



SimTect HEALTH 09

SIMULATION CONFERENCE

www.simtecthealth.com

BEYOND TECHNICAL SKILLS

HILTON ON THE PARK
MELBOURNE
VICTORIA AUSTRALIA

7-11 September 2009

7 September 2009

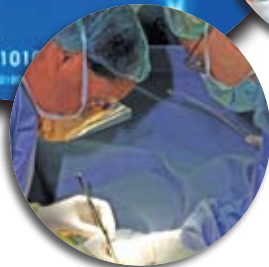
Pre-Conference Workshops

8-10 September 2009

SimTect Health Conference

11 September 2009

Human Factors in Healthcare Symposium



sponsors



SimTect Health is held under the auspices of the Simulation Industry Association of Australia (SIAA). ABN 130 878 622 619

CONFERENCE HANDBOOK WITH PROGRAM AND ABSTRACTS

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A quality simulation-based training programme requires more than just simulators. It involves preparation, operation and execution – from the initial training objectives through to the post-simulation debriefing and evaluation of learning outcomes.

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**SimTecT
HEALTH 09**
SIMULATION CONFERENCE

Handbook Contents

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Conference Organisers

consec 

Consec – Conference Management
Professional Conference Organisers
PO Box 3127
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Telephone: +61 2 6251 0675
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Conference Manager:
Barry Neame

Conference Coordinators:
Michaela Andelova
Margie Wallace

Welcome

I would like to start by respectfully acknowledging the traditional owners of the land on which we are meeting, the Gunditjmarra/Kirrae Wurrong people.

On behalf of the Organising Committee I would like to welcome all delegates to the SimTecT Health 2009 Conference - "Beyond Technical Skills". The conference is conducted under the auspices of the Australian Society for Simulation in Healthcare (ASSH), which is itself a chapter of the Simulation Industry Association of Australia (SIAA). SimTecT Health is the principal healthcare simulation conference in Australia and in all likelihood in the entire Asia Pacific region. Once again this year we have a very full program during which the latest national and international advancements in the field will be showcased.

The organising committee extends a warm welcome to the Victorian Minister for Health, the Hon. Daniel Andrews MP, who will officially open the conference. We are very appreciative that Minister Andrews has made time for us in his busy schedule.

The use of simulation in healthcare continues to grow and is becoming an essential element in healthcare system improvement. Simulation is being used here and around the world in a number of ways including the initial and continuing education of healthcare practitioners, competency assessment, teamwork training and research-led initiatives to advance healthcare system safety.

In addition to the strong scientific program of oral presentations, workshops and poster presentations, we have three roundtable sessions: on simulation instructor certification, accreditation of simulation programs, and policy with respect to simulation. These will be important discussion forums to help shape the way forward for healthcare simulation in Australia. We are on the verge of a very exciting phase with the prospect of significant investment in simulation at a national level, about which we will hear more over the course of the next few days.

Welcome to our international guests, in particular our international keynote speakers – we are extremely privileged to have you join us for this meeting.



*Associate Professor Brendan Flanagan
SimTecT Health 2009 Conference Convenor*



Opening Speaker

The Hon Daniel Andrews MP *Victorian Minister for Health*

The SimTect Health Conference will be formally opened on Tuesday 8th September by The Hon Daniel Andrews, MP, Victorian Minister for Health.

Keynote Speakers



Professor Rhona Flin, PhD

*Professor of Applied Psychology
Director of the Industrial Psychology
Research Centre and Patient Safety
Research Group University of Aberdeen
and Director of the Scottish Patient Safety
Research Network*

Professor Flin leads a team of psychologists conducting research on human performance in high risk industries and healthcare. Her group's projects include studies of leadership, safety climate, team skills and decision making in aviation and energy industries. In 2006, she was awarded the Roger Green Medal for Human Factors from the Royal Aeronautical Society. She is currently studying surgeons', anaesthetists' and nurses' non-technical skills and safety climate in hospitals and is leading the Scottish Patient Safety Research network which was established in 2007 (www.spsrn.ac.uk). Her latest book is *Safety at the Sharp End: A Guide to Non-Technical Skills* (with O'Connor & Crichton, Ashgate, 2008).

Supported by



Dr Peter Dieckmann, PhD

*Work and Organizational Psychologist
Danish Institute for Medical Simulation
(DIMS), University Hospital in Copenhagen*

Dr Peter Dieckmann, a work and organizational psychologist, who has been working with simulation since 1999. He has an extensive background in human factors and simulation instructor training. He works in research using simulation to investigate human factors issues and research on simulation to optimize the conduct of simulation-based training and research. Peter has published several relevant papers and book chapters. Peter is the chair of the Research Committee of the International Society Simulation in Health Care (SSH) research committee and Vice-President of the Society in Europe for Simulation Applied to Medicine (SESAM). He is currently working with the Danish Institute for Medical Simulation (DIMS) at the Copenhagen University Hospital in Herlev, Denmark.

Supported by



Assistant Professor Suzan Kardong-Edgren, PhD

*Assistant Professor of Nursing Washington
State University, College of Nursing
Spokane, Washington, USA*

Suzan (Suzie) Kardong-Edgren PhD, RN is an assistant professor of nursing at Washington State University in Spokane, Washington, USA. She recently served as one of nine simulation experts for the second joint Laerdal Medical Corporation / National League for Nursing project, the development of the Simulation Innovation Resource Center, a full service website of simulation resources and courses for nursing simulation. She is the Editor-in-Chief of *Clinical Simulation in Nursing*, the online journal of the International Nursing Association of Clinical Simulation and Learning. Suzan serves as the project director for a national multi-arm multi-site study for Laerdal Medical Corporation and the American Heart Association, investigating better ways to ensure retention of CPR and ACLS skills. She is a member of the Education Committee for the Society of Simulation in Healthcare (SSH).

Supported by





Keynote Speakers

continued



Dr Tim Draycott

Consultant, Department of Obstetrics and Gynaecology

Southmead Hospital, Bristol, UK

Dr Tim Draycott is a consultant Obstetrician at Southmead Hospital in Bristol where he leads the Research into Safety & Quality (RISQ) group. They have an established record of research into the measurement of Unit based Quality Indicators and their improvement through training. The RCOG and NHS Connecting for Health are collaborating with them to make their automated Maternity Dashboard available across the UK. Tim's main research focus is patient safety and in particular, improving outcomes through training. He introduced local intrapartum training in 2000 which has been associated with a significant improvement in perinatal outcomes - there has been a 50% decrease in the number of babies born with either a low Apgar or Hypoxic Ischaemic Encephalopathy. Tim has also developed a high-fidelity model for training in the management of shoulder dystocia. Since its introduction at Southmead in 2000, there has been a demonstrated 70% reduction in foetal injuries from shoulder dystocia.

Professor Alison Lee

Professor of Education and Director of the Centre for Research in Learning and Change, University Technology Sydney, NSW

Alison Lee is Professor of Education and Director of the Centre for Research in Learning and Change at UTS. She has researched and published extensively in higher and professional education, with a particular focus on doctoral education and on the changing relations between the university and the professions. Most recently she has led research teams investigating changing health practices and their implications for health professional education. She brings discourse-analytic perspectives to bear on questions of knowledge, practice and identity in higher education

Associate Professor Michael Buist

Conjoint Associate Professor University of Tasmania Rural Clinical School, Regional Director of Medicine for North West Tasmania

Michael Buist is a leading intensive care specialist and researcher. He has held several senior Intensive Care roles in Australia within the public and private system. He is currently the Regional Director of Medicine for the North West of Tasmania in a conjoint Associate Professor role with the University of Tasmania rural clinical school in the areas of patient safety and simulation.

Michael holds degrees in medicine and surgery and a Doctorate in general medicine. He is a fellow of the Royal College of Physicians, a fellow of the joint faculty of intensive care medicine and holds a graduate certificate in health economics. Michael is a leading global expert in Adverse Events and has published extensive original studies in the field of Adverse Events and mortality rates. He is a regular speaker at major international conferences on such issues and has been awarded several grants to study the area.

