Welcome to the 19th edition of our Newsletter.

The possibilities in simulation education continue to unfold in new and exciting ways and are clearly evident in some of the articles we have included in this issue.

I would like to take this opportunity to thank Jeff Goulding and Dr. Louise Schofield at Aintree Hospital for letting us witness and report on their pilot programme for an ambitious ward-based simulation that engaged over 150 NHS staff during the course of a week. This was truly a great achievement and makes for an inspiring read.

I would also like to thank Dr. Beth Thomas, Outreach Manager, Guy's and St Thomas' NHS Foundation Trust for sharing the work of the Hands up for Health simulation programme which has been designed to give our young school children realistic and practical insights into a career in healthcare.

We have many more interesting articles for you. Please continue to share your experiences with us but in the meantime, please note the ‘Dates for the Diary on the back page and we will look forward to seeing you there!

Rosie Patterson
Managing Director, Laerdal Medical UK

Contents

Hands Up For Health  Page 4
Inspiring young people into a career in healthcare through simulation

Blackpool Victoria Hospital Opens New Simulation Suite  Page 6
Improving patient safety

Breaking Records: The World's Largest CPR Training Event  Page 12

Aintree completes in-situ training marathon

Over the course of five consecutive days in September 2013, one hundred and fifty students and NHS staff gathered on a ward in Aintree Hospital, Liverpool to participate in a pilot programme for a new style of simulation-based team training.

Jeff Goulding, Manager of the Centre for Simulation and Patient Safety (CSPS) and Dr Louise Schofield, a Fellow in Simulation initiated and managed the collaborative, week-long project to conceptualise ward-based induction and training events for all hospital staff. The programme, which took over a whole ward for one week, included wide ranging scenarios, ten Laerdal patient simulators and a team of operatives and live actors.

There was executive level support for the project from Aintree Trust executive team for more human factors and situational awareness training after a number of ‘in-situ’ simulation exercises demonstrated the value of this approach.

3G opportunities
Talking about the mind-shift to ward-based team training, Jeff explained, “When the Centre for Simulation and Patient Safety was first set up in 2004, we focused on very controlled simulation training exercises, using one or two patient simulators in a generically equipped simulation suite. This was very successful.”

“The advent of the wireless SimMan 3G manikin however opened our eyes to endless possibilities for enhanced fidelity and training in the workplace. Since 2011, we have used SimMan 3G for smaller ward-based and handover training sessions, but we wanted to run a large project that would utilize a whole ward with several patient simulators, actors, different departments and distractions. Our aim was to give trainees a safe environment in which to experience and practise their role in the often chaotic atmosphere of a ‘real ward’. We drew on the experience of the centre director, who is also a Defence Anaesthetist in the MOD, and has experience of delivering large scale pre-deployment simulation training; but the success of the project was due to planning and a strong element of collaboration.”

A challenge well-executed
Jeff and his team started planning back in February 2013, securing support from CSPS staff, Aintree Hospital and Laerdal Medical, and collaboration...
with UCLan and Liverpool, John Moores and Edge Hill Universities. The programme was publicised through NWSEN, NHS North West and HIEC as well as social media platforms Facebook and Twitter.

On each of the five days, three four-hour shifts were simulated in a previously inhabited heart assessment ward that was made available during building works. The exercise featured a number of scenarios, handover, debrief and participant evaluation. Some scenarios were based on serious untoward incidents. Others were more generic critical emergencies, or deteriorating patients, for example, anaphylaxis post operative bleeds, exacerbation of COPD and sudden cardiac arrest as well as routine ward rounds and social issues. Each shift employed three trained nurses and nine student nurses. Thanks to top-level buy in, consultants made themselves available for advice and guidance on a bleep system and released trained staff, to take part alongside graduate pharmacy students, nursing students and Foundation Year 1 and 2 doctors.

Each scenario included typical ward distractions and stresses that can lead to human error and patient safety issues. A ‘room of errors’ was set up specifically to highlight potential environmental and equipment problems, but deliberate mistakes were also planted on the ward to test situational awareness and resources and to encourage communication and teamwork skills.

“Driving simulation forward

Jeff warned, “There is a perception that in-situ simulation training is easier to run than lab-based training. However, ward based training presents a plethora of complicated technical challenges that can be much harder to control than in the lab environment. When more than one patient simulator is in operation, more voice operators are required and more technical equipment is needed. We have had great technical support from Laerdal which has helped us maximize the potential for creating several mobile scenarios and seamless handover of patient simulators to critical care. We have pushed our resources to the limits and have even put SimMan 3G through a CT scanner!”

