Interprofessional education: sustaining simulation in practice

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Interprofessional education (IPE) is very well established within the BSc (Hons) in Nursing Science Curriculum, Children’s Nursing at Queen’s University Belfast (QUB), since 2006 (Morison et al, 2003; Corkin & Clarke, 2007; Traynor et al, 2010). The interprofessional programme employed within the school of nursing and midwifery creates opportunities for shared learning between third year nursing and fourth year medical students undertaking a Paediatric and Child Health module.

This learning and supportive environment provides students with the opportunity to learn about their own and other professional roles and responsibilities in the care and treatment of children and to reflect critically on how this knowledge impacts on their ability to work as members of the healthcare team (Morrow 2011). The overall aim is to enhance patient safety and ensure nursing graduates are fit to practise at the point of registration (NMC, 2010). This innovative approach to teaching and learning clinical skills is complemented by the enthusiasm of the facilitators who are educationalists with clinical credibility and a high profile in children and young peoples’ nursing.

Aim of Interprofessional Education

Simulation provides opportunities for risk-free learning in preparing a workforce that exhibits capability, allowing students to practise and develop skills with the knowledge that mistakes carry no penalties or fear of harm (Bradley 2006). The essential element is that simulators accurately and effectively reflect the ‘real world’ situations and therefore provide students with realistic practice opportunities. Furthermore, using simulators within an interprofessional educational programme seeks to provide participants with a meaningful learning experience. IPE has been implemented in collaboration with the Centre for Excellence in Interprofessional Education (www.qub.ac.uk/ceipe) which has investigated opportunities for the development of shared learning within the curricula of medical and nursing professionals. Simulation using SimBaby has been introduced to promote an integrated approach to student learning through the use of ‘real life’ scenarios. To encourage the development of practitioners who can think quickly,
Co-ordinating activities

SimBaby is generally operated by a Consultant Paediatrician who controls the physiological parameters of the ‘child’ via a computer link as well as interacting with the students via a microphone. The technology allows the nurse lecturer (parent) to role-play the scenario in response to the students’ actions. Most of this activity takes place behind a one-way mirror and provides the facilitating team with the opportunity to observe the exchanging of information and monitor the students’ response to a specific scenario e.g. Group or Meningitis. During the scenarios, the students who are working in a group comprising of one or two nursing and one or two medical students will also have access to a telephone to enable them to communicate and seek support from other members of the clinical team. Simultaneously, students are assessed treating sudden deterioration in clinical status until a predetermined outcome has been achieved or a senior health professional called for assistance. Having obtained consent, student activity is video recorded so that access to performance can be closely reviewed by those students who are participating and those who are observing.

Reflection

Following each activity students are encouraged to review and reflect upon their performance (what did you do well, what would I like to have done better) and identify areas of good practice and that which they felt was lacking, or required further attention next time. The successful management of these clinical problems requires core knowledge and skills in assessing and treating common paediatric emergencies but also that the students from different backgrounds demonstrate team-working, mutual respect and understanding of the role of other professional colleagues. Immediate feedback and debriefing is provided by students involved in activity, their peers and then teaching staff. This enables reflection on all aspects of performance, providing opportunity for reinforcement of safe effective practice and identifies any further learning requirements. After each scenario, students demonstrate greater confidence in their abilities, commenting they forgot they were working on a simulated child, responding to the experience as if it were ‘real’ and gradually became more efficient working together within a team.

Key findings

On completion of high-fidelity simulation sessions students are invited to complete a likert scale validated questionnaire aimed at ascertaining student’s reactions to the learning experience. Workshops and focus groups were also used to evaluate student experiences during the recent IPE research project (Stewart et al, 2010). Ongoing findings suggest that students evaluate this learning experience very positively and the key to success is the cohesive team approach. Student comments included:

“SimBaby is a very useful, practical and memorable learning tool’.

‘Made me think positively about professionals from other disciplines.’

In addition, IPE simulation enables students to identify their personal and professional learning requirements to achieve proficiency for future practice.

Above all, students value the opportunity to exercise clinical judgement and decision making skills without endangering the child.

Facilitators are the recipients of several prestigious awards:

- QUB Teaching Award June 2008 – the panel acknowledged ‘the highly committed team for their innovative work’ and the importance of this project.
- Research 09 Award – Greatest Contribution to the body of Nursing & Midwifery Practice, having presented in the Royal College of Surgeons Ireland, 28th Annual International Nursing and Midwifery Research Conference held in Dublin.
- Florence Elliott Travel Award 2010 – presented at 3rd NETNEP International Nurse Education Conference in Sydney, Australia followed by Study Tour to University of Hong Kong regarding simulated practice.

Upon reflection, ongoing challenges tend to be with timetabling, availing of simulation suites and expanding use of simulation into postgraduate modules. Nevertheless, this innovative IPE approach fosters interdisciplinary communication and should enable the health professionals of the future to embark on their careers with a deeper understanding of the ways in which they can work together for the benefit of their patients, who are vulnerable children and their families.