Invited Speakers

Peter Carver

Executive Director, National Health Workforce Taskforce

Leonie Watterson

Chair ASSH and Director Simulation Division, Sydney Clinical Skills and Simulation Centre, NSW

Dr Robert O'Brien

Director of Medical Education, St Vincent's Hospital Simulation Centre, VIC

Dr Margaret Bearman

Senior Lecturer, Centre for Medical & Health Sciences Education (CMHSE), Monash University, VIC

Gary Eves

Practice Lead, QinetiQ Consulting Pty Ltd, QLD

Dr Janet Chan

Intensivist, St Vincent's Hospital, NSW

Pauline Lyon

Midwifery Educator, MaCRM Faculty Queensland Health Skills Development Centre, QLD

Helen Cooke

Clinical Midwifery Consultant, Pregnancy & Newborn Services Network, NSW



SimTect Health 2009 Committees

Conference Organising Committee

Chair: Brendan Flanagan	<i>Southern Health Simulation and Skills Centre & Monash University, VIC</i>
Graham Beaumont	<i>Clinical Excellence Commission, NSW</i>
Andrea Couzell	<i>Australian Society for Simulation in Healthcare, VIC</i>
Peter Hill	<i>Simulation Industry Association of Australia, NSW</i>
Barry Neame	<i>Consec – Conference Management, ACT</i>
Katie Walker	<i>Project Manager, Simulation Learning Environments, National Health Workforce Taskforce, QLD</i>
Marcus Watson	<i>Queensland Health, Skills Development Centre, QLD</i>

Conference Scientific Committee

Chair: Brendan Flanagan	<i>Southern Health Simulation and Skills Centre & Monash University, VIC</i>
Lisa Conlon	<i>Faculty of Nursing, Midwifery & Health, University of Technology Sydney, NSW</i>
Peter Cosman	<i>Sydney Clinical Skills and Simulation Centre, NSW</i>
Andrea Couzell	<i>Australian Society for Simulation in Healthcare, VIC</i>
Joanne Gray	<i>University of Technology, Sydney, NSW</i>
Jennene Greenhill	<i>Flinders University, Rural Clinical School, SA</i>
Kathleen Hickey	<i>Royal Australasian College of Surgeons, VIC</i>
Jennifer Hogan	<i>Southern Health Simulation and Skills Centre, VIC</i>
Brian Jolly	<i>Monash University, Centre for Medical & Health Science Education, VIC</i>
Jennifer Keast	<i>Monash University Simulation Network, VIC</i>
Elysebeth Leigh	<i>Faculty of Education, University of Technology, Sydney, NSW</i>
Cate McIntosh	<i>Hunter New England Skills & Simulation Centre, NSW</i>
Debra Nestel	<i>Gippsland Medical School, Monash University, VIC</i>
Cyle Sprick	<i>Flinders University, SA</i>
Katie Walker	<i>Project Manager, Simulation Learning Environments, National Health Workforce Taskforce, QLD</i>
Marcus Watson	<i>Queensland Health, Skills Development Centre, QLD</i>
Leonie Watterson	<i>Sydney Clinical Skills and Simulation Centre, NSW</i>

Abstract Review Committee

Chair: Marcus Watson
Fiona Bogossian
Dylan Campher
Mario Cheng
Niall Higgins
Jennifer Hogan
Anthony Hopcraft
Simon Jenkins
Elysebeth Leigh
Stuart Marshall
Debra Nestel
Cyle Sprick
Andi Thompson

Round Table Committee

Brendan Flanagan
Cate McIntosh
Katie Walker
Marcus Watson
Leonie Watterson

Workshop Committee

Pre-Conference Chair: Katie Walker
Workshop and Poster Chair: Cate McIntosh
Site Visits: Jennifer Keast





Sponsors



PARTNERSHIP SPONSOR

Department of Human Services

The Department of Human Services plans, funds and delivers health, community and housing services in line with the government's vision for making Victoria a stronger, more caring and innovative state.

The Department of Human Services is responsible for a wide range of services to diverse client groups across Victoria. The principal function of the Department is to ensure the delivery of a range of health, housing and community services.

The Department's mission statement is:

To enhance and protect the health and well being of all Victorians, emphasising vulnerable groups and those most in need.



PRINCIPAL SPONSOR

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Laerdal has been offering learning products responding to evolving needs in emergency medicine ever since the introduction of Resusci Anne in 1960. Today our range of life saving, cost efficient learning products and services are expanding to cover all aspects of a complete Circle of Learning.

Our range includes innovative skills trainers, interactive computer simulators and advanced patient simulators like SimNewB and the next generation in Laerdal Simulation, **SimMan 3G**. For the 2009 SimTect conference we are very pleased announce the launch of **Laerdal Services** now offering a total solution in consulting, education and support.

Laerdal products and services are designed to equip you with the tools to meet your learning objectives and they demonstrate our belief that helping build competence is a critical part of our mission of helping save lives.



GOLD SPONSOR

Monash University

The Monash University Faculty of Medicine, Nursing & Health Sciences is proud to be a sponsor of SimTect Health 2009. Through Associate Professor Brendan Flanagan, Monash has an ongoing association with the SimTect Health conference and the Australian Society for Simulation in Healthcare. The Faculty is also at the forefront internationally of simulation-based research thanks to the work of Professor Debra Nestel.

Monash recognises the increasing importance of simulation in healthcare for education and research purposes, and because of the contribution of simulation to Patient Safety. The Faculty has recently established the Monash Simulation Network to coordinate simulation-based activities across the entire Faculty, which extends throughout Victoria and also includes the Monash campus in Malaysia.

The Faculty plans to establish partnerships with other institutions to address clinical placement challenges, and to establish inter-professional learning and research opportunities. Monash also intends to form industry partnerships for the advancement of simulation technologies. In February 2010, Monash is proudly hosting the Harvard Advanced Simulation Instructors Course in Melbourne.



CONFERENCE SPONSOR

National Health Workforce Taskforce (NHWT)

Health Workforce Australia (HWA) was established by COAG to deliver a comprehensive health workforce reform package to enable the workforce to better respond to the evolving care needs while maintaining the quality and safety of services.

As part of the health workforce reform package, COAG announced that funding would be available to build new or enhance current Simulated Learning Environments (SLE). The project will be managed by HWA (NTWT in the interim) to enable equitable access across Australia to a range of SLEs. The distribution and configuration of the SLEs will be finalised following a national planning process.

Greater access to simulation training can expand the capacity of the health and education systems to provide clinical training through alternative training encounters, enhance the effectiveness of existing training by accelerating clinical skills and developing non-technical clinical skills and will contribute to the maintenance of skills and re-training for health professionals.



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AUTHORITY
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Victorian Managed Insurance Authority

The Victorian Managed Insurance Authority (VMIA) provides risk and insurance services to protect Victoria's assets and minimise losses from adverse events.

Established on 1 October 1996 under the Victorian Managed Insurance Authority Act 1996, we are a statutory authority that reports to the Department of Treasury and Finance.

We offer support and advice in strategic and operational risk management and insurance products, tailored to meet the specific needs of individual clients. Our clients include general government departments, agencies, statutory authorities and the public healthcare program which includes hospitals, community services, rural GPs and primary healthcare programs.



Pre Conference Workshops

Obstetric Simulation: Make the Right Way the Easiest Way

Date: Monday 7 September 2009
Time: 8.00am – 12.00pm
Facilitators: Tim Draycott and Jo Crofts
Venue: Stradbroke Room, Hilton on the Park

Interprofessional Buy-In for Simulation: Why You Want It, How to Get It

Date: Monday 7 September 2009
Time: 8.00am – 12.00pm
Facilitator: Suzie Kardong-Edgren
Venue: Ballroom 2, Hilton on the Park

Patient Focused Simulations: The Role of Simulated Patients

Date: Monday 7 September 2009
Time: 8.00am – 12.00pm
Facilitators: Debra Nestel, Cathy Haigh and Tracy Morrison
Venue: Ballroom 1, Hilton on the Park

Facilitating Learning Without the Use of Video Using the 'Pause and Discuss' Technique

Date: Monday 7 September 2009
Time: 1.30pm – 5.00pm
Facilitators: Sue Ballinger-Doran, Jennifer Hogan and Tracey Nichols
Room: Clinical Skills Room (Level 4, Burnett Tower)
Venue: The Centre for Health Innovation, The Alfred Hospital

Assessment of Non-Technical Skills

Date: Monday 7 September 2009
Time: 1.00pm – 5.00pm
Facilitator: Rhona Flin
Venue: Ballroom 2, Hilton on the Park

Setting up a Simulation Centre

Date: Monday 7 September 2009
Time: 1.30pm – 5.00pm
Facilitators: Michael Seropian, Katie Walker and Anthony Rowley
Room: Conference Room (3rd Floor, Healy Wing)
Venue: St Vincent's Simulation Centre

Creating, Recognizing and Using Learning Opportunities: Simulation Debriefing Workshop

Date: Monday 7 September 2009
Time: 1.00pm – 5.00pm
Facilitator: Peter Dieckmann
Venue: Ballroom 1, Hilton on the Park

