikins in each room simulated different patient scenarios. Students were organised in three-hour shifts in which to undertake the role of a registered nurse. Industry partners undertook shift coordinator and senior nursing roles. The study concluded that extended immersive ward-based simulation offers the opportunity for educators to mirror what happens in clinical practice. Students value the opportunity to safely experience simulated demands of working on a busy ward and learn how to meet workplace pressures in the delivery of patient care.

Interprofessional coaches: Preparing faculty to facilitate interprofessional education, Evans, J.T., et al, Nurse Educator, Vol 45, 2, E17-E18. 2020.

The article offers information on Inter professional education (IPE) activities which allow students to learn about, from, and with each other and provide an opportunity to gain real-life experience, reinforcing effective collaborative practice behaviors.

Design and implementation of the health professions simulation assessment, a tool to assess students' perceptions of simulation experiences. Greenwood K.C., et al, Journal of Acute Care Physical Therapy, Vol 11, 2, 70-78. 2020.

The purpose of this study was to design and analyse an evidence-based quality assessment tool that could capture students' perceptions of simulation experiences and could be used by multiple health professions. The study included 329 students from different health professions who participated as part of their required coursework. The researchers concluded that the easily administered tool demonstrated satisfactory agreement; and the data gathered through its use may be used to improve the quality of simulations in entry-level health professions education programs.

Improving physicians' surgical ward round competence through simulation-based training, Grünewald, M., et al, Patient Education & Counseling, Vol 103, 5, 971-977. 2020.

Existing studies suggest that the practical implementation of ward rounds is inconsistent. Therefore, developing interventions to train ward round competence and assessing if they are effective are crucial goals for research. This study analysed a simulation-based tutorial for fourth-year medical students, including casework and ward round simulation, and investigated its effectiveness through a randomised controlled trial. The authors concluded that the results showed that the simulation-based training was an effective way to improve competence of medical students in conducting surgical ward rounds.



[Comparison of peer assessment and faculty assessment in an interprofessional simulation-based team training program](#), Hegg, R.M., et al, Nurse Education in Practice, Vol 42. 2020.

This paper reports the results from a comparison of direct observation by peer observers who had received short rater training, with post-hoc video-based assessment by trained facilitators. An observation form with six learning outcomes was used to rate team performance. The sum score of all six learning outcomes showed that facilitators were more lenient than peer observers. The inter-rater reliability varied considerably when comparing scores from peer observers from the three different professions with those of the facilitators. The authors suggest that the results indicate that peer assessment may support, but not replace, faculty assessment.

[Use of an academic electronic health record with an interprofessional simulation for advanced practice nursing students](#). King, T.S., et al, Nursing Education Perspectives, 2020.

This study involved standardised patient simulations for advanced practice RN students to improve health care safety and outcomes. An academic electronic health record was used in some simulations. The study found that simulation in interprofessional teams positively impacted role immersion, confidence, problem-solving skills, and teamwork. Use of the academic electronic health record added realism.

[Effectiveness of interprofessional manikin-based simulation training on teamwork among real teams during trauma resuscitation in adult emergency departments: A systematic review](#). Lapierre A., et al, Simulation in Healthcare : Journal of the Society for Simulation in Healthcare, 25 Mar 2020.

This systematic review synthesises the evidence about the effectiveness of interprofessional manikin-based simulation training on teamwork among real teams during trauma resuscitation in adult civilian emergency departments. Only experimental and quasi-experimental studies were included. Effects of the simulation intervention on teamwork were categorised according to a modified version of the Kirkpatrick's model. 11 studies were included for synthesis. All studies showed immediate improvement in teamwork after training, but divergent results were found regarding skills retention.

[A simulated night shift for undergraduate paramedicine students: Lessons learnt and the perceived value towards learning](#). Miles A., et al, Australasian Journal of Paramedicine, Vol 17 2020.

Researchers developed and piloted a simulated paramedic night shift and investigated whether undergraduate paramedic students (n=24) perceived the experience to be realistic and to what extent they felt it contributed toward their learning. 22 or the 23 respondents felt the simulated night shift to be realistic of real-life paramedic practice, provided a valuable learning experience and should be made a mandatory component of undergraduate paramedicine curricula.

[Simulated on-call: Time well spent](#). Misquita, L., et al, The Clinical Teacher, 2020.