References:


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Multidisciplinary Trauma Training: a UK first

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Trauma calls, although a small proportion of overall workload, are increasingly common in our frontline hospitals. This is an unfortunate consequence of increases in both knife crime and motor vehicle usage. Trauma situations in the Accident & Emergency departments necessarily involve a large number of medical personnel from multiple specialties, all with the primary aim of saving lives. In situations like these, leadership is fundamental in order for a co-ordinated, smooth sequence of clinical events to occur. Unfortunately, most trauma situations tend to be chaotic affairs with a degree of confusion and duplication which may adversely affect patient outcomes. The main reason for this is that people attending such situations have their own clinical agenda, are stimulated, anxious and more importantly, may not have worked with the other team members previously. The result is often a noisy, poorly co-ordinated scene that leaves all those involved feeling that improvements could be made.

To address this, we set up a real-time, multidisciplinary simulated trauma call using a computerised manikin (SimMan® - see Figure 1.), to assess technical skills and outcomes but more importantly to test communication skills, leadership and teamwork. This has not been reported before on this scale and we hope that with development, will set the benchmark for future training to improve adult trauma outcomes.

Methods
The simulation session was pre-advertised by internal e-mail. Candidates were selected only if they volunteered (suggesting enthusiasm and motivation) and were part of the normal trauma team. In our hospital, this included A&E nursing staff (two staff nurses and one healthcare assistant), registrars from three specialities (A&E, general surgery and anaesthetics) and a radiographer. Successful candidates were warned to expect a simulated trauma call via their bleeps in a few days and that they were expected to perform their normal roles.

SimMan®, a computerised simulated manikin that can be remotely controlled, was pre–programmed with a trauma scenario (See Box 1), that was designed to test responses to a dynamic situation. It was then placed in the resuscitation room.

**Box 1. Trauma Scenario and sequence of events**
History from paramedic – 30 year old male, fall from ladder at 10 metres onto pavement. Pre-hospital care – spinal board and collar. Cannulation attempted on scene but failed. Vital signs as below.

Pre-programmed events:

<table>
<thead>
<tr>
<th>Time (mins)</th>
<th>Vital signs</th>
<th>Action Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>HR 105</td>
<td>Oxygen</td>
</tr>
<tr>
<td></td>
<td>BP 110/80</td>
<td>2 x IVs</td>
</tr>
<tr>
<td></td>
<td>RR 32</td>
<td>Bloods taken</td>
</tr>
<tr>
<td></td>
<td>Sats 92% on air (96% with oxygen)</td>
<td>Warm fluid started</td>
</tr>
<tr>
<td></td>
<td>Reduced air entry on left</td>
<td>Possible discussion of chest drain</td>
</tr>
<tr>
<td></td>
<td>Trachea Central</td>
<td>Secondary Survey</td>
</tr>
<tr>
<td></td>
<td>Patient saying “I can’t breathe my chest hurts”</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>HR 120</td>
<td>Chest drain (procedure possible on manikin in real-time)</td>
</tr>
<tr>
<td></td>
<td>BP 110/80</td>
<td>(No life threatening need for needle decompression - BP maintained, trachea central etc)</td>
</tr>
<tr>
<td></td>
<td>RR 42</td>
<td>Chest drain inserted</td>
</tr>
<tr>
<td></td>
<td>Sats 88% on oxygen</td>
<td>Under water seal drain swinging</td>
</tr>
<tr>
<td></td>
<td>Reduced air entry on left side</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patient now less responsive - moaning</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>HR rises</td>
<td>Blood</td>
</tr>
<tr>
<td></td>
<td>RR rises</td>
<td>Discussion re: theatre / scan / transfer to cardiothoracic centre</td>
</tr>
<tr>
<td></td>
<td>BP starts to fall</td>
<td>Involve on-call consultant surgeon and anaesthetist (pre-arranged)</td>
</tr>
<tr>
<td></td>
<td>Chest drain contains &gt;1L blood</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Pre -arrest</td>
<td>Consider thoracotomy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stop simulation</td>
</tr>
</tbody>
</table>

Continued on page 4
At a pre-agreed time, all those involved received a call from switchboard saying “Simulated Trauma A&E Resus, 5 minutes”. The team assembled in the resuscitation room and were told by the on-call A&E consultant that they were to expect a trauma, and all they knew at that stage was that there was a 30yr old man who had fallen from a significant height.

Two minutes later, a paramedic (pre-selected by voluntary agreement to participate) wheeled the manikin into the room and gave a handover as normal and the trauma got underway. The manikin was then connected to the laptop and the simulation proceeded.

A pre-prepared X-ray demonstrating a haemo-pneumothorax and a blood gas reading were available throughout the scenario. An on-call consultant surgeon and on-call consultant anaesthetist were available on the telephone at a remote location. They had been pre-warned about the training.

All actions and communications were documented by three observers, each one looking at a different team member. A pre-agreed mark sheet was used for assessment (see Box 2) which was derived from evidence based literature.\(^1\)

The simulation ran for a total of fifteen minutes. A team debrief was arranged immediately and individual participants were then invited to reflect and meet again in 24 hours to discuss the training exercise.