Conference Inclusive Workshops

WORKSHOP 1

The Simulation Coordinator: 'To Infinity and Beyond'

Date: Tuesday 8 September 2009
Time: 11.00am – 12.30pm
Room: Ballroom 2
Facilitators: Dylan Campher, Andrea Thompson, Kaylene Henderson, Stephanie O'Reagan and Jennifer Hogan
Abstract: See Abstract Workshop Section

WORKSHOP 2

Obstetric Simulation in Your Unit

Date: Tuesday 8 September 2009
Time: 11.00am – 12.30pm
Room: Ballroom 1
Facilitators: Tim Draycott and Jo Crofts
Abstract: See Abstract Workshop Section

WORKSHOP 3

In Situ Simulation

Date: Tuesday 8 September 2009
Time: 11.00am – 12.30pm
Room: Delacombe Room
Facilitators: Andrew Heasley, Mark Hayden and Bruce Lister
Abstract: See Abstract Workshop Section

WORKSHOP 4

Scenario Design

Date: Tuesday 8 September 2009
Time: 1.30pm – 3.00pm
Room: Huntingfield Room
Facilitators: Jennifer Keast and Elysebeth Leigh
Abstract: See Abstract Workshop Section

WORKSHOP 5

Increasing Access to Simulation Based Education

Date: Tuesday 8 September 2009
Time: 1.30pm – 3.00pm
Room: Ballroom 2
Facilitators: Debra Nestel and Marcus Watson
Abstract: See Abstract Workshop Section

WORKSHOP 6

Simulation Evaluation Tools: Imperative for the Discipline

Date: Tuesday 8 September 2009
Time: 1.30pm – 3.00pm
Room: Ballroom 1
Facilitator: Suzie Kardong-Edgren
Abstract: See Abstract Workshop Section

WORKSHOP 7

Bringing Crisis Management to Life: CRM Bingo

Date: Tuesday 8 September 2009
Time: 1.30pm – 3.00pm
Room: Delacombe Room
Facilitator: Peter Dieckmann
Abstract: See Abstract Workshop Section



Conference Inclusive Workshops continued

WORKSHOP 8

Rural Round Up

Date: Wednesday 9 September 2009
Time: 11.00am – 12.30pm
Room: Ballroom 2
Facilitators: Jennene Greenhill and Leanne Rogers
Abstract: See Abstract Workshop Section

WORKSHOP 9

Research Methods

Date: Wednesday 9 September 2009
Time: 11.00am – 12.30pm
Room: Ballroom 1
Facilitator: Peter Dieckmann
Abstract: See Abstract Workshop Section

WORKSHOP 10

Courses for Horses: How Different Approaches to Scheduling Training Suits Different Organisations

Date: Wednesday 9 September 2009
Time: 11.00am – 12.30pm
Room: Delacombe Room
Facilitators: Leonie Watterson, Julian Van Dijk, Janet Chan and Peter Cosman
Abstract: See Abstract Workshop Section

WORKSHOP 11

Teaching Undergraduates Methods in Simulation

Date: Wednesday 9 September 2009
Time: 1.30pm – 3.00pm
Room: Ballroom 1
Facilitators: Harry Owen and Cyle Sprick
Abstract: See Abstract Workshop Section

WORKSHOP 12

Writing for Publications: You Can Do It

Date: Wednesday 9 September 2009
Time: 1.30pm – 3.00pm
Room: Delacombe Room
Facilitator: Suzie Kardong-Edgren
Abstract: See Abstract Workshop Section

WORKSHOP 13

Multi-Source Feedback and Reflection Tools for Learning Within the Simulation Environment

Date: Thursday 10 September 2009
Time: 9.00am – 10.30am
Room: Delacombe Room
Facilitators: Margaret Bearman, Brian Jolly, Elizabeth Molloy and Debra Nestel
Abstract: See Abstract Workshop Section

WORKSHOP 14

Facilitating Simulation using Actors and Standardized Patients: Tools and Techniques

Date: Thursday 10 September 2009
Time: 9.00am – 10.30am
Room: Ballroom 2
Facilitators: Christopher Churchouse and Kirsty Bayley
Abstract: See Abstract Workshop Section

WORKSHOP 15

Introduction to Setting up an AV System for Teaching

Date: Thursday 10 September 2009
Time: 9.00am – 10.30am
Room: Ballroom 1
Facilitators: Chris Carpenter, Sue Wulf and Martin Rochford
Abstract: See Abstract Workshop Section

Site Visits

Thursday 10 September 2009

This year the SimTect Health 2009 Organising Committee has arranged two site visits to simulation centres close to the centre of Melbourne.

Delegates will be transported from the Hilton on the Park to and from each venue. Delegates can load their luggage on the coach.

1. Site Visit

The Centre for Health Innovation (CHI)

<http://www.healthinnovation.com.au>

Level 4, Burnet Tower

89 Commercial Road, Melbourne

Meeting Point: Registration Desk at 1.40pm

Time: 1.45pm – 3.00pm

2. Site Visit

St Vincents Simulation Centre and Royal Australian College of Surgeons Skills and Education Centre

http://www.svhm.org.au/infoabout/education/simulator_edu.htm

41 Victoria Parade, Fitzroy, Melbourne

Meeting Point: Registration Desk at 1.25pm

Time: 1.30pm – 3.00pm



Human Factors in Healthcare Symposium

Date: Friday, 11 September 2009
 Time: 9.00am – 5.00pm
 Room: Governor's Wing, Hilton on the Park
 Note: This is an additional cost to the Full Conference Registration – as per the Registration Form.

This symposium will explore the current status of human factors in healthcare, with presentations from local and overseas experts. Healthcare is one of the most complex of human endeavours, and the organisational and physical contexts in which healthcare is delivered are increasingly recognised as sources of risk.

The symposium will hear about developments in Human Factors in the UK from Professor Rhona Flin from the University of Aberdeen. After this keynote address there will be a series of presentations under the broad themes of Design, Training and Systems that will draw on the perspectives of Australian experts including Professor Penelope Sanderson, and Professor Gavan Lintern, and as well as additional international input from Dr Peter Dieckmann from the Danish Institute of Medical Simulation. There will also be a series of short presentations from other local Human Factors experts. Professor Bill Runciman, Australia's foremost patient safety expert, will provide opening and closing remarks.

After an opening address from Christine Jorm from the Australian Commission on Safety and Quality in Healthcare, delegates will hear about developments in Human Factors in the UK from Professor Rhona Flin from the University of Aberdeen. After this keynote address there will be a series of contributions by Australian experts including Professor Penelope Sanderson, Dr Matthew Thomas and additional input from Dr Peter Dieckmann from the Danish Institute of Medical Simulation. There will also be a series of short presentations from other local Human Factors experts.

A number of panel discussions will explore contemporary Healthcare human factor issues and provide delegates with the opportunity to have the experts consider their problems. The symposium will also seek to define a way forward for the integration of Human Factors principles into Healthcare delivery in Australia, Professor Bill Runciman, Australia's foremost patient safety expert will provide opening and closing remarks.

0830-0900	REGISTRATION
0900-0915	Welcome <i>Bill Runciman</i>
0915-0930	The Challenge <i>Christine Jorm</i>
0930-1010	UK Healthcare HF Issues and Developments <i>Rhona Flin</i>
1010-1040	MORNING TEA
1040-1110	Team and Organisational Cultural Influences <i>Jo Travaglia</i>
1110-1140	Identifying HF Issues <i>Matthew Thomas</i>
1140-1210	Human Error in Healthcare <i>Peter Kennedy and Brett Molesworth</i>
1210-1300	LUNCH
1300-1330	Is Training a Solution? <i>Peter Dieckmann</i>
1330-1400	Considerations for Design Solutions <i>Penny Sanderson</i>
1400-1445	Panel 1 – Solutions for Delegates HF Problems <i>Christine Jorm, Rhona Flin and Peter Kennedy</i>
1445-1515	AFTERNOON TEA
1515-1600	Panel 2 – HF Imperatives for Healthcare <i>Matthew Thomas, Brendan Flanagan and Peter Dieckmann</i>
1600-1645	Panel 3 – The Way Forward <i>Rhona Flin and Penny Sanderson</i>
1645-1700	Summary and Close





Trade Exhibition

The Exhibition will be held on Level 1, Hilton on the Park.

