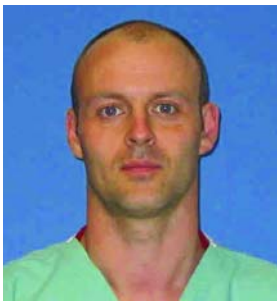

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The rise of the collaborative inter-professional simulation education network?

'Neonatal simulation – training a workforce for the future'[1] in this issue of *Infant* presents a timely, balanced and insightful review of neonatal simulation in the UK. The authors, Fawke and Cusack clearly highlight the benefit of inter-professional 'point of care' or *in situ* neonatal simulation and national recommendations with funding implications, as well as adding to the calls for further collaboration.

Simulation is an educational modality where a real life task is recreated providing a safe learning environment, for the acquisition of skills, knowledge and behaviours. It fits in an array of technology-enhanced learning opportunities currently available, including touch sensitive haptic devices that feel like human tissue, immersive gaming and virtual learning.

However, it is not the choice of technology (or the degree of the fidelity) one employs to achieve key learning objectives, but rather what the learner takes from it, retains and translates into the clinical domain that really counts. Self-awareness, self-reflection, self-confidence, non-technical skills, each developed and enhanced by reflective debriefing techniques, constitute clear goals. Simulation in itself is nothing new, but the technology, the imperatives and current opportunities to collaborate and breakdown silo-based learning are recent developments.

In developing our simulation infrastructure we can break down some of the barriers that have stymied the progress of simulation education in the UK over the last ten years. Namely, a lack of accessibility to high quality evidence-based peer reviewed simulation education; difficulty in releasing all team members at the same time; lack of quality managed faculty training in simulation delivery; and a narrow high quality research evidence base supporting the integration of simulation into both curricula and workforce development.

Furthermore we have the opportunity to deliver the fruits of our collaborations at each of our respective institutes – higher educational or clinical trusts/hospitals, dispersed throughout the country without re-inventing the wheel at each of our respective sites.

Each year at least one governmental report is published highlighting the clear and present clinical need for the coordinated, integrated use of quality managed simulation. This was most recently emphasised by the 'Time for Training' document – a review of the impact of the European Working Time Directive on the quality of training[2]. The year previous the Chief Medical Officer recommended that each medical college should identify a lead for simulation training. Medical colleges are identifying leads and are mapping simulation to our current competency-based training. However are we missing something and perhaps some people here?

The something is what exactly are we mapping and why. The people are team members, our colleagues from other disciplines, medical, nursing and allied health professional. No longer do we need to just train and assess individuals, as most of our training, (medical college or nursing school based or post graduate resuscitation courses) has previously focused upon. We work as teams, so why do we not learn as teams? Also an obvious dichotomy, between inter-professional team-based learning focused upon improving patient outcomes and individual college designed uniprofessional simulation courses and curricula, is looming on the horizon. In terms of mapping to curricula, clearly this is not cramming in everything that can be taught on a simulator just because we can. Capacity and funding will often limit us before we get to the fundamental question of what is the added value above traditional methods that the simulator (of any fidelity) or simulation centre provides?

Simulation is continuously evolving to assist us in scaling Miller's pyramid. We now have the technology to map knowledge acquisition against innovative, engaging e-learning and virtual immersive worlds. We have touch sensitive/haptic part task trainers allowing replication of required psychomotor skills, facilitating abstract skill acquisition. Contextualised skill acquisition can be achieved *in situ* with part task trainers or standardised actors. Fawke and Cusack describe high fidelity full body simulators placed in the highest fidelity environment possible to replicate real life complex tasks/processes. The regular 'point of care' or *in situ* team-based training described in this issue of *Infant*, facilitates workforce training with colleagues from other disciplines at their own place of work. This and other similar uses of simulation in other neonatal units and other clinical arenas are undoubtedly addressing some of the barriers to the

implementation of simulation discussed above.

There is a clear emphasis on the role of the simulation facilitator, particularly with respect to debriefing. Debriefing has been defined by Fanning and Gaba[3] as a "facilitator-led participant discussion of events, reflection, and assimilation of activities into their cognitions producing long lasting learning". Debriefs in general describe simulated events, analyse them in detail, synthesise and apply constructed thinking to similar future clinical situations.