**Box 2. Mark scheme for technical and non-technical skills**

<table>
<thead>
<tr>
<th>Component</th>
<th>Marks Allocated</th>
<th>Marks Awarded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A&amp;E SpR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduce self as team leader</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Listens to scenario</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Coordinates activities of others</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Organises log roll and performs spinal check correctly</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Organises venous access</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Performs secondary survey</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Organises trauma series</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Responds to changes in respiratory rate and vitals</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Anaesthetic SpR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduces self</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Recognises the potential for spinal injury</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Maintains airway</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Achieves good oxygenation</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Recognises need for intubation prior to scan / transfer</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Performs safe intubation</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Organises anaesthetic aspects of transfer</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Surgical SpR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduces self</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Assesses chest and recognises need for chest drain</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Performs sterile chest drain insertion</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Asses abdomen for injury</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Recognises major haemorrhage in chest</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Contacts on call consultant</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Contacts cardiothoracic centre</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Total Marks</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Situational Awareness**
- gathers information from team-members/monitors/charts
- receptive to new information
- recognises and understands roles of other members
- anticipates future states/events

**Communication and Teamwork**
- exchanges information
- confirms roles and responsibilities
- discusses decisions with colleagues
- establishes a shared understanding of requirements

**Task Management**
- plans and prepares
- prioritises
- identifies and utilises resources
- flexible and responds to change

**Decision Making**
- identifies and considers options
- selects appropriate option
- implements and reviews decisions

**Leadership**
- sets and maintains standards
- supports others
- copes with pressure
- assertive

\*1 Poor: Performance endangered or potentially endangered patient safety, serious remediation is required

\*2 Marginal: Performance indicated cause for concern, considerable improvement is needed

\*3 Acceptable: Performance was of a satisfactory standard but could be improved

\*4 Good: Performance was of a consistently high standard, enhancing patient safety; it could be used as a positive example for others

**Results**

The simulation ran smoothly with only a few technical glitches. For example, the swapping of the chest drain bottle to a pre-prepared one containing red fluid (simulating blood) was cumbersome and caused a distraction.

All participants were rated on their technical skills and non-technical skills using the mark sheet in Box 2. All performed well on technical abilities and most aspects of care were covered, although not necessarily in an orderly way. However, the non-technical skills such as communication and team work were not so highly rated. The main reason for this was that the team leader was considered weak and therefore decision making was not so effective.
making and communication tended to come from several sources rather than through one clear voice. This caused confusion and raised the noise levels. Responsibility for decision making was interesting, as at one stage the team leader disagreed with the surgical registrar about the need for urgent needle decompression of the chest. This caused a conflict situation. However, this was resolved by further negotiation and eventual common agreement on the correct treatment.

Immediate feedback was important so that the participants could reflect and assess their own performance together with constructive comments from the observers. There was a planned second feedback session 24 hours after the event to allow time for quiet reflection away from the scene but unfortunately this did not happen due to the busy nature of those involved. This was considered a serious failure on behalf of the organisers and will be incorporated into future sessions.

One comment was that visual feedback via video recording would be useful to allow more targeted feedback, and again this has been taken into consideration for the future.

**Box 3. Example feedback provided by participants and observers during the initial debrief.**

**Performance of the Team**

*Aspects the team did well*
- Team assembled and established Team Leader
- Clearly went through primary survey
- Established and dealt with key treatment points
- Communicated well / Noise levels kept down
- Deferred well to Team Leader through whom all decision making happened

*How performance could have been improved*
- Did not use tabard for Team Leader
- Did not start clock
- No written communication / record keeping
- Did not consider use of Level 1 infusor
- Did not consider use of FAST scan (Cardiac ultrasound only)
- Did not consider use of Red Alert (“Haemostatic Pack”) possibly did not know it existed
- Thoracotomy Pack not available in resuscitation room. Stored in a consultant’s office for “safe keeping”.

**Performance of the Facilitators**

*Successes*
- Nature of Call – “Trauma Scenario”
- The expected participants arrived
- Much of the clinical information came from the manikin
- Scenario was realistic
- Timescale for running exercise was appropriate
- Team allowed to think things through and act on what was found
- All communication that had been planned (on-call consultant etc) worked well

*Points for improvement*
- Brief to team – facilitator should not give additional information to any Team Members before scenario
- Important point of scenario was fluid resuscitation – this aspect needed more realism
- Chest drain insertion – would have been better to have actually had team put it in
- Difficult for laptop operator to hear all the interventions that were being performed
- Cumbersome chest drain bottle swapping
- Due to nature of manikin (doesn’t speak / doesn’t change colour etc)
  - Verbal interaction needs to be sorted out with manikin so Team Leader can converse with it

**Discussion**

This simulation was very realistic and within minutes, the trainees were treating and manipulating the manikin as if it was a real patient. Feedback was generally positive and constructive (see Box 3) and all felt that they benefited from the experience. It was clear that leadership and communication were vital for success and during the debrief the non-technical skills were highlighted as an area for improvement.

Non-technical skills training is becoming high priority in surgical training schemes as lessons are learned from adverse events. One study reported that communication failures were responsible in 43% of adverse surgical events. Studies of other high risk industries, such as the aviation industry, indicate that it is primarily human failures rather than technical malfunction that are responsible for adverse events. We must embrace these lessons and incorporate human skills training into our educational portfolio to ensure that patients are protected.

This particular use of SimMan® has not been reported previously in the UK. The concept of multidisciplinary simulation training has been tested before with paediatric trauma in specialist centres in the United States and positive outcomes have been reported. However, the training here was in simulation laboratories and not in the field, thus reducing the realistic component. Multidisciplinary trauma training has also been reported but this was in a pre-hospital setting using simple manikins and student volunteers. Our project is an extension of this but benefits from the use of sophisticated remote controlled simulators and enters, for the first time, the territory of hospital based adult trauma care.

One study looking at paediatric airway management suggested that outcomes were improved if physicians had received prior simulation – based training, and this underpins the importance of training trauma teams in advance of genuine trauma calls.