Trade Exhibition Opening Hours

Tuesday	8 September 2009	8.00am – 5.00pm
Wednesday	9 September 2009	8.00am – 5.00pm
Thursday	10 September 2009	8.30am – 2.00pm

Trade Exhibitors

Booth 2

Monash University

Jennifer Keast
PO Box 72
EAST BENTLEIGH VIC 3165

Booth 3

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Booth 4

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Booth 5

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Booth 6

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Booth 7

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Booth 8

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Booth 10

Limbs & Things Aust Pty Ltd

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Booth 11

Simulab Corporation

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Booth 12

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Booth 13

Australian Society for Simulation Healthcare

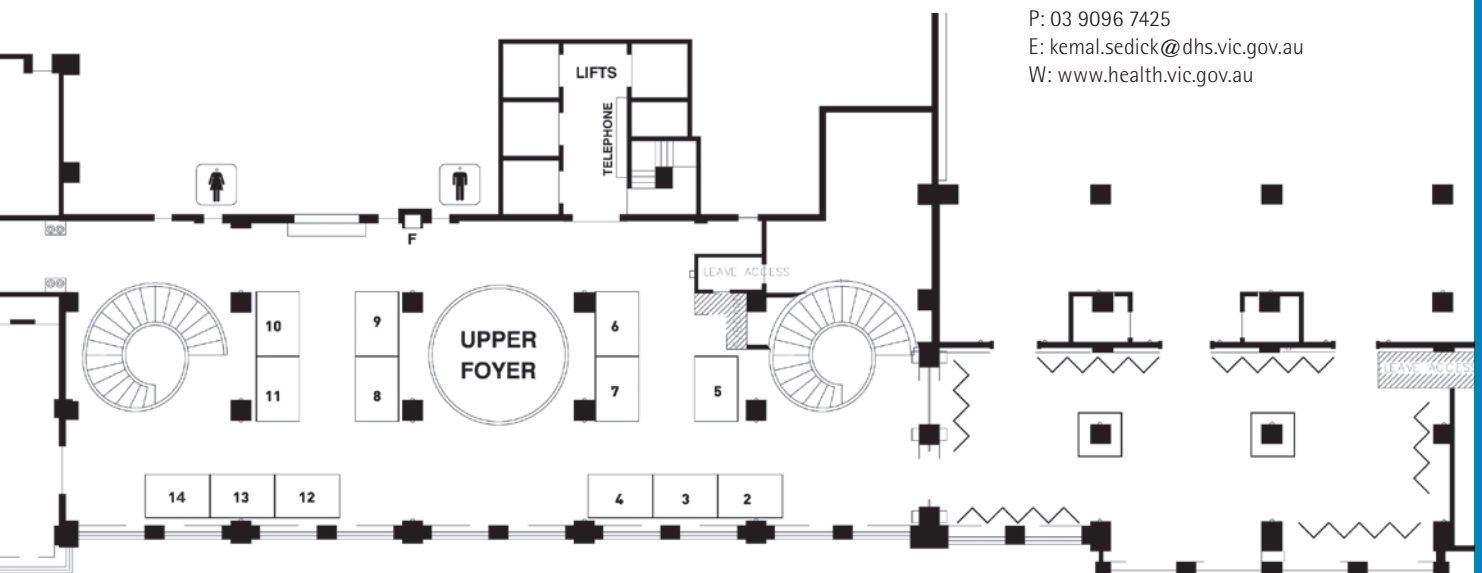
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Booth 14

Department of Human Services

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W: www.health.vic.gov.au

Trade Exhibition Floorplan





Social Program

Welcome Reception

Date: Tuesday 8 September 2009
Time: 5.00pm – 7.00pm
Venue: Hilton on the Park, Exhibition Area

OPTIONAL Conference Dinner

Date: Wednesday 9 September 2009
Time: 7.30pm – 10.30pm
Venue: Harrison Room, Melbourne Cricket Ground (MCG) – enter through Gate 1 near light tower 5
Cost: \$100pp (not included in Full Registration Fee)
If you would like to purchase an additional ticket, please see the staff from Consec – Conference Management at the registration desk
Dress: Neat casual
Transport: Please make your way to the dinner venue. MCG is set in parklands only a few minutes stroll from the conference hotel.

Breakfast Sessions

Rural Breakfast

Date: Wednesday 9 September 2009
Time: 7.30am – 9.00am
Venue: Ballroom 1

Ask the Experts: Research I am trying to do?

Date: Thursday 10 September 2009
Time: 7.30am – 9.00am
Venue: Ballroom 2

International Liaison Meeting

Date: Thursday 10 September 2009
Time: 7.30am – 9.00am
Venue: Ballroom 1

General Information

Welcome to Melbourne

Victoria's capital, Melbourne, sits on the Yarra River and around the shores of Port Phillip Bay. Lauded for its sense of style and elegance, Melbourne boasts glamorous festivals and events, Australia's best shopping, a lively passion for eating and drinking, and a flourishing interest in the arts. Restored and preserved nineteenth-century architecture, built following the discovery of gold, provides a heady reminder of a prosperous age, while beautifully tended parks and gardens present a therapeutic respite from the pace of city life

Conference Venue

Enjoy views over historic Fitzroy Gardens and the MCG at the Hilton On The Park Melbourne. Escape the stresses of the city at the spa, relax by the pool and unwind in the gym. Business guests can enjoy a refreshing drink in the Executive Lounge. Sample tapas over a glass of wine at the Park Lounge or try international cuisine in the Gallery Restaurant. Visit Melbourne attractions like the nearby Melbourne Cricket Ground.

ATM

The closest ATM is at the 7/11 – an approximate 3 minute walk from the hotel.

Banking

Banks are generally open from 9.30am – 4.00pm Monday to Thursday, and 9.30am – 5.00pm Friday, however some banks offer extended hours and some are open on Saturday mornings. Travellers cheques are widely accepted, as are major credit cards VISA, MasterCard and (to a lesser extent) AMEX and Diners Card. Most banks will engage in foreign currency exchange.

Car Parking

Car parking – self parking for guests staying in house – \$20.00, valet car parking is \$45.00 & conference guest parking – \$21.00. All prices are per day.

Conference Program and Changes

The chair of each session will notify delegates of any changes made to the program. Changes to the program will also be placed on the notice board next to the Conference Registration Desk.

Conference Management



Consec – Conference Management
PO Box 3127
BMDC ACT 2617

Email: simtecthealth@consec.com.au

Conference Manager:
Barry Neame

Conference Coordinators:
Michaela Andelova
Margie Wallace





General Information continued

Disclaimer

The Conference handbook and program is correct at the time of printing. However, the organisers reserve the right to change the information where necessary without notice.

Liability Waiver

In the event of industrial disruptions, the Conference and the organisers accept no responsibility. In the event of the venue becoming unusable, or other circumstances, or the need to cancel the conference, there can be no liability on the organisers.

Messages

Messages can be collected and left at the Registration Desk. All messages will be posted on the message board adjacent to the desk. Please check the board on passing.

Mobile Telephone Policy

Mobile phones are not to be used while sessions are in progress. Please ensure they are turned off during these times.

Name Badges

Your name badge is your entry to the Conference sessions (excluding exhibitors who are not fully registered), morning/afternoon teas and lunches. Please ensure that you wear your name badge at all times and if misplaced, please see the staff at the registration desk as soon as possible for a replacement.

No Smoking Policy

All the rooms at the venue are NON-SMOKING.

Personal Insurance

Delegates shall be regarded in every aspect as carrying their own risk for loss or injury to person or property, including baggage during the Conference. The organisers are in no way responsible for any claims concerning insurance.

Personal Mail

All personal mail should be sent to your accommodation address.

Privacy Clause

In registering for this Conference, relevant details have been incorporated into a delegate list for the benefit of all delegates (name and organisation only), and may be made available to parties directly related to the Conference including the Simulation Industry Association of Australia (SIAA), Consec-Conference Management, the Conference Organising Committee, venues and accommodation providers (for the purposes of room bookings and Conference options), key sponsors (subject to strict conditions) and parties associated with related Conferences. Postal and email details will be added to the SIAA's mailing list to keep you apprised of news items.

Registration Desk

The Registration Desk will be situated on Level 1, Hilton on the Park and will be staffed as follows:

Pre-Conference Workshops Registration

Monday 7 September 2009
7.30am – 3.00pm

Conference Registration

Monday 7 September 2009
3.00pm – 5.00pm

Tuesday 8 September 2009
8.00am – 5.00pm

Wednesday 9 September 2009
7.30am – 5.00pm

Thursday 10 September 2009
7.30am – 5.00pm

Human Factors in Healthcare Symposium Registration

Friday 11 September 2009
7.30am – 5.00pm

Rest Rooms

There are a number of rest rooms located within Hilton on the Park.