Tim Parr and Toni Shanahan – Technical Trainers at Centre for Simulation and Patient Safety, helped design and run the scenarios. Discussing the technicalities of the programme, Tim said, “This is the largest scale simulation training exercise we have ever run. It’s been a resounding success – but there have been complexities and compromises every step of the way which will serve as a valuable learning curve. Next time we would bring more microphones, more live cameras and more operators to run each patient or team scenario. On the whole, the programme has been immensely enjoyable for everyone and the evaluations have been very rewarding indeed.”

Mark Murphy another Technical Trainer at CSPS said “The next stage is to engage with primary care to include GP referrals and district nurse calls. It will take a while to get there, but we are confident we will get there! This has been a fantastic collaborative effort with great results and we are very excited about taking it forward at Aintree and other hospitals.”

For more information, please contact Jeff Goulding at the Centre for Simulation and Patient Safety, Liverpool.

www.facebook.com/centreforsimulationandpatientsafety, Twitter@csp6
Managing Change

Since 2010, I have been privileged to be the Managing Director of Laerdal Medical (UK) in a role that has allowed me to meet and work with many of you. Coming from the USA, it has been equally fascinating to see how much there has been to learn about simulation in healthcare practice here. It became apparent to me very early on that to facilitate collaboration between both US and UK simulation communities would present unique and invaluable opportunities to share experiences and best practice in our common cause of improving patient care and helping save lives. It is now time for me to return to the US but I hope this is not a farewell. I will be taking up a new role of Vice President, Business Development for Laerdal Americas to further develop professional alliances and partnerships with international communities of practice in both simulation and resuscitation. To this end, I hope and trust that I may look forward to working with many of you in the future.

I would now like to take this opportunity to introduce you to the new Managing Director of Laerdal Medical UK. Many of you may have already met Jon Laerdal, who as a representative of the family business, brings with him a wealth of knowledge and insight into the solutions we offer in the advancement of effective simulation in healthcare and quality CPR in resuscitation practice. I know he will receive the same warm welcome I experienced when he takes over my lead in January 2014.

My very best wishes to you all.

Rosie Patterson
Managing Director

Clinical Skills Open Day

Heart of England NHS Trust Faculty of Education is proud to introduce the new undergraduate clinical skills facility adding to the current facilities available across all three sites. The new facility was opened by Hazel Gunter - Director of Workforce.

‘The success of the clinical skills facilities is thanks to the clinical staff and teams who contribute to skills teaching and simulation as well as the Faculty of Education undergraduate and post graduate teaching teams. The additional facility was built in response to increasing demand for skills and simulation training and to update the environment for mandatory health and safety training.

“As part of the new facility we have worked closely with Laerdal to introduce a full range of patient simulators including 4 ‘SimMan’, SimMom [birthing simulator], SimJunior, SimBaby and SimNewB which will allow educators to explore ways of using simulation manikins both in the clinical skills setting as well as in clinical areas to create a realistic clinical environment for teaching and learning.’
Hands Up for Health (HUfH) is an innovative learning programme, designed for young people at risk of social and economic disadvantage. Hands-on simulation activities facilitated by healthcare faculty aim to increase health knowledge, strengthen essential ‘life skills’ for employability, and widen participation to healthcare careers.

Students from non-selective inner-city schools personally identify health-related issues. High-fidelity patient simulation; with computer-controlled, full-bodied mannequins and actors serving as simulated patients; provide exploration of their knowledge, attitudes and behaviour. Skilled debriefing encourages reflection and alternative ideas.

Method

- Developed by multi-disciplinary healthcare professionals, in collaboration with simulation experts, students and teachers.
- A multi-pilot, iterative design which responds to the educational and health needs of children in inner-city schools.
- Unique learning achieved by combining immersive clinical simulation with ‘life skills’: “abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life” (WHO, 1997). See diagram.

Design and Content: Two interactive learning days, spread between school and the hospital simulation centre, consisting of: basic life support, ‘life skills’ groupwork, and mixed-modality simulation scenarios like alcohol abuse, teenage pregnancy and knife trauma. Facilitated by inter-professional teams, who encourage learners to reflect.
on their experiences to make learning relevant and meaningful to them.

**Evaluation:** Learners complete anonymous, likert style with free text, feedback forms to explore their experiences. This project reports on early raw data.

**Results and Discussion**

Cohort (n=83) aged 12-18 years in 2012. Response rate 63%.