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In summary, this project has not been trialled and reported previously. It worked very well as evidenced by positive feedback and the ability to deliver it in the middle of a busy Accident & Emergency department. As this is beneficial to all staff and can be run at minimal cost, it will now be standard training in our hospital with simulation exercises every three months. We would hope that this local project can be replicated on a national scale.

Acknowledgements
We would like to thank Ben King (Resuscitation Lead), Mr. Steve McCabe (A&E Consultant), Dr Jo Cornes (Anaesthetic Consultant) and Mr. Jonathan Earnshaw (Surgical Consultant) for their generous participation and help in this project. The authors declare no competing interests.

References

A new learning environment at the University of Bedfordshire

Clare Morris, Associate Dean, Postgraduate Medical School, University of Bedfordshire

The development of a new simulation facility at the University of Bedfordshire can be seen as a logical step towards meeting our organisational aspirations for creative, innovative learning spaces that bridge the gap between higher and professional education contexts.

The learning environment embraces both the physical and virtual worlds in which our students learn. The needs of an employability-based curriculum in an institution dedicated to innovative, exciting and effective teaching, means that we must ensure that all our estate is appropriately configured to create an environment which supports students’ learning. UoB Education Strategy 2008-13 : Transformational Education

Within the Faculty of Health and Social Science and Postgraduate Medical School we work with learners at all stages of their career pathways. This spans pre and post registration courses in nursing, midwifery and ODP as well as masters level courses in medical and dental education for senior clinicians from all healthcare professions who wish to develop expertise in the design, delivery and evaluation of education and training in their own professional fields and contexts. Successful bids for capital funding and academic developments have enabled us to take an integrated approach to the design of a new simulation facility, allowing us to learn from others’ experience whilst moving forward thinking and practice in simulation. Cross faculty working means we have been able to bring together a range of expertise and interests in order to design a bespoke simulation facility and an integrated staff development strategy.

Our new facility will open in June this year and is based at our Butterfield Park Campus, just outside Luton. We have been able to lease a new building which we have designed to offer flexible learning spaces. Our decision to focus on acute and critical care (and in particular surgical contexts of care) was influenced by local and regional needs. Firstly, a desire to broaden the learning opportunities available to students on our Operating Department Practitioner (ODP) and acute healthcare courses. We have very pressing needs to ensure that pre and post reg students are able to rehearse the types of skills and practices that are vital in the workplace, but in a safe, developmentally-orientated environment. Secondly, to create a facility that complements other successful simulation centres across our region. In this way we hope to offer new types of simulated learning experiences to medical and healthcare professionals regionally.
Our new facility will have a range of flexible learning spaces, including changing room, scrub room, anaesthetic room, theatre, ward and high dependency unit. We have access to a range of clinical equipment which will enable the simulation of acute and critical care scenarios, with simulated piped gases and video equipment throughout. We will also have access to a range of simulation models, from SimNewB to SimMan, in order to trace care pathways from neonates to those at the end of their lives.

**Letting patients lead the way**

In designing our facility, our ethos has been to ‘let patients lead the way’. In practical terms, this has meant paying close attention to the design of the facility, which allows us to follow the patient’s journey from admission to discharge. We can simulate admission from A & E, or from ward transfer, for example. We can move our ‘patients’ from the anaesthetic room, to theatre, to post-anaesthetic care and then back onto the ward. We can also simulate domestic spaces where acutely unwell patients may first be seen. Importantly, we have built in a family room, where students can rehearse a range of important communication skills with patients (for example breaking bad news) and with each other (for example a handover or multi-disciplinary team meeting). A training room is connected to the facility allowing space for briefing and debriefing as well as a range of other educational activity. ‘Letting patients lead the way’ also means thinking about the ways in which we will engage patients as experts-by-experience as we come to design simulation scenarios and begin to integrate simulation-based learning into our curriculum models. We have already developed links with the Bedfordshire Local Involvement Network to promote public involvement in our ODP curriculum.

‘Letting patients lead the way’ means thinking about the ways in which they currently experience care and how this might change in future. Patient care should be an integrated process where healthcare professionals work together, not in disciplinary silos. Our aspiration is therefore to model integrated care, with simulation bringing together a multi-professional ‘mix’ of both students and professionals. Our goal is to use simulation to allow students to rehearse the types of practices that are congruent with current and future-orientated care practices. Inter-professional learning has to be at the heart of this, if we are to avoid the fragmentation of the patient care journey we seek to simulate.

**Developing faculty**

We are mindful of the lessons learnt by colleagues who have been using simulation for some time. Stories of under-utilised facilities are common and it is therefore perhaps unsurprising that there is growing attention paid to the need to develop a skilled faculty (CMO 2008). Whilst ‘facilitation skills’ are fore-grounded, we believe that the development needs of faculty go beyond this. Drawing on our experience of integrating e-learning into every course the University offers, we recognise the importance of curriculum design here. Simulation, like any other technology can enhance learning on courses, it should not, in opinion, drive the design of courses (the ‘we have the technology how will we use it’ approach). We recognise that if we are going to integrate simulation into our courses, we will need to have a coherent underpinning staff development strategy.