Special Needs

We endeavour to ensure delegates with special needs are catered for. Should you require particular assistance, please see the staff at the registration desk.

Useful Telephone Numbers

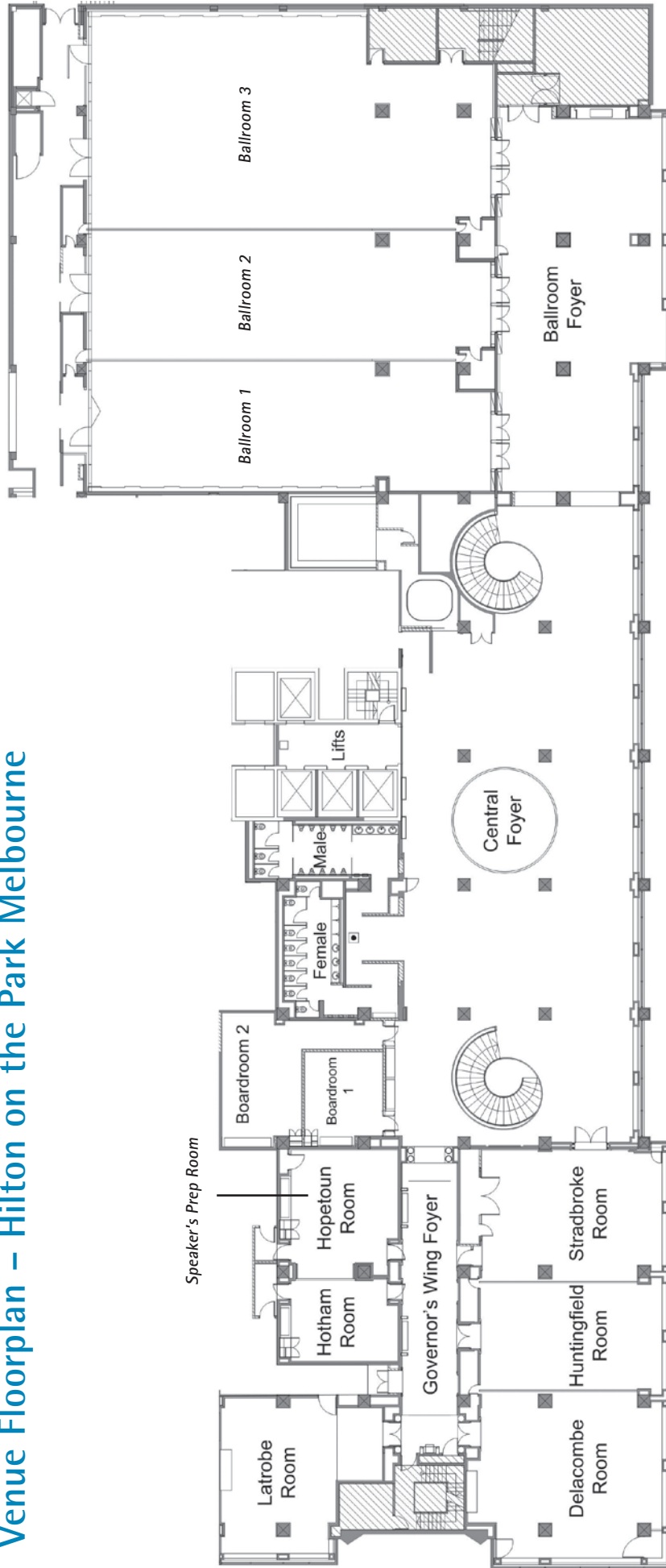
Consec (onsite)	0429 881 446
Hilton on the Park	03 9419 2000
Grand Mercure Apartments	03 9629 4088
Mantra on Jolimont	03 9940 2100
Qantas	13 13 13
Virgin	13 67 89
Silvertop Taxi	13 10 08

Website

The SimTect 2009 Health Simulation Conference website is:
www.simtecthealth.com



Venue Floorplan – Hilton on the Park Melbourne





MONDAY, 7TH SEPTEMBER 2009 PRE-CONFERENCE WORKSHOPS

0730-0900	REGISTRATION <i>Registration Desk, Hilton on the Park</i>
0800-1200	Obstetric Simulation: Make the Right Way the Easiest Way <i>Dr Tim Draycott and Jo Crofts</i> <i>Stradbroke Room, Hilton on the Park</i>
0800-1200	Interprofessional Buy-In for Simulation: Why You Want It, How to Get It <i>Associate Professor Suzie Kardong-Edgren</i> <i>Ballroom 2, Hilton on the Park</i>
0800-1200	Patient Focused Simulations: The Role of Simulated Patients <i>Professor Debra Nestel, Dr Cathy Haigh and Ms Tracy Morrison</i> <i>Ballroom 1, Hilton on the Park</i>
1000-1030	MORNING TEA
1200-1300	LUNCH
1500-1530	AFTERNOON TEA
1330-1700	Facilitating Learning Without the Use of Video Using the 'Pause and Discuss' Technique <i>Ms Sue Ballinger-Doran, Ms Jennifer Hogan and Ms Tracey Nichols</i> <i>Clinical Skills Room (Level 4, Burnett Tower), Centre for Health Innovation, The Alfred Hospital</i>
1300-1700	Assessment of Non-Technical Skills <i>Professor Rhona Flin</i> <i>Ballroom 2, Hilton on the Park</i>
1330-1700	Setting up a Simulation Centre <i>Dr Michael Seropian, Ms Katie Walker and Mr Anthony Rowley</i> <i>Conference Room (3rd Floor, Healy Wing), St Vincent's Education Centre</i>
1300-1700	Creating, Recognizing and Using Learning Opportunities: Simulation Debriefing Workshop <i>Dr Peter Dieckmann</i> <i>Ballroom 1, Hilton on the Park</i>


TUESDAY, 8TH SEPTEMBER 2009 CONFERENCE PROGRAM

0800-0830	REGISTRATION Registration Desk, Exhibition Area								
0830-0900	Opening Remarks <i>Brendan Flanagan</i> Welcome to Country Official Opening <i>The Hon Daniel Andrews MP, Victorian Minister for Health</i> Ballroom 3								
0900-1030	PLENARY SESSION 1 <i>Chair: Brendan Flanagan</i> Interactive Video Session An Inconvenient Truth ... Addressing Real World Issues with Simulation. Written and produced by the staff of the Southern Health Simulation and Skills Centre, Monash Medical Centre, Southern Health VIC. With special thanks to Ambulance Victoria and Laerdal Australia. Society for Simulation in Healthcare USA <i>Michael Seropian</i> Ballroom 3								
1030-1100	MORNING TEA Exhibition Area								
1100-1230	CONCURRENT SESSIONS								
	Ballroom 3 PRESENTATIONS DOHA sponsored Non-Technical Skills (NTS) In Synthetic Learning Environments Project: Achievements and Lessons <i>Chair: Leonie Watterson</i> Non-Technical Skills (NTS) in Synthetic Learning Environments for Specialist Trainees: Results of the ASSH and DOHA Funded Consultancy Project <i>Robert O'Brien, Debbie Paltridge, Tracey Weiland, Stuart Dilley, Neil Cunningham, Julian van Dijk and Tess Vawser</i> Developing Non Technical Skills for Surgical Trainees using Simulation <i>Margaret Bearman, Adrian Anthony, David Birks, Sheryl Caradozo, Ian Civil, Kathleen Hickey, Brian Jolly, Jennifer Keast, Brendan Flanagan, Mary Langcake, Elizabeth Molloy, Debra Nestel and Cathie Steele</i> Developing Communication Skills for a Ophthalmological Setting <i>Gary Eves</i>	Stradbroke Room FREE PAPERS 1 <i>Curriculum Design</i> <i>Chair: Cyle Sprick</i> Assessing Staff Beliefs: Anticipating and Navigating the Obstacles when Introducing Simulation into an Undergraduate Nursing Curriculum <i>Karen Livesay, Karen Lawrence and Clive Miller</i> Preparing Academic Staff for the Introduction of Simulation: Perceived Needs and Implications <i>Clive Miller, Karen Lawrence and Karen Livesay</i> Observational Simulation: The Key to Meeting the Learning Needs of an Inter-professional Healthcare Team <i>Christopher Churchouse and Kirsty Boyley</i>	Huntingfield Room FREE PAPERS 2 <i>Undergraduates</i> <i>Chair: Jennene Greenhill</i> Cognitive Apprenticeship & Authentic Assessment within High Fidelity Simulated Clinical Environments: An Education Framework for Bridging the Gap between Higher Education and Practice Settings <i>Colin Torrance, Keith Weeks and Peter Lewis</i> Novice to Expert: Nursing Assessment Using Human Patient Simulators <i>Carolyn Insley and Janet Willhaus</i> Structured Clinical Skills Education Adds Value to Self-directed Learning during Clinical Placement Time <i>Julia Harrison, Brendan Flanagan and Stuart Marshall</i>	Ballroom 2 WORKSHOP 1 <i>The Simulation Coordinator: 'To Infinity and Beyond'</i> <i>Facilitators: Dylan Campher, Andrea Thompson, Kaylene Henderson, Stephanie O'Reagan and Jennifer Hogan</i>	Ballroom 1 WORKSHOP 2 <i>How to Set Up Obstetric Simulation in Your Unit</i> <i>Facilitators: Tim Draycott and Jo Crofts</i>	Delacombe Room WORKSHOP 3 <i>In Situ Simulation</i> <i>Facilitators: Andrew Heasley, Mark Hayden and Bruce Lister</i>			