- Responses were uniformly positive.
- All activities averaging ‘good’ or ‘very good’ on a 5-point Likert scale.
- Over 96% of participants agreed the programme was useful and relevant to them.
- Validity and application to real life as discussed by Dewey (1938) and documented by others in different settings (Murral, 2011), is supported as participants report the simulated scenarios to be realistic (‘because it put [them] in a situation that felt real’), relevant and useful (‘all young people [should] get the experience of what it would be like to save a person’s life’), or highly interactive (‘it involved everyone’).
- Participants specifically valued hands-on learning, which literature shows to be a highly effective alternative to traditional approaches, more-so with students who are disadvantaged economically or academically (Bredderman, 1982).
- On average, participants rated themselves better at communication and teamwork post-programme; weeks later, many could articulate ideas or concepts they were taught, indicating retention of knowledge.

**Conclusion**

HUfH is enjoyed by young people who report taking away valuable learning that is regarded as relevant, meaningful and congruent with the intentions of the programme design. They value the opportunity to learn from modern health professionals, and demonstrate increased awareness of, and in some cases, aspiration to healthcare careers.

Future work will increase the sample size and explore the nature of student learning through observational studies and focus groups.

“It was an amazing experience… like a real hospital… I would love to do it again!”

**References**


**Continued from page 4**

\[It has helped me even more to decide that I definitely want to pursue a career in the health and social care industry\]
One of the UK’s leading teaching hospitals, Blackpool Victoria Hospital officially opened its state of the art simulation suite on 4th July 2013. The open day event, which was attended by eminent medical professionals and VIPs from the local community, celebrated and helped raise awareness of the hospital’s advancements in education through simulation.

Making a difference to patient safety
The new Dinwoodie Simulation Suite, which was 50% funded by the Dinwoodie Trust, features a host of realistic rooms equipped with the latest medical technology, and equipment. This includes a family of sophisticated manikins such as SimMan, SimNewB SimBaby and SimMom, which are programmed to replicate a number of conditions to help clinicians hone communication and clinical skills.

In the UK, eight patients a day, equating to three thousand a year, die through human error. We are beginning to understand that the NHS must act and support culture change to ensure that patient safety comes first. We can make a difference through education. Our worthwhile investment in this simulation suite is definitely the way forward. Through education we can learn together to identify and manage risk.”

A varied programme
Everyone who attended the event was given the opportunity to use equipment for CPR and airway management, and watch simulation training displays for sepsis and post partum haemorrhage.

In the sepsis scenario, SimMan took on the role of a 40 year old male who three days previously had had surgery to remove a ruptured appendix. The protocols used included a physiological track and trigger system incorporating the early warning scoring and sepsis pathway, the SBAR communication tool and the advanced life support algorithm.

In the maternity scenario, SimMom played the part of a 24 year old primip (first pregnancy) booked for midwifery led care, who had spontaneous membrane rupture at 40+4/40. Protocols used in the scenario were the SBAR communication tool, massive haemorrhage protocol, medical management of a post-partum haemorrhage and acute massive blood loss management. At the end of each scenario, a debrief session was held, giving viewers the opportunity to discuss positive and negative points around both technical and human factor skills.

Planning for the future
Talking about the current training provision, anaesthetist Dr Ric Cross, who led the post partum simulation exercise using SimMom, said, “At the moment, sessions involve training for anaesthetist clinicians and students, midwifery practitioners and students, Year 4 and 5 medical students and some senior clinicians.
We are looking at running regular multi-disciplinary scenarios in the suite and may also extend sessions to the ward in the future.

“The purpose-built new suite allows the simulation team to realistically mock up areas in theatre or ward style to depict any medical scenario, allowing for the development of expertise in teaching multi-disciplinary, specialist clinical and human factor skills. The explosion in the use of simulation as a technique for teaching will raise local expertise and hard work to global training of the best quality.”

Ralph Mackinnon, Consultant at Royal Manchester Children’s hospital & North West and North Wales Paediatric Transfer Service gave an empowering presentation on the importance of human factors in simulation training and in patient safety. Focusing on collaboration, he said, “We can achieve a direct impact on the improvement of patient care by teaching in a safe environment and sharing our knowledge and skills. If we swim as a shoal, we can achieve higher standards of teaching, learning and patient safety on national and international levels.”

Jeff Goulding, Simulation Manager, Centre for Simulation and Patient Safety Heath Education North West engaged the audience in discussion about identifying latent error through ‘in situ’ simulation. An advocate of ward-based training using SimMan 3G, he said, “Simulation gives the participant a valuable practical experience with the chance for reflection – in a safe learning environment. Realism is key for simulation training and this highly equipped suite at Blackpool Hospital has been engineered to provide the highest physical, functional and psychological fidelity for any number of scenarios.”