Newly qualified doctors feel unprepared to take responsibility for patients and work independently, lacking confidence in skills essential during on-calls. This study aimed to assess the educational value of simulated on-calls and to explore the characteristics of this approach that contribute to improving students' preparedness. Following the programme, students felt significantly more confident in six key skills and significantly more prepared for on-call. There was also a significant improvement in students' assessed performance in on-call skills. All students found it more useful preparation for on-calls than seminars and shadowing on-call doctors. Having a second session and receiving one-to-one debriefing with personalised feedback enabled students to maximise their learning.



Facilitators and barriers to the clinical application of teamwork skills taught in multidisciplinary simulated trauma team training. Murphy, M., et al, Injury, 1147-1152. 2019.

This descriptive paper aims to evaluate the extent to which non-technical skills (NTS) were practised by the trauma team in a Level 1 trauma hospital after NTS training and to identify facilitators and barriers to use of NTS in clinical practice. A questionnaire targeting clinicians who attended a simulation based multidisciplinary Trauma Team Training programme was developed. Barriers and facilitators were allocated to categories of factors known to influence trauma team practices. These were: (1) organisational factors that influence the trauma team, (2) team factors that influence teamwork and (3) cognitive factors that influence team decision making. Facilitators to the implementation of NTS skills during trauma emergencies included team composition, roles and responsibilities, procedural compliance and leadership. Barriers included decision making and communication.

Interprofessional healthcare students' perceptions of a simulation-based learning experience. Nichols A., et al, Journal of Allied Health, Vol 48, 3, 159-166. 2019.

This paper describes a simulation-based learning experience designed to encourage students from six healthcare professions to learn more about interprofessional communication, roles and responsibilities of the healthcare team, and knowledge of interprofessional collaborative practice. Data analysis showed statistically significant differences in participants' perceptions of roles/responsibilities for collaborative practice and the patient outcomes from collaborative practice. Additionally, participants identified the importance of holistic, patient-centered care, a greater understanding of the roles and responsibilities of healthcare team members, and a greater desire to participate in IPE activities.

Virtual on-call increases medical student preparedness for practice, Nitiahpapand, R., et al, Medical Education, Vol 54, 5, 482-482. 2020.

This brief case study provides information on a virtual educational intervention that was developed to teach final-year medical students about on-call shifts aimed to increase their preparedness for practice. It looks at the design and structure of the virtual programme, and the lessons that were learned from implementing the intervention as well as the extent to which the project has achieved its goal.

Enhancing medical students' interprofessional teamwork through simulated room of errors experience. Turrentine F.E., et al, Journal of Surgical Research, Vol 251, 137-145. 2020.

Fostering medical students' appreciation for team members particularly those from other disciplines with varying levels of experience promotes a promising beginning to a health care career. In this study, 3rd year medical students on surgical clerkship orientation completed 30-item TeamSTEPS Teamwork Attitudes Questionnaire preintervention and postintervention, spent 7 min identifying errors in a simulated operating room, followed by recorded physician-led 30-min discussions. This well-received teamwork exercise enabled medical students to appreciate team members' contributions and other disciplines' perspectives, in addition to the synergy that occurs with multidisciplinary teams.

Evaluation of teamwork assessment tools for interprofessional simulation: A systematic literature review, Wooding, E.L., et al, Journal of Interprofessional Care, Vol 34, 2, 162-172. 2020.

This review aimed to assess the validity of teamwork tools used in simulation-based interprofessional training for healthcare workers and students, and to compare the design and reporting of these studies. The three tools with the strongest validity evidence supporting them



were the TEAM tool (Cooper et al., 2010; Rovamo et al., 2015), TPOT (Zhang et al., 2015) and GATOP/AOTP (Morgan et al., 2012). However, three studies did not explore tool psychometrics at all, and the quality of reporting amongst these studies on design and participant demographics was variable. Further research to generate reporting guidelines and validate existing tools for new populations would be beneficial.

[Introduction of an interprofessional gynaecology surgical skills workshop for undergraduate medical and nursing students](#), Yang, A., et al, Australian & New Zealand Journal of Obstetrics & Gynaecology, Vol 60, 2, 238-243. 2020.

A simulation-based gynaecology surgical skills workshop programme was introduced for undergraduate medical and nursing students. The aim of this study was to explore students' perceptions of the programme, using students' pre- and post-workshop confidence in taught skills reported in a post-workshop questionnaire as an outcome measure. Undergraduate medical (n = 133) and nursing (n = 27) students attended the workshop programme at a tertiary university in Melbourne, Australia. There was a statistically significant increase in post-workshop self-reported confidence scores for medical and nursing students in all four taught skills. Confidence in interprofessional behaviours also improved in both cohorts, but the improvement in nursing students did not reach statistical significance.