1230-1330	<p>PRESENTATIONS</p> <p>Non-Technical Skills (NTS) Training for Specialist Trainees Using Simulation – A Pilot Course for Intensive Care Trainees <i>Janet Chan, Stewart Dunn, Priya Nair, Margaret Bramwell, Leonie Watterson, Charlie Corke and Peter Morley</i></p> <p>FREE PAPERS 1 Cabin Fever: In-situ Simulation of Airborne Emergencies for the Royal Flying Doctor Service <i>Mark Baldwin and Victoria Brazil</i></p> <p>FREE PAPERS 2 Cognitive Apprenticeship: A Model for the Teaching Non-Technical Skills to Final Year Medical Students <i>Tim Gray, Julia Harrison and Brendan Flanagan</i></p>			
LUNCH Exhibition Area				
1330-1500	<p>CONCURRENT SESSIONS</p> <p>Ballroom 3 FREE PAPERS 3 Surgical/Simulators <i>Chair: Kathleen Hickey</i> Differentiating Levels of Experience on a Virtual Reality Temporal Bone Simulator <i>Yi Chen Zhao, Stephen O'Leary, Richard Hall and Gregor Kennedy</i> Randomised Control Trial of Cognitive vs Directed Teaching Styles for Laparoscopic Suturing in Medical Students <i>Sarah Moore, Michael Murphy and Steve Smith</i> Using SimMan 3G to Enhance Healthcare Professionals' Clinical Skills in the Neurological Assessment of the Deteriorating Patient <i>Lyn Taylor and Irwyn Shepherd</i></p> <p>Stradbroke Room FREE PAPERS 4 Teams <i>Chair: Stuart Marshall</i> The Team Emergency Assessment Measure (TEAM): Validity, Reliability and Feasibility? <i>Simon Cooper, Robyn Cant, Jo Porter, George Summers, Ken Sellick, Leigh Kinsman and Debra Nestel</i> A Typology for Healthcare Teams <i>Pamela Andreatta</i> Centre Operation's Report: How we Built a Simulation Centre within the Emergency Department. The Grass Roots Approach <i>Jon Hayman</i> Raise the Red Blanket: Rapid Transfer to Theatre for Simulated Critically Ill Trauma Patients <i>Mark Baldwin and Victoria Brazil</i></p> <p>Huntingfield Room WORKSHOP 4 Scenario Design <i>Facilitators: Jennifer Keast and Elysebeth Leigh</i></p> <p>Ballroom 2 WORKSHOP 5 Distributed Simulation: Increasing Access to Simulation Based Education <i>Facilitators: Debra Nestel and Marcus Watson</i> Max Attendees: 20</p> <p>Ballroom 1 WORKSHOP 6 Simulation Evaluation Tools: An Imperative for the Discipline <i>Facilitator: Suzie Kardong-Edgren</i></p> <p>Delacombe Room WORKSHOP 7 Bringing Crisis Management to Life: CRM Bingo <i>Facilitator: Peter Dieckmann</i></p>			
1500-1530	<p>AFTERNOON TEA Exhibition Area</p>			
1530-1700	<p>PLENARY SESSION 2 <i>Chair: Brendan Flanagan</i> Non-Technical Skills: A Prescription for Safer Healthcare Rhona Flin Knowing More About it to Know More With it: Simulation and Research Peter Dieckmann Ballroom: 3</p>			
1700-1900	<p>WELCOME RECEPTION AND POSTER DISPLAY Exhibition Area</p>			


WEDNESDAY, 9TH SEPTEMBER 2009 CONFERENCE PROGRAM

0800–0900	REGISTRATION Registration Desk, Exhibition Area					
0800–0900	RURAL BREAKFAST Hosts: Jennene Greenhill and Debra Nestel Special Guests: Leonie Watterson and Katie Walker Ballroom 1					
0900–1030	PLENARY SESSION 3 Chair: Liz Cox, Victorian Managed Insurance Authority (VMIA) Obstetrics Simulation: What Works Where Tim Draycott The Rapid Response Team Paradox: "Why Doesn't Anyone Call for Help?" Michael Buist Ballroom 3					
1030–1100	MORNING TEA Exhibition Area					
1100–1230	CONCURRENT SESSIONS					
	Ballroom 3	Stradbroke Room	Huntingfield Room	Ballroom 2	Ballroom 1	Delacombe Room
	OBSTETRICS PANEL Chair: Pauline Lyon Designing and Implementing Structures to Improve Care Tim Draycott Learning Together to Improve Outcomes in Maternity Care: The FONT Project Helen Cooke Now You've Got Skills, How Do You Keep Them? In-situ Simulation with Flat Maggie Pauline Lyon	FREE PAPERS 5 Inter-professional Education Chair: Elysebeth Leigh Does SBAR Actually Work? Initial Findings from a 2 Year Prospective Trial Neil Cunningham, Julian van Dijk, Tracey Weiland, Nicole Shilkovski, Paul Paddle and Nicola Cunningham The First 5 Minutes: An Inter-professional Learning (IPL) Project Using Simulation Katherine Holmes, Nicola Deacy, Carole Watson, Alicia Massarotto, Maggie Brigg and Ted Stewart-Wynne Applying a Psychological Model to Analysis of Behaviour in a Simulation Elysebeth Leigh and Werner Naef	POSTER ROUND Chair: Cate McIntosh Development of the Monash University Simulation Network Jennifer Keast and Brendan Flanagan The Potential of Simulation for Aero-medical Mission Rehearsal Anthony Hopcraft, Sandra Riley and Marcus Watson Actor Training for Surgical Team Simulations in a Portable Simulation Environment Eva S Kassab, Dominic King, Louise M Hull, Nick Sevdalis, Sonal Arora, Roger L Kneebone and Debra Nestel Creating an Immersive Simulation to Support the Development of Non-Technical Skills in Surgical Trainees Jennifer Keast, Adrian Anthony, Margaret Bearman, David Birks, Sheryl Cardozo, Ian Civil, Kathleen Hickey, Brendan Flanagan, Brian Jolly, Mary Langcake, Liz Molloy, Debra Nestel and Cathy Steele	WORKSHOP 8 'Rural Round Up' Facilitators: Jennene Greenhill and Leanne Rogers	WORKSHOP 9 Research Methods Facilitator: Peter Dieckmann Max Attendees: 24	WORKSHOP 10 Courses for Horses: How Different Approaches to Scheduling Training Suit Different Organisations Facilitators: Leonie Watterson, Julian Van Dijk, Janet Chan and Peter Cosman



<p>FREE PAPERS 5</p> <p>Learning About Inter-professional Clinical Practice in a Simulated Ward Environment <i>Debra Kiegaldie</i></p>	<p>POSTER ROUND</p> <p>Development of a Device for Improving the Fidelity of Respiratory Auscultation During Simulations <i>Peter Thomas, Daniel Host, Andrea Thompson and Dylan Campher</i></p> <p>Multi-Parameter Fully Wireless Physiological Monitoring System for a Simulation Training Environment <i>Joshua Khoo, Ke Ma and Ian Brown</i></p> <p>Infection Control: Don't Spread the Glow <i>Carolyn Insley, Chavonne Wyatt and Janet Willhaus</i></p> <p>Phlebotomy Emergency Crisis Management Course: A Pilot Study <i>Martin Rochford</i></p> <p>The Deteriorating Patient – Simulation Training for Medical Students and Junior Doctors <i>Adam Rehak, Stephanie O'Regan, Jenny Ludeman and Jacqui Langeris</i></p> <p>Multidisciplinary Crew Resource Management (CRM) in Health Care: Is Combined Classroom and Simulation-based Training Additive or Synergistic? <i>Robyn Clay-Williams, Catherine McIntosh, Ross Kerridge and Jeffrey Braithwaite</i></p>			
<p>1230–1330</p> <p>LUNCH Exhibition Area</p>				