Urging people to share experiences for the good of all, he said, “Simulation training is also one of the best ways of identifying latent errors such as poor equipment placement, communication problems and unfamiliarity with teams or the environment. The chances are that if one hospital finds a latent error, then others may have the same problem. If we share our findings we will help each other combat errors and improve everyone’s patient safety systems. Reports can lead to strong business cases for organisational buy-in and equipment purchase.”

Adopting a ‘me-test culture’
Addressing the audience at the ribbon cutting, Medical Director, Mr O’Donnell commented, “There has been a huge change in patient safety in the twenty years I have worked at the hospital. Healthcare is complicated and increasingly technical and although our people are demonstrating great skill and technical competency, we mustn’t lose the human touch. Here at Blackpool Victoria, we are adopting a ‘me-test’ ethos, meaning that if the care and safety procedures are not good enough for ‘oneself’ then they need to be addressed. I hope everyone will foster that practice. Training is always important. It should start with under graduates and continue through life.”

A host of initiatives
Within the simulation suite, students can participate in a number of initiatives introduced by the simulation team to aid patient safety training.

These include:
• Talk Safe - in which trained staff have conversations with colleagues looking at safe and unsafe acts that may take place in a hospital setting, so they can help prepare an action plan to deliver sustainable improvements in their area.
• Knowing how We are Doing – which ensures ward staff, patients and visitors are aware of the Ward’s performance in key safety areas such as infections, falls, untoward incidents and pressure ulcers
• Real patient stories - displayed at monthly Board meetings
• A recruitment drive – to increase the doctor and nurse ratio per bed
• Measured reductions in patients falling whilst in hospital
• Evidenced reductions in hospital acquired infection rates

Talking about the benefits that the suite is already bringing to the hospital Alison Stewart said, “The suite has been in use since April 2012, but we are still developing the team and the training, which takes time. The diversity of manikins helps us open up opportunities..."
for training. The Dinwoodie Trust has really helped with the fidelity, which enables us to run scenarios that will provide a comprehensive debrief. The medical students love it, and we are now offering post graduate training too. This event provided an ideal opportunity for us to showcase our training provision and thank the Dinwoodie Trust, Blue Skies Hospital Fund and Laerdal for their support.”

A representative from the Dinwoodie Trust said, “We have very strong feelings about medical education that will contribute to improvements in healthcare and are very proud to support funding of this simulation suite. We wish Blackpool Hospital all the best.”

For more information, please contact the Blackpool simulation team on 01253 655668

Dr John Gibson, MD FRCP, Mr Andrew Fairbairn FCA, Alison Stewart, Head of Simulation and Skills and Dr Mark O'Donnell, Medical Director

Building Bridges Between Simulation and Practice

The Fifth International Clinical Skills Conference

This year, the University of Dundee and the University of Monash hosted the 5th International Clinical Skills Conference with a dynamic and diverse programme of content to a growing international community of healthcare educators seeking to share ideas and best practice in simulation.

‘Building bridges between simulation and practice’ was the main theme with an impressive line up of six international speakers providing their insights and experiences from different perspectives: from educational research to assessment using simulation, exploring the role of standardised and real patients in communication education and training and sharing how simulation can be used to prepare for the transfer into all areas of health practice.

Re-thinking practice in practice based learning: a socio-material approach

Professor Tara Fenwick of the School of Education, University of Stirling, presented on practice based learning, sharing a new theoretical perspective of how the clinical environment plays a dynamic role in the learning process. “We normally think that the specialist equipment we use as part of our daily practice such as stethoscopes, sphygnomanometers and prescription charts have a passive role in our learning,” she said “but they can have a powerful influence on how we learn”. She also highlighted the impact of systems on our learning in terms of inter-relationships with others. Exploring “socio-materiality” as a new theoretical model for explaining the complexity of professional practice, Professor Fenwick compared her model to that of other practice based learning theories such as communities of practice, situated learning and reflective practice, emphasising their limitations in terms of exploring learning through individuals. She suggested we move away from a community of practice frame to focusing on practices of the community to explain practice based learning. This generated a lot of discussion throughout the conference thinking of the opportunities simulation offers to explore this in more depth for enhanced understanding of why adverse events occur.

Filling the curriculum gap with simulated / standardised patients

Director of Professional Skills Teaching and Assessment at Eastern Virginia Medical School in the US, Ms. Gayle Gliva-McConvey triggered an engaging debate about the different roles of standardised patients (SP) demonstrating the increasing role they have in both learning and assessment.