Clearly there are technical skills necessary for those using simulation regularly and some targeted training will be provided for key staff. A wider group of staff will require support in developing briefing, facilitation and debriefing skills and we will provide in-house staff development activity for these colleagues. We do however wish to develop educational expertise in the integration of simulation into our students’ learning experiences. One of the ways in which we are doing this is offering bursaries to a core group of staff who will complete a postgraduate award in Medical Simulation over the next year. In this way we hope to develop a new community within the faculty, who will work collaboratively to increase scholarly and research activity in the educational value of simulation.

Within the postgraduate medical school we have a highly regarded Masters in Medical Education programme, which attracts medical, dental and healthcare professionals working in NHS, Deanery, Higher Education and independent settings. One of our graduates Tony Kemp, has explored the expressed faculty development needs of those working in simulation centres and from this work we have designed a new specialist pathway within our MA in Medical Education which can also be taken as a stand-alone PgCert in Medical Simulation. Our PgCert in Medical Simulation has two key aims. Firstly, to provide participants with opportunities to develop skills in the design and facilitation of high quality learning experiences in simulated settings. Secondly, to enable participants to adopt an informed and critical stance towards the growing emphasis on simulation, unpicking some of the common assertions and assumptions associated with the approach.

“**Our goal is to use simulation to allow students to rehearse the types of practices that are congruent with current and future-orientated care practices.”**

“The PgCert in Medical Simulation therefore aims to foster a critical stance to the idea of simulation itself. We would suggest that there are two fundamental assumptions underpinning the wholesale of adoption of simulation in the UK. Firstly, the assumption that what works in one industry will work in another. For example, the early calls to use simulation in health were based around the experiences of the aviation industry. Secondly, it is based on assumptions of transfer, in other words the belief that what is learned in one setting can readily (and indeed unproblematically) be transferred to another setting. Thus while evaluations of simulation are invariably positive, the actual impact of simulation on practice needs further study (Baillie & Curzio 2009). The PgCert in Medical Simulation engages with these ideas from an educational stand point. This in turn offers participants the opportunity to explore contemporary educational thinking, potentially opening up new ways of working in simulation for the benefit of learners, patients and the organisations with whom we work.”

Clare Morris, Associate Dean, Postgraduate Medical School, University of Bedfordshire.

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and Social Sciences and Tony Kemp, Visiting Lecturer in Medical Simulation, Postgraduate Medical School.

You can find out more about our PgCert in Medical Simulation by visiting www.uob.im/fdmed

References


Crisis? What Crisis?

Risk Assessment and Risk Management systems are becoming increasingly integrated into hospitals in Germany as part of the on-going effort to improve patient safety, a recent survey has revealed... And simulation has an important role to play.

Around half of the German Hospitals that participated in a recent survey conducted by the Institut für Patientensicherheit of the University of Bonn (IFPS) and the Aktionbündnis Patientensicherheit (APS) reported that they are providing a risk and fault management system. “The results are very positive and inspire confidence,” said Dr. Günther Jonitz, President of the Medical Association in Berlin and Chairman of the APS. 59% of the survey participants indicated that they were putting into place a fixed strategy for clinical risk management within their organisations compared to only 30% in 2008.

This increase signifies a growing culture in Germany seen similarly in many other countries - to more openly acknowledge medical errors, not just statistically but more importantly, to better understand their nature and causes, and so better anticipate and prevent them in the future. The efforts of the APS are at the heart of this cultural change introducing many initiatives designed to explore and openly discuss medical errors through encouraging studies into this area, and publishing findings and recommendations for future practice.

“While the foundation of the Institut für Patientensicherheit in 2009 marked an important milestone in the development of patient safety strategies, it is recognised that there is still much more to be done,” observes Dr. Jonitz.

The discussion of any healthcare issue needs a forum in which to discuss it. In the case of medical errors and how to learn from them, the M&M Konferenzen (morbidity and mortality conferences) provided a perfect network to push this particular aspect of the patient safety agenda forward. With each conference normally attended and facilitated by up to 40 doctors and nurses, Dr. Jonitz believes that in the context of pressurised healthcare resources, hospitals are increasingly reluctant to release staff to attend these conferences and consequently many are being cancelled.

Assessing and managing risk with simulation

Set up in 2007 by the APS, the Krankenhaus-CIRS-Netz-Deutschland (a national critical incident reporting system) is one of the most central and important networks to measure, discuss and evaluate both actual critical incidents and near misses that occur in healthcare in Germany. A forum for incidents to be anonymously reported allows for the CIRS internet portal to become a hub of valuable reflective learning and recommendations to improve healthcare practices for the improvement of patient safety throughout the German healthcare system.

Integrating Risk Assessment and Risk Management programmes into the healthcare organisations themselves is a valuable step forward for patient safety and simulation has an important role to play. Simulation training is becoming recognised as a valuable tool to expose risk and rehearse measures to counter it. This is very clear in stressful situations such as emergency incidents where under pressure, even the most routine of tasks can become challenging.

“Up to 75% of the 20,000 yearly deaths in Germany attributed to medical malpractices could be avoided by simulation team training with a focus on human factors and CRM (Crisis Resource Management).”

Prominent simulation advocate, Dr. Marcus Rall of the Tübinger Patiensicherheitszentrum TüPASS echoes similar views. “Up to 75% of the 20,000 yearly deaths in Germany attributed to medical malpractices could be avoided by simulation team training with a focus on human factors and CRM (Crisis Resource Management)” Dr. Rall claims. “Many hospitals cite cost and time restraints as mitigating factors in not providing sufficient hands-on training for their clinical staff but the costs for treating the complications that arise from clinical errors are many times higher.”