CONCURRENT SESSIONS						
1330-1500	<p>Ballroom 3</p> <p>FREE PAPERS 6 <i>Simulated Patients</i> <i>Chair: Joanne Gray</i></p> <p>Triage Training: Virtual Reality vs Standardized Patients <i>Jen Frankel and Pamela Andreatta</i></p> <p>Using Human Simulated Patients (SPs) in Medical, Nursing and Health Professional Education – A Review of the Literature <i>Debra Nestel and Tracy Morrison</i></p> <p>Evaluation of a University Wide Simulated Patient Database – MonSim <i>Debra Nestel, Tracy Morrison, Brian Chapman, Sheryl Cardozo, Jenny Keating, Cathy Haigh, Laura Dean, Jonathan McConnell, Jill French, George Somers and Chris Browne</i></p> <p>A Novel Use of Simulation to Increase Attention to Patient-Centred Care for Vaginal Examination <i>Sheila Klimczyk, Marreen Harris and Joyce Hendricks</i></p>	<p>Stradbroke Room</p> <p>FREE PAPERS 7 <i>Virtual Reality</i> <i>Chair: Peter Hill</i></p> <p>The Impact of Non-Verbal Communication in Virtual-Environment-Based Teamwork Training <i>Stefan Marks, John Windsor and Burkhard Wünsche</i></p> <p>A Decade of Developing Virtual Reality Medical Simulators: Mistakes Made and Lessons Learned <i>Alan Liu and Gilbert Muniz</i></p> <p>3D ROSE: A Virtual Reality Radiation Oncology Simulation Environment <i>Iwan Cornelius, Laz Kastanis, Darren Pack, Andy Boud, Chris Poole and Christian Langton</i></p> <p>What Components of Simulation Courses can be Optimised by e-learning <i>Niall Higgins, Stephen Francis, Richard Campbell, Joshua Harvey and Marcus Watson</i></p>	<p>Huntingfield Room</p> <p>ROUNDTABLE 1 <i>Simulation Instructor Certification</i> <i>Chair: Marcus Watson</i></p>	<p>Ballroom 2</p> <p>FREE PAPERS 8 <i>Operations and Logistics</i> <i>Chair: Anthony Hopcraft</i></p> <p>The Operationalisation of a Simulation Centre in a New Graduate-Entry Medical School in Regional Australia <i>Kathleen Cartwright, David Birks, Caroline Rossetti, George Somers, Debra Nestel and Chris Browne</i></p> <p>CRM Behind the Screen: Planning and Logistics Template for Multi-scenario Research <i>Kaylene Henderson</i></p> <p>Introduction to Simulation Instruction and Facilitation Program <i>Irwyn Shepherd</i></p> <p>US Military Medical Simulation: State of the Art <i>Gilbert Muniz and Alan Liu</i></p>	<p>Ballroom 1</p> <p>WORKSHOP 11 <i>Teaching Undergraduates Methods in Simulation</i> <i>Facilitators: Harry Owen and Cyle Sprick</i></p>	<p>Delacombe Room</p> <p>WORKSHOP 12 <i>Writing for Publication: You Can Do It</i> <i>Facilitator: Suzie Kardong-Edgren</i></p>
1500-1530	<p>AFTERNOON TEA Exhibition Area</p>					
1530-1700	<p>PLENARY SESSION 4 <i>Chair: Michelle Kelly</i></p> <p>A 50,000 Foot View of Simulation from a 12,500 Foot Kinda' Gal <i>Suzie Kardong-Edgren</i></p> <p>Producing the New Health Professional: Inter-Professional Learning and 'Joined Up Practice' <i>Alison Lee</i></p> <p>Ballroom 3</p>					
1700-1800	<p>AUSTRALIAN SOCIETY FOR SIMULATION IN HEALTHCARE ANNUAL GENERAL MEETING <i>Chair: Leonie Watterson</i></p> <p>Ballroom 3</p>					
1930-2230	<p>CONFERENCE DINNER Harrison Room, Melbourne Cricket Ground</p>					



THURSDAY, 10TH SEPTEMBER 2009 CONFERENCE PROGRAM

0700-0900	REGISTRATION Registration Desk, Exhibition Area	Ballroom 1	BREAKFAST International Liaison Meeting Hosts: <i>Brendan Flanagan and Katie Walker</i> International delegates will provide a brief presentation on what is happening in their country.	Delcombe Room	WORKSHOP 13 <i>The Value of Multi-source Feedback for Learning Within the Simulation Environment</i> Facilitators: <i>Margaret Bearman, Brian Jolly, Elizabeth Malloy and Debra Nestel</i>
0730-0900	BREAKFAST <i>Ask the Experts: Research I am Trying to do?</i> Chairs: <i>Peter Dieckmann and Marcus Watson</i> Simulation and its Effect on Clinical Decision Making: A Constructivist Investigation <i>Jacinta Secomb</i> Software Framework for Performance Assessment in Medical Training Simulations <i>Greg Ruthenbeck and Fabian Lim</i> Introducing Team STEPPS into Medical Education via Clinical Simulation <i>Peter Loa</i>	Huntingfield Room	ROUNDTABLE 2 <i>Accreditation of Simulation Programs</i> Chair: <i>Cate McIntosh</i>	Ballroom 1	WORKSHOP 15 <i>Introduction to Setting up an AV System for Teaching</i> Facilitators: <i>Chris Carpenter, Sue Wolf and Martin Rochford</i>
0900-1030	CONCURRENT SESSIONS	Stradbroke Room	FREE PAPERS 10 <i>Program Evaluation</i> Chair: <i>Leanne Rogers</i> Participant or Observer – Is the Learning the Same? A Student Perspective <i>Monica Peddle</i> Manikin to the Market: Insitu Paediatric Simulation Using Simbaby and SimnewB <i>Irwyn Shepherd and Lyn Taylor</i> The Clinical Impact of a Pediatric Mock-Code Program <i>Pamela Andreatta, Michael Marsh and Gail Annich</i> Watch and Learn: Evaluating Scenario Based Learning Outcomes in Participant and Observer Groups <i>Andrea Thompson, Victoria Hynes, Dane Barclay, Stephanie Fox-Young, Elisha Toscano, Pauline Varghese and Tracey Brandis</i>	Ballroom 2	WORKSHOP 14 <i>Facilitating Simulation Using Actors and Standardised Patients: Tools and Techniques</i> Facilitators: <i>Christopher Churthouse and Kirsty Bayley</i>
	FREE PAPERS 9 <i>Technical</i> Chair: <i>David Cumlin</i> The Development of a Haptic Device for Abdominal Palpations in Colonoscopy Simulation <i>Mario Cheng, Marcus Watson, Stephan Riek, Josh Passenger and Olivier Salvado</i> Evaluation of the Trucorp and iSTAN as a Training Tool for Supraglottic Airways <i>Colin Torrance, Alan Jones and Alun Jenkins</i> Comparison of Respiratory Mechanics on the METI Emergency Care Simulator and Human Patient Simulator Using Physiologically Modeled Lung Volumes <i>Dylan Campher, David Liu, Lara Brewer and Simon Jenkins</i> Are Mannequin Chests an Accurate Representation of a Human Chest? <i>Malcolm Boyle and Brett Williams</i>	Huntingfield Room	ROUNDTABLE 2 <i>Accreditation of Simulation Programs</i> Chair: <i>Cate McIntosh</i>	Ballroom 1	WORKSHOP 15 <i>Introduction to Setting up an AV System for Teaching</i> Facilitators: <i>Chris Carpenter, Sue Wolf and Martin Rochford</i>


THURSDAY, 10TH SEPTEMBER 2009 CONFERENCE PROGRAM continued

1030–1100	MORNING TEA Exhibition Area
1100–1200	ROUND TABLE 3 – POLICY <i>Chair: Leonie Watterson</i> Policy – What the Future Holds? Peter Carver, National Health Workforce Taskforce Ballroom 3
1200–1230	CLOSING SESSION <i>Chairs: Brendan Flanagan, Katie Walker and Michael Seropian</i> Ballroom 3
1230–1330	LUNCH Exhibition Area
1330–1500	Site Visit 2: St Vincent's Simulator Centre and Royal Australasian College of Surgeons Skills and Education Centre – meet at Registration Desk at 1325
1345–1530	Site Visit 1: The Centre for Health Innovation (CHI) – meet at Registration Desk at 1340

Disclaimer: The conference program is correct at time of publication; however the organisers reserve the right to change information where necessary.