Most health professional schools now have SP programmes with recruitment to patient banks to provide core and specialist scenarios such as patient safety and disclosure and transplant discussion. “SPs are now providing feedback from the patient perspective in the debrief,” she explained. “Some have expanded their roles to be more integrated into shaping curricula programmes”. This gave rise to a discussion about how far these roles could be taken in terms of teaching and assessment and what was driving the need for SPs to take on increasingly enhanced roles in the curriculum in diverse areas such as teaching ECG, Ultrasound, suturing skills and transition to care.

“SPs are now providing feedback from the patient perspective in the debrief”
A pedagogy for care complexity, networked practice and person centredness

Professor Rick Iedema, Research Professor and Director of the Centre for Health Communication, University of Technology, Sydney, gave a thought-provoking talk exploring the pedagogies to support junior clinicians with the complexities and challenges of everyday practice. Highlighting the increasing realisation of the need to understand social and organisational conditions rather than just knowledge and professional authority norms he focused on three examples of conduct and argued, “Required adaptive practice, distributed intelligence and affective communication should be central to the curricula process.”

“Required adaptive practice, distributed intelligence and affective communication should be central to the curricula process”

Using eOSCE in clinical skills education

Dr. Trevor Russell, Associate Professor, Division of Physiotherapy at the School of Health and Rehabilitation Sciences, University of Queensland offered insights into the online medium debating whether these technologies live up to the promise of reducing administration time, improving student feedback and facilitating better learning and outcomes.

In his own setting of Physiotherapy, Dr. Russell shared his electronic approach to both assessing and managing the OSCE identifying that the outcomes in both design and implementation were particularly positive, particularly for the feedback process. Students were pleased to receive timely feedback with written comments as well as score ratings. He also observed how OSCEs can use simulation most effectively to provide the evidence of capability to practice.

Confusing patients less: promoting health literacy in clinical practice

Professor of Medicine Michael Wolf, Association Division Chief, Feinberg School of Medicine at the Northwestern University of Chicago looked at the issue of health literacy in the context of safe communication. His funded research by the National Institute of Health and the Agency of Healthcare Research and Quality identified numerous incidences in medication safety that were severely compromised through communication challenges between a conflict of understanding between the general population and healthcare providers in general. “In a healthcare context”, he said, “particularly with the diversity that exists in the USA where English is often not the patient’s first language, this can be a real safety issue in patients with co-morbidities.” His work on re-designing hospitals and healthcare systems to become more effective learning environments has highlighted debate over how simulation could be used in clinical skills education to enhance systems communication.

The role of simulation based education in building bridges to patient safety

Bringing the conference to a close with an interactive overview of where simulation provides a ‘Value Opportunity’ for health professional education, Professor Amitai Ziv, Deputy Director of the Sheba Medical Centre, Tel Hashomer, Israel began by sharing the similarities and differences between aviation and medicine in relation to safety culture. A keen advocate of simulation in healthcare education, he highlighted how the pedagogy addressed some of the challenges in preparing healthcare professionals to work not only as an individual but as an important player in a team. Using checklists, working in multi-disciplinary teams, measuring for internal process control and nurturing a culture of debriefing and reflection were all cited as important areas that could be facilitated through simulation and underpin safer clinical practice.

With a programme of interactive workshops that complemented the plenary presentations, delegates left the conference enthused with clear take home messages and plans for returning to the next conference, which will take place on 17-20th May 2015 at Monash Centre Prato, Italy.

http://simulation.laerdal.com

Top 10 downloads

- Confidentiality Agreement
- SimMan 3G - Recorded FEMALE vocal sounds and speech
- Dinwiddie - Anaphylaxis Scenario - SimMan 3G Paramedic and EMT
- Dinwiddie - CHF Scenario - SimMan 3G Paramedic and EMT
- Arterial Blood Gas Template
- Dinwiddie - Foreign Body Airway Obstruction Scenario - SimMan 3G Paramedic and EMT
- Dinwiddie - Asthma Scenario - SimMan 3G Paramedic and EMT
- SimBaby Maintenance Checklist
- SimMan Maintenance Checklist
- Dinwiddie - Alcohol Intoxication Scenario - SimMan 3G Paramedic and EMT

Forum Topics

- General
- Discover Simulation
- Events
- Job Postings
- SimMan 3G & SimMan Essential
- SimMom
- SimStore
- SimPad
- SimDesigner
- SimMan & SimBaby
Laerdal Medical UK launched its SimPad system last year at the International Meeting on Simulation in Healthcare (IMSH) 2012 in San Diego. This innovative piece of technology facilitates a total new hand-held wireless simulation experience. A joint initiative between Laerdal, the NHS Yorkshire and the Humber (NHS Y&H) Clinical Skills and Simulation team and two Yorkshire and the Humber organisations - Medical Education Leeds and Leeds Metropolitan University culminated in an educational and marketing event in the host organisations new skills and simulation facilities. The event extended over both sites for two days and explored and shared the depths of functionality of the SimPad system with educators, centre managers and technicians from across the region and beyond.