As risk assessment analysis increases, so do the questions relating to how patient safety can be improved through hands-on training sessions, a topic to be shortly given much greater focus by the Arbeitsgruppe Bildung und Training of APS in the coming months.
Easier than you think!

Simulation Study Days in France facilitate greater access to simulation as healthcare providers and educators look to embed this teaching approach within their training programmes.

Simulation is no longer in its infancy or to be found only in small pockets of specialist clinical disciplines or a small number of countries and healthcare systems. Today, the recognition of simulation as a valuable educational tool across the healthcare disciplines is universal. As new simulator technologies emerge to allow simulation to take place in the actual working environment itself and the inevitable greater access to simulation this brings, the importance of standardising simulated education and networking among fellow simulation educators to promote best practice becomes evermore profound.

‘It’s all a bit technical.....’
Dispelling the myth

While the benefits of simulation have been widely publicised, it is also true to say that accompanying rhetoric: high fidelity, technical, specialist, complicated, has also been a contributory factor that has in some cases slowed down the adoption of simulation within healthcare education. But despite this, interest in simulation has grown at a constant rate.

To help bridge this gap in perception, Laerdal Medical in France has facilitated a number of Simulation Study Days throughout the country to support regional networks made up of both simulation experts and simulation beginners. The day’s objectives have been multi-fold, from sharing educational principles and demonstrating simplicity of use of the equipment, to discussing resources and maintaining simulation programmes in a sustainable way. Such a diverse agenda has enabled not just clinical educators to come together to explore the merits of simulation, but also the financiers and political decision makers in the region.

“During this Study Day, I have been able to meet people as passionate about simulation as myself.”

The importance of Regional Simulation Networks

Limited time and resources have often characterised the pace of progression of simulation. Those that are now expert in the use of simulation have given much of their own time to learn its methods and develop their experience. If simulation is to truly become an integrated and relevant part of healthcare education, regional networks and Faculty development are essential to ensure that its educational value is fully realised.

A prime example of this and as a consequence of a Study Day, the main hospital of Grenoble (Centre Hospitalo-Universitaire de Grenoble) was identified as ideal to become a Simulation Reference Centre for its peripheral hospitals (Thonon and Chambéry) to have access to. While these hospitals could maximise their resources by implementing more basic simulation training into some of their programmes, they could also enjoy access to more advanced simulation training as required through their network relationship with Grenoble. Recognising this to be a very successful arrangement, Dr. Sécheresse from Chambéry observes, “During this Study Day, I have been able to meet people as passionate about simulation as myself. We have in a way created a regional network which will allow us all to move forward more effectively and more quickly.”

Similarly, such network relationships were formed in Brittany among the Nursing Schools community where the Study Day at Brest did not just demonstrate the extent of simulation training available at the simulation centre, but also provided many ideas of simulated learning that could be woven into the nursing curricula at the schools themselves.

To date, Simulation Study Days have taken place in Angers, Bordeaux, Brest, Caen, Grenoble, Limoges, Lyon, Nancy, Reims, Strasbourg, Toulouse and Vannes with more planned in response to significant interest, underlining the fact that simulation has truly found validity within healthcare education.

For more information, please contact gerard.ferrer@laerdal.fr
Simulation moves up the agenda at the 4th International Clinical Skills Conference in Prato

On the 22nd – 25th May 2011 nearly 200 delegates from around the world and across multiple healthcare disciplines came to Prato, Tuscany to attend the bi-annual 4th International Clinical Skills Conference. A joint collaboration between the University of Dundee, Scotland and the University of Monash, Australia; the conference programme was notable for its increased focus on simulation within medical education.

Prominent themes within the keynote presentations included identifying quality indicators for the design of simulation experiences, optimising the use of simulation by understanding where it fits to deliver defined learning objectives, and how to use simulation and the communication skills it facilitates to ensure that healthcare personnel behave more professionally with patients.

It is widely recognised that the use of standardised (simulated) patients and hybrid simulation is growing and that basic skills training and full-scale event-based simulations are being adopted, applied and integrated across curricula by healthcare educators around the world. With the variances of simulation experience that exist both across clinical disciplines and organisations internationally, the conference facilitated the opportunity to highlight innovation with simulation workshops that were well attended, as well as provide a hub for developing evidence around clinical skills practice and education.

Learning opportunities and Hyper-Realism

Keynote speaker, Dr. Peter Dieckmann is a work and organisational psychologist with the Danish Institute for Medical Simulation in Herlev, Denmark. He emphasized the importance of clarifying the learning objectives that a simulation exercise can facilitate as simulation is first and foremost about learning opportunities. He also highlighted the anxiety that participants can experience, especially when new to this training approach. Often, they do not know what to expect and this is unnerving. He pointed out that the simulation brief is as important as the de-brief so that participants can get the most out of the learning experience. “We need simulation competence in the participants – not just the instructors”, Dr. Dieckmann said.

In his conclusion, he also advised educators to use hyper-realism when developing scenarios and thereby make the learning objectives more obvious by exaggerating them – “Capture the core essence, the key learning objective.”

Clinical practice versus patient simulation

Several speakers voiced the opinion that time wasted in clinical practice is a huge problem and that lack of clinical placement is equally challenging. However, quantifying how much of a curriculum can be replaced with simulation is difficult. It was the considered opinion ‘to use simulation to focus the clinical better’ and that perhaps the question should rather be, ‘what is best learned in simulation – and what is best learned in clinical?’ Another evident challenge in relation to replacing clinical time with simulation will be transferring training costs from hospitals to the universities in order to fund simulation training.