There are a number of debriefing strategies and models to develop self-awareness, self-reflection and self-confidence in learners and translate learning into clinical domains. The facilitator in essence guides participants to discuss with each other and discover as much on their own as possible by creating a bubble of safety, an environment of trust where inner thoughts or so called meta-cognitions can be aired freely without fear of reproach. Debriefing is considerably under utilised in the clinical domain of the National Health Service. Many of us have been trained as generic instructors and not guides capable of managing difficult or in-depth debriefs. Statements such as "the simulation is only an excuse for the debrief" are commonplace at conferences. Also the much quoted review of the literature by Issenberg et al[4] highlighted the debrief as a key step in translational learning from simulator to clinical arena. With so much emphasis being placed on debriefing, clearly any mapping of simulation has clear implications in terms of training a large cohort of appropriately and continually trained facilitators, dispersed throughout those sites of current and future workforce training.

It is clear if we are to harness simulation technology effectively, to improve team work between healthcare staff, develop clinical and non technical skills (communication, situational awareness, decision making and leadership) to a level of expertise, not just competency, and develop an understanding also of the human factors to truly enhance patient safety, we need to collaborate and on a grand scale.

How do we achieve such collaboration? In 2009 the Chief Medical Officer commented on the need for a national simulation centre.

However perhaps the solution is nearer to home? We each are very capable of producing high quality simulation-based training for our hospitals and institutes. Many of us are fortunate to have access to simulators and have produced such training only to find that similar training is actually occurring in nearby hospitals or universities. Collaborating and sharing the results of collaboration not only increases the educational robustness by peer reviewing, it saves both time and money.

There are precedents for such collaborations. In terms of cooperating at an institutional level to create an educationally robust peer-reviewed evidence-based simulation course, the Managing Emergencies in Paediatric Anaesthesia (MEPA) group represent one model[5]. Representatives from the major centres of paediatric anaesthesia throughout the UK created a national standard simulation course through collaboration, mapped to the Royal College of Anaesthetists' curriculum for specialist trainee. Course material is peer reviewed, scenarios tested by the group and published in high impact journals. The collaborative nature and sharing of resources has led to the development of international centres for MEPA in Canada and Europe. A net result of which are international multi-centred research projects on assessment, debriefing, retention of knowledge, skills and attitudes and translation to the clinical arena. Such collaborative ventures will also assist the breaking down of the barriers that have hampered the progress of simulation education. However there is also the opportunity to achieve this with professionals from different healthcare disciplines creating simulation education together.

High quality managed simulation is achieved on a national level by the Scottish Clinical Simulation Centre (http://www.scsc.scot.nhs.uk/contactus.asp) and NHS Education for Scotland Clinical Skills Network (http://www.scsn.scot.nhs.uk/). At the regional level the leadership demonstrated by strategic health authorities to create and propagate simulation education networks is an innovative approach to improving patient safety and workforce development in a collaborative manner. The NHS North West Simulation Education Network (www.northwestsimulation.org.uk) is one example of simulation collaboration across all medical, nursing and allied health professionals, undergraduate and postgraduate. It constitutes a community of simulation practice of over 400 members, simulation providers, commissioners and respective simulation leads of 63 NHS Trusts, 13 universities and two deaneries working collaboratively. Multi-disciplinary working groups focussing on the care of different patient groups, for example paediatric, neonatal, surgical, obstetric, shape the collaboration operationally.

Quality managed faculty development is addressed with courses tailored to respective simulators and the needs of facilitators, with continual on-line and face-to-face support to provide continual professional development. Shared resources include a scenario bank to preclude re-invention across the region, with opportunities to peer review scenarios and material as working groups and publish for dispersed use in respective hospitals or institutes.

Involvement with organisations including Neosim (www.neosim.co.uk) attending meetings of ASPiH – Association for Simulated Practice in Healthcare (www.aspih.org.uk) and the International Paediatric Simulation Symposium and Workshops (IPSSW) (www.ipssw.com) further enhance our ability to collaborate. The recent IPSSW meeting provided a breakout room for the MEPA group resulting in collaborative ventures in the Netherlands and North America. With the aims of increasing accessibility, capacity and provision of high quality interprofessional simulation, funding will always be an issue and a particular barrier to those who do not see the benefit of working with others.

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