The SimPad system was principally intended to revitalise Laerdal’s low to medium fidelity manikins and specific part-task trainers and take them to a whole new level. It enables a ‘pick up and play’ experience, it is the first dedicated wireless steering control with an intuitive, interactive handheld 5.7” colour touchscreen enabling simulations to be run wirelessly, easily and effectively with the added functionality of a wireless patient monitor. It can be operated in automatic mode, using existing predesigned scenarios, or in manual mode, both facilitating a range of educational experiences.

The programme for the event included four workshops: SimPad in Pre-hospital Education, SimPad in the non-acute setting, SimPad enhancing the simulated patient scenario and a trial demonstration of SimPad’s functionality with a skills station. Each workshop was facilitated by the NHS Y&H Clinical Skills and Simulation team, Scottish Ambulance Service and educational and sales representatives from Laerdal. Feedback from the two days was really positive:

‘helped to trigger some thought processes around our use of the technology in our specific setting’

In fact, I believe this ‘simulation resource in the palm of your hand’ shows potential to transform the traditional simulated patient scenario. Its uniqueness really becomes apparent when it is used with a simulated patient and the wireless patient monitor. In this setup it has the ability to display real time physiological patient parameters accurately corresponding to the verbal, visual and auditory scripting of the scenario.

Simulated patients have been used in medical education for over 40 years and in industry and the military for much longer, their participation undoubtedly contributes to the overall realism of the depicted scenario -this level of realism
Continued from page 10

is known in the simulation jargon as fidelity or the ‘suspension of disbelief’ ¹. However, its success relies on the effective mixing of two components; environmental fidelity accurately reflecting the work and practice environment and psychological fidelity relating to the individual’s ability to suspend disbelief and become immersed in the situation.²

Previously, when a healthcare practitioner was expected to immerse oneself totally into a simulated scenario using a simulated or real patient, it was not always as practicable as the experts claim.³ Simulated patients, commonly referred to as SPs, may be real patients or lay persons who have undergone variable training to reproduce a scripted clinical scenario. As a result and on demand, they attempt to recreate the signs, symptoms in the appropriate atmosphere to offer healthcare professionals the opportunity to assess, monitor and manage using their clinical and communication skills.

With the development of many more simulation facilities and expert facilitators, creating the physical surroundings for using in simulated patient scenarios is not too difficult and enlisting a reliable, experienced SP nowadays will come at a price. However, the limitations of the environmental and psychological fidelity are still very evident in that some of the physical signs and symptoms portrayed cannot be seen, heard or interpreted from a patient monitor as in the real environment and as a result the training scenario does not match reality. The SP may say and describe that their heart is racing or that they can’t get their breath but there are no supplementary visual or auditory clues, these ultimately can only be gleaned from a prompted facilitator. ‘His pulse is now 120 and his SpO2 has dropped to 85’ or the use of information cards before the encounter can continue.

The moment is lost – any interjection immediately removes the practitioner from the clutches of immersion – they will then have to step back into their role and the scenario until the next interruption when the simulated patient’s condition either deteriorates or improves.

Now, with integration of the SimPad system, not only has the simulated patient and the monitor displayed all the visual and auditory cues (including monitor alarms), but the scenario using SimPad in manual mode is able to keep to real time, any change in the patient’s condition and the outcomes of any interventions are reflected in a timely manner on the monitor. The log function allows facilitators to keep track of and review simulation performance, recording when each task or objective is performed and then revisited during de-briefing.

For example, Mr Jones is visibly struggling to get his breath; he is wheezing and is finding it difficult to talk and is very anxious > Wireless patient monitor displays RR: 36 HR: 110 BP: 140/90 SpO2: 78%

The scenario using SimPad in manual mode is able to keep to real time, any change in the patient’s condition

Does the SimPad system provide the solution to the environmental and psychological fidelity limitations of using a simulated patient? In theory, I believe that it has tremendous potential – in practice as presented at the event i.e. a simulation setting using an SP with an acute asthma attack, initial results were impressive; observers, facilitators and participants were surprised at the ease of use, and how immediately ‘immersive’ the scenario became, the sense of urgency was compelling to all.