“We need simulation competence in the participants – not just the instructors.”

While the UK Nursing and Midwifery Council are already allowing nursing undergraduate programme providers to replace up to 300 of the 2,300 hours practice component with simulation training, research is currently being carried out by Professor Pamela Jefferies, Associate Dean for Academic Affairs at the John Hopkins University School of Nursing and the National League of Nursing (NLN) to determine how much simulation based training may replace clinical practice hours in the US nursing education system. The results of their findings and recommendations are being keenly awaited in Australia, where 18 clinical schools recently participated in a government study to determine the optimal scope for simulation and how to fund its dissemination within the Australian healthcare education system.
Network formed to promote integration of simulation in nursing education

Thirty nurse educators representing educational institutions from twelve different European countries reconvened on the 4th June, during the SESAM conference in Granada, Spain. The meeting, supported by Laerdal and chaired by Matthew Aldridge, Senior Lecturer in Acute Adult Nursing at University of Wolverhampton, was organised to discuss a proposal for the future structure of the European Nurse Educator Network and to define what the network should aim to provide and achieve.

"We know students enjoy it, but we need to think about where in the curriculum should simulation be delivered."

Purpose of the European Nurse Educator Network

Despite the fact that some nursing schools began integrating simulation with the curriculum years back and others are just starting, educators across Europe are facing many of the same issues. Regardless of background and experience, the participants at the meeting all agreed that sharing knowledge and resources among universities will help everyone move forward, which has been a primary reason for establishing a network for European nurse educators. It is equally hoped that the network will help foster the adoption of simulation training in nursing education across Europe. The network should further seek to develop joint resources in order to produce publications around research and learning and to collaboratively seek for funding.

Educational framework and research focuses

As one of the initiators of the European Nurse Educator Network and chair of the meeting, Matthew Aldridge put it, “We know students enjoy it, but we need to think about where in the curriculum should simulation be delivered, where is the money best spent - in simulation centres or elsewhere?” He pointed out, “Now, (due to the Bologna Process) is a great opportunity to redesign the curriculum across Europe – but there is a need for an educational framework to secure a sound integration of simulation.”

It is a common recognition that simulation should have an impact on patient outcome, but, according to Mr Aldridge, “The issue we need to look at now, is how simulation impacts on student behaviour and the end point of care.” Though educators are generally focused around educational research, Mr Aldridge claimed that looking into how we can implement simulation for cost saving purposes is also relevant, as resources are being cut down.

Proposed collaboration with International Nursing Association for Clinical Simulation and Learning (INACSL)

The mission for the International Nursing Association for Clinical Simulation and Learning (INACSL) is to promote research and disseminate evidence based practice standards for clinical simulation methodologies and learning environments. Patrick Van Gele, Dean of Nursing Faculty, HECV Santé – University of Applied Sciences in Lausanne, Switzerland and international coordinator of INACSL, said that the international nursing association with its 1,500 members is now a well established institution within the US, and that more than half of the nurses who attend their conferences are novices in simulation. Mr Van Gele further explained that the association wants to bring simulation enthusiasts and experts together worldwide and is willing to be a catalyst to foster simulation in nursing education. With this background information in place, it was proposed that the European network should seek to become a chapter or affiliate of INACSL; hence independence would be embedded. This way the new network could draw upon the larger, more established organisation’s experience and resources. The meeting turned out to be unanimously in favour of the proposal and it was decided that Matthew Aldridge, who was also elected president of the European network during the meeting, will continue to take this further during INACSL’s 10th annual meeting later this month. www.inacsl.org

“The association wants to bring simulation enthusiasts and experts together worldwide.”

Needs analysis – discussions in small groups

The participants were asked to discuss which types of resources they would like to see made available and what the network should seek to achieve moving forward. In presenting the outcomes of these brief conversations, one group emphasised that sharing knowledge, experience,
practice and the need for having a simple structure, clear channels and communication, and forming an agenda would be important. For the next meeting, Randi Tosterud from University College, Gjøvik in Norway suggested having two or three network members present their pedagogical foundation for implementing simulation training and how simulation is being integrated with the curriculum at their institution, hence others may learn and draw on their experience. Ms Tosterud also focused on the importance of debating didactical challenges in relation to simulation and to ‘uplift’ topics such as assessment; what can actually be measured, what should be measured and how do we do it. Another way of getting to know each other would be to convene at different centres so that each one could showcase how they are doing simulation.

On gathering evidence based results, it was mentioned that in order to obtain funding, one also needs to come up with one’s own results, which might be a challenge. Another group suggested that each of the twelve countries make a profile of the organisation they represent and also describe how nursing education is organised there and further, that sharing scenarios, including scenarios on standardised patients and communication skills, and input as to how others managed to break down the barriers to simulation, would all be beneficial. Another suggestion was organising an exchange of staff and students, perhaps via the ERASMUS programme. Yet another topic of discussion was the long term funding of the network, as the funding and engagement of Laerdal Medical is limited. Funding through subscription was briefly mentioned, however not voted or concluded on.

**Spreading the word**

With the European network being in its early phase, very few nurse educators are currently aware of it being established. It will therefore be important to ‘spread the word’ perhaps via local nursing organisations and other channels in the various countries in order to increase awareness and gather more members in the time to come.