It is essential that further work must be considered to provide credible evidence. The current advances of simulation technologies are only a small part of the explosion of technological tools that the Healthcare workforce needs to be familiar with and use more frequently.⁴ There are obvious cost implications, but in today’s digital and technology enhanced world, simulator facilitators and technicians already spend considerable time, effort and money learning how to use these new technologies. Also in its favour, the SimPad is not technologically daunting, if you own a smartphone, you could probably use the SimPad straight out of the box – Laerdal’s anticipation is to create that ‘great user experience’ for considerably more of their users.

References
From September 16 to 22 the national Week of Reanimation took place in Germany. It was a complete success and created additional awareness for the importance of Bystander CPR within the Chain of Survival. Many events took place all over the country. Media reported extensively and also demonstrated how to perform CPR correctly.

Highlight of the Week of Reanimation was a world record attempt in Muenster. 10,000 school children gathered to learn and perform reanimation simultaneously, trying to beat the old mark of 7,909 from Singapore. It turned out to be a stunning 11,840 school children who learned to perform CPR (“Check – Call 112 – Pump”) with our Mini Anne.

**An important contribution to our vision of helping to save more lives.**

The project was initiated by the University Hospital of Muenster (UKM) – supported by the Town of Muenster and Laerdal (as well as many sponsors and volunteers). Daniel Bahr, German Minister of Healthcare and Chairman of the Reanimation Week, did not hesitate to perform CPR on Mini Anne, too.

Prof. Van Aken, Director of the Hospital for Anaesthesiology and Intensive Care Medicine at the University Hospital of Muenster appealed: “CPR training should be part of the school curriculum. Already a two hour refresher once a year will lead to measurable outcomes.”

Juergen Timmermann, VP Sales, Marketing & Services, Laerdal Medical was thrilled: “What a day for Muenster and its citizens! Now it will be important to keep the momentum and to continue to implement sustainable structures across the whole chain of survival in order to help save more lives”.

As part of the campaign ‘Save a Life - 100 Percent CPR’, the German Society of Anaesthesiologists and Intensive Care Medicine and the Association of German Anaesthetists in cooperation with the German Resuscitation Council (GRC) want to boost self-confidence in the public as First Responders after a Cardiac Arrest.
There are many factors that contribute to survival but none as powerful as receiving high quality CPR. Over the past ten years, a substantial body of research has highlighted the value of high quality CPR.

In a recent review and meta-analysis of resuscitation research literature, Wallace et al. (2013) demonstrated a strong correlation between survival and compression depth and rate. Research shows that appropriate depth of compression and minimal pre-shock pauses correlate with defibrillation success (Edelson et al. 2006).

Feedback - Measure - Assess

The evidence is growing

In a review of research on the use of CPR feedback devices, Yeung et al. (2009) found that real-time feedback during training improves learning and retention of CPR skills, and most importantly, improves performance during actual resuscitations. Evidence suggests CPR performance in actual resuscitations by in-hospital and pre-hospital providers, alike, improves when using real-time feedback as guidance (Abella et al., 2007, Kramer-Johansen, 2006). Boprow et al. (2013) showed that scenario based training with real-time feedback and use of real-time feedback during actual resuscitations was correlated with dramatic increases in CPR quality and survival.

Quality CPR starts with Resusci Anne

Her story is inextricably linked to the birth of modern resuscitation and her legacy continues to inspire the Laerdal company mission – Helping Save Lives.

It has been estimated that over 300 million people worldwide have been trained on this iconic manikin. The new Resusci Anne QCPR and Resusci Baby QCPR manikins now facilitate the means to measure and assess the quality of CPR with meaningful feedback that guides continuous improvement and retention of this critical skill. These three values now define the range of Laerdal’s CPR training and therapy solutions and the company’s commitment to support all healthcare professionals who work in the field of resuscitation.

“IT has been estimated that over 300 million people worldwide have been trained on this iconic manikin”
Resusci Anne QCPR and Resusci Baby QCPR are now enhanced with the new SimPad SkillReporter, which with its intuitive graphics, easy-to-follow guidance, multi-manikin overview and CPR data log, provides a comprehensive training solution in terms of both real-time practice and post-practice de-briefing.

Resusci Baby QCPR
The Resusci Baby with QCPR is the truly Guideline compliant infant CPR manikin. With new compression and ventilation sensors and new electronics, the new Resusci Baby is giving the trainer/traineo a far better real-time measurement of CPR, an important scored assessment of the performance and quality data capture for a thorough de-briefing.