The next meeting will be held in connection with the SESAM conference in Stavanger, Norway early June next year.

For further information about the network, contact Matthew.Aldridge@wlv.ac.uk

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**Making Women’s Lives Safer**

**Thursday 13th October 2011 - 09:30 - 16:00**

A day of presentations and workshops is planned to cover many issues in areas of women’s health

**Venue:**
Clinical Skills Facility, Hull & East Yorkshire Hospitals NHS Trust,
Hull Royal Infirmary, Anlaby Road, Hull HU3 2JZ

For further details and to register your attendance at this meeting:

Please contact Vanessa Hampshire,
Medical Education Manager, Clinical Skills Facility,
Tel: 01482 604314,
Email: vanessa.hampshire@hey.nhs.uk
Improving outcomes in paediatric care: Laerdal launches SimJunior

As simulation becomes increasingly integrated into healthcare education as a core component of patient safety practice, Laerdal completes its portfolio of simulation solutions with a new patient simulator for paediatric training – SimJunior.

Paediatric care is unique. Events can turn quickly and so clinical decision making times are critical. Fast, accurate and coordinated team responses from the healthcare professionals along the patient care pathway are essential if successful outcomes are to be achieved. How then, can educators in paediatrics prepare those clinical staff for challenges that may include a string of complex and diverse clinical scenarios, the effective management of which is pivotal to the outcome for the patient?

Simulation is fast becoming established as a valuable training methodology in healthcare that facilitates necessary experiential learning in preparation for real patient encounters. Since the launch of Resusci Anne in 1960, Laerdal Medical has long been an advocate and pioneer of simulation training. SimJunior, their latest innovation reflects their deep-rooted and internationally renowned experience within simulated healthcare education.

Clinical skills alone are not enough – communication is key

The need for a paediatric simulator is made clear when considering the distinct differences between treating an adult and a young child, such as clinical protocols, physiology, and drug use and dosage. Unique to simulation training is the widely acknowledged improvement of communication skills within the process of care. In the field of paediatrics, effective communication is paramount, not just with the child, but also the parents, the latter being rehearsed by using actors within the simulation exercise. The opportunity to refine communication skills is also critical for the multi-disciplined staff involved in the transition of care to ensure information handover is accurate and continuum of care is not compromised. Diverse scenarios with multiple learning objectives can be comprehensively facilitated by a realistic paediatric simulator. SimJunior has been designed to meet these needs.

Introducing SimJunior

Representing a 6 year old child, SimJunior can simulate a wide range of conditions from a healthy talking child to an unresponsive critical patient with no vital signs. From an accident scene through transportation to A&E, from the PICU to the ward, Laerdal’s new patient simulator makes safe, hands-on training in realistic settings possible. Participants can practise all aspects of paediatric care from blood pressure assessment and airway management to critical conditions such as convulsions and tongue oedema.

A complete simulation solution

Developed to be compatible with SimJunior, pre-programmed and validated scenarios are available for download from another recent Laerdal innovation, SimStore. Part of the wider Laerdal simulation solution, SimCenter - SimStore is a library of quality educational content created by leading educational experts for use on Laerdal’s portfolio of patient simulators. Current SimJunior scenarios include those developed by the American Academy of Pediatrics and the National League of Nursing, which will complement many core elements of international paediatric training programmes. Along with additional support from Laerdal’s range of Educational and Technical services, the SimJunior offering is a complete simulation solution.

For a demonstration of SimJunior, please contact our customer service department on 01689 876634 or customer.service@laerdal.co.uk to arrange an appointment with your local Laerdal Representative.
MamaNatalie
providing realistic and affordable training in maternal and newborn care

MamaNatalie birthing simulator - and her newborn baby helps you introduce simulation into your educational programmes. User friendly realism of the simulators and engaging role plays will make the learning sessions efficient and unforgettable for learners and facilitators alike.

Improving communication skills
Good communication with the mother is essential to assess, interpret and prompt corrective treatment. Strapped to the instructor, MamaNatalie is unique in its ability to facilitate the development of communication skills.

Highly affordable, portable and easy to use
MamaNatalie is the most affordable birthing simulator available. It can be used by any qualified instructor after only a few minutes introduction. Highly portable and quickly made ready for use in any setting, makes MamaNatalie particularly suitable for ‘in situ’ simulation training.

Realistic training in control of postpartum haemorrhage
The number one cause of maternal death during childbirth. The instructor can simulate bleeding of up to 1.5 litres and easily manipulate the condition of the uterus (from boggy to well contracted and any condition in between) in response to the student’s actions.

MamaNatalie comes with NeoNatalie newborn simulator in either dark or light complexion.

For a demonstration of MamaNatalie, please contact our customer service department to arrange an appointment with your local Laerdal Representative on 01689 876634 or customer.service@laerdal.co.uk

Buy One
Gift One
350,000 mothers and nearly 2 million babies die each year during birth. 99 % of these deaths occur in developing countries.

If you buy a MamaNatalie for use in a developed country before end 2012, Laerdal will donate a second unit in your name to a training programme in a developing country.
Nursing Anne is designed for scenario based training for the care and management of a wide variety of hospital patients. She is an efficient, effective, flexible manikin for clinical training in women’s health, obstetrics, post-partum, general patient or wound assessment and care.