Linking CPR Training to Therapy
The Guidelines are clear in defining the parameters of Quality CPR for the improvement of outcomes and yet the challenge of implementing them consistently throughout the Chain of Survival still remains. Quality CPR skills require regular practice for effective retention, yet pressures on available time and resource at an organisational level can make this hard to achieve. Other factors such as variances in chest stiffness can compromise the quality of CPR. How does one really know if the correct depth is being achieved?

Training on the new QCPR range of manikins from Laerdal with the SimPad SkillReporter software ensures that training is to the correct Guideline standards. However, when the situation is real, the CPRmeter™, through identical visual real-time feedback on the essential parameters of CPR, provides the continuity of quality performance that was achieved in training, thereby ensuring that CPR in the real event is to the highest quality and survival chances are optimal.

A quality CPR and Defibrillation solution all-in-one
The partnership between Philips and Laerdal has been a long and successful one. The FR3 with CPRmeter is the result of a collaborative effort and desire to bring together both companies’ expertise in their respective fields into a market leading AED solution.

The HeartStart FR3 significantly reduces deployment time by eliminating steps to help you start delivery of the right therapy – CPR or defibrillation – on your patient faster.

For further information and a demonstration of the new QCPR range from Laerdal, please contact the Laerdal Team on 01689 876634 or email customer.service@laerdal.co.uk.
Laerdal Showcase QCPR at The Emergency Services Show 2013

Laerdal Medical and Philips were proud to exhibit together with their key message, Strengthening the Chain of Survival as they unveiled their complementary and most recent innovations in Quality CPR and defibrillation therapy.

The new QCPR range from Laerdal featured their latest Resusci Anne and Resusci Baby with QCPR feedback through the Simpad SkillReporter. Visitors to the stand took their turn on the new manikins to practise their CPR skills while being able to see how they performed on the core parameters of CPR (compression depth, release, rate, ventilation rate and volume) through the simple and intuitive graphics on the Simpad SkillReporter screen. So compelling was the CPR feedback, visitors returned to have another go, either to improve their own scores or beat those of their colleagues.

Ensuring that CPR support continues to be available to the Emergency Responder when the situation is ‘real’, the Philips MRx and FR3 defibrillators have the option of an integrated Laerdal CPRmeter which provides the user with the same visual CPR feedback as the SimPad training device. The need for linking training to therapy through such feedback devices is becoming more profound as research continues to show that outcomes can be better improved, which is why Laerdal and Philips continue to collaborate and work together in their respective fields to help save more lives.

Philips and Laerdal will be exhibiting at the Emergency Services Show 2014.

For further information contact our Sales Team:
Email: customer.service@laerdal.co.uk
Tel: 01689 876634

Mini Anne Plus is a cost-effective solution for teaching quality CPR using durable and reusable manikins. Ten individual manikins are included in each set, increasing student hands-on time during training. The innovative new pump bag provides a simple, hygienic inflation method. Mini Anne Plus includes everything to get your CPR programme up and running in one convenient bag.
Improving outcomes in emergency care

**Resusci Anne Simulator** sets the standard for emergency care training in both Pre-Hospital and In-Hospital settings. Her extensive clinical features combined with ease of use through the **SimPad** system will open up a world of learning experiences that will help prepare staff to be competent at all times.

For further information contact our Sales Team:
Email: customerservice@laerdal.co.uk
Tel: 01689 876634

---

**Dates for your diary**

10th - 13th December 2013  
London Trauma Conference 2013  
Royal Geographical Society, London

14th - 15th January 2014  
Trauma Innovation  
Royal College of Surgeons, London

24th - 25th September 2014  
The Emergency Services Show  
NEC, Birmingham

For more information about these meetings, please contact our Customer Service Department on 01689 876634 or customer.service@laerdal.co.uk

---

**Reader contributions**

If you would like to contribute articles to this newsletter that relate to simulation or resuscitation we would be pleased to hear from you. Please contact: helen.crofts-bolster@laerdal.co.uk

---

**Resusci Anne Simulator** sets the standard for emergency care training in both Pre-Hospital and In-Hospital settings. Her extensive clinical features combined with ease of use through the **SimPad** system will open up a world of learning experiences that will help prepare staff to be competent at all times.

For further information contact our Sales Team:
Email: customerservice@laerdal.co.uk
Tel: 01689 876634

---

**Laerdal Medical Ltd.**
Laerdal House, Goodmead Road, Orpington, Kent BR6 0HX  
Tel: +44 (0)1689 876634, E-mail: customerservice@laerdal.co.uk

www.laerdal.co.uk