FRIDAY, 11TH SEPTEMBER 2009

HUMAN FACTORS IN HEALTHCARE SYMPOSIUM

Room: Governor's Wing

0830–0900	REGISTRATION
0900–0915	Welcome <i>Bill Runciman</i>
0915–0930	The Challenge <i>Christine Jorm</i>
0930–1010	UK Healthcare HF Issues and Developments <i>Rhona Flin</i>
1010–1040	MORNING TEA
1040–1110	Team and Organisational Cultural Influences <i>Jo Travaglia</i>
1110–1140	Identifying HF Issues <i>Matthew Thomas</i>
1140–1210	Human Error in Healthcare <i>Peter Kennedy, Brett Molesworth</i>
1210–1300	LUNCH
1300–1330	Is Training a Solution? <i>Peter Dieckmann</i>
1330–1400	Considerations for Design Solutions <i>Penny Sanderson</i>
1400–1445	Panel 1 – Solutions for Delegates HF Problems <i>Christine Jorm, Rhona Flin, Peter Kennedy and Facilitator Bill Runciman</i>
1445–1515	AFTERNOON TEA
1515–1600	Panel 2 – HF Imperatives for Healthcare <i>Matthew Thomas, Brendan Flanagan, Peter Dieckmann</i>
1600–1645	Panel 3 – The Way Forward <i>Rhona Flin, Penny Sanderson</i>
1645–1700	Summary and Close

Disclaimer: The symposium program is correct at time of publication, however, the final program may be subject to change at short notice.



SimTect HEALTH 09

SIMULATION CONFERENCE

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TUESDAY, 8TH SEPTEMBER 2009

PLENARY SESSION

Tuesday 9.00am-10.30am

PLENARY SESSION 1 – INTERACTIVE VIDEO SESSION

29 An Inconvenient Truth: Addressing Real World Issues with Simulation

Written and produced by the staff of the Southern Health Simulation and Skills Centre, Monash Medical Centre, Southern Health, Vic. With special thanks to Ambulance Victoria and Laerdal Australia.

PRESENTATIONS

Tuesday 11.00am-12.30pm

PRESENTATIONS - DOHA SPONSORED NON – TECHNICAL SKILLS (NTS) IN SYNTHETIC LEARNING ENVIRONMENTS PROJECT: ACHIEVEMENTS AND LESSONS

29 Non-Technical Skills (NTS) in Synthetic Learning Environments for Specialist Trainees: Results of the ASSH and DOHA Funded Consultancy Project

Robert O'Brien, Debbie Paltridge, Tracey Weiland, Stuart Dilley, Neil Cunningham, Julian van Dijk and Tess Vawser

30 Developing Non Technical Skills for Surgical Trainees Using Simulation

Margaret Bearman, Adrian Anthony, David Birks, Sheryl Cardozo, Ian Civil, Kathleen Hickey, Brian Jolly, Jennifer Keast, Brendan Flanagan, Mary Langcake, Elizabeth Molloy, Debra Nestel and Cathie Steele

30 Developing Communication Skills for a Ophthalmological Setting

Gary Eves

31 Non-Technical Skills (NTS) Training for Specialist Trainees Using Simulation – A Pilot Course for Intensive Care Trainees

Janet Chan, Stewart Dunn, Priya Nair, Margaret Bramwell, Leonie Watterson, Charlie Corke and Peter Morley

FREE PAPERS 1

Tuesday 11.00am-12.30pm

SESSION 1 – CURRICULUM DESIGN

31 Assessing Staff Beliefs: Anticipating and Navigating the Obstacles when Introducing Simulation into an Undergraduate Nursing Curriculum

Karen Livesay, Karen Lawrence and Clive Miller

32 Preparing Academic Staff for the Introduction of Simulation: Perceived Needs and Implications

Clive Miller, Karen Lawrence and Karen Livesay

32 Observational Simulation: The Key to Meeting the Learning Needs of an Inter-professional Healthcare Team

Christopher Churchouse and Kirsty Bayley

33 Cabin Fever: In-situ Simulation of Airborne Emergencies for the Royal Flying Doctor Service

Mark Baldwin and Victoria Brazil

FREE PAPERS 2

Tuesday 11.00am-12.30pm

SESSION 2 – UNDERGRADUATES

33 Cognitive Apprenticeship & Authentic Assessment within High Fidelity Simulated Clinical Environments: An Education Framework for Bridging the Gap between Higher Education and Practice Settings

Colin Torrance, Keith Weeks and Peter Lewis

34 Novice to Expert: Nursing Assessment Using Human Patient Simulators

Carolyn Insley and Janet Willhaus

34 Structured Clinical Skills Education Adds Value to Self-directed Learning during Clinical Placement Time

Julia Harrison, Brendan Flanagan and Stuart Marshall

35 Cognitive Apprenticeship: A Model for the Teaching Non-technical Skills to Final Year Medical Students

Tim Gray, Julia Harrison and Brendan Flanagan



WORKSHOPS

Tuesday 11.00am-12.30pm

WORKSHOP 1

35 The Simulation Coordinator: 'To Infinity and Beyond'

Dylan Campher, Andrea Thompson, Kaylene Henderson and Stephanie O'Reagan

WORKSHOP 2

36 How to Set Up Obstetric Simulation in Your Unit

Tim Draycott and Jo Crofts

WORKSHOP 3

36 In Situ Simulation

Andrew Heasley, Mark Hayden and Bruce Lister

FREE PAPERS 3

Tuesday 1.30pm-3.00pm

SESSION 3 – SURGICAL/SIMULATORS

37 Differentiating Levels of Experience on a Virtual Reality Temporal Bone Simulator

Yi Chen Zhao, Stephen O'Leary, Richard Hall and Gregor Kennedy

37 Randomised Control Trial of Cognitive vs Directed Teaching Styles for Laparoscopic Suturing in Medical Students

Sarah Moore, Michael Murphy and Steve Smith

38 Using SimMan 3G to Enhance Healthcare Professionals' Clinical Skills in the Neurological Assessment of the Deteriorating Patient

Lyn Taylor and Irwyn Shepherd

FREE PAPERS 4

Tuesday 1.30pm-3.00pm

SESSION 4 – TEAMS

38 The Team Emergency Assessment Measure (TEAM): Validity, Reliability and Feasibility?

Simon Cooper, Robyn Cant, Jo Porter, George Summers, Ken Sellick, Leigh Kinsman and Debra Nestel

39 A Typology for Healthcare Teams

Pamela Andreatta

39 Centre Operation's Report: How we Built a Simulation Centre within the Emergency Department. The Grass Roots Approach

Jon Hayman

40 Raise the Red Blanket: Rapid Transfer to Theatre for Simulated Critically Ill Trauma Patients

Mark Baldwin and Victoria Brazil

WORKSHOPS

Tuesday 1.30pm-3.00pm

WORKSHOP 4

40 Scenario Design

Jennifer Keast and Elysebeth Leigh

WORKSHOP 5

40 Distributed Simulation: Increasing Access to Simulation Based Education

Debra Nestel and Marcus Watson

WORKSHOP 6

41 Simulation Evaluation Tools: An Imperative for the Discipline

Suzie Kardong-Edgren

WORKSHOP 7

41 Bringing Crisis Management to Life: CRM Bingo

Peter Dieckmann

PLENARY SESSION

Tuesday 3.30pm-5.00pm

PLENARY SESSION 2

41 Non-Technical Skills: A Prescription for Safer Healthcare

Rhona Flin

41 Knowing More About it to Know More With it: Simulation and Research

Peter Dieckmann

WEDNESDAY, 9TH SEPTEMBER 2009

PLENARY SESSION

Wednesday 9.00am-10.30am

PLENARY SESSION 3

42 Obstetrics Simulation: What Works Where

Tim Draycott

42 The Rapid Response Team Paradox: "Why Doesn't Anyone Call for Help?"

Michael Buist

PANEL SESSION

Wednesday 11.00am-12.30pm

OBSTETRICS PANEL

43 Designing and Implementing Structures to Improve Care

Tim Draycott

43 Learning Together to Improve Outcomes in Maternity Care: The FONT Project

Helen Cooke

44 Now You've Got Skills, How Do You Keep Them? In-Situ Simulation with Flat Maggie

Pauline Lyon



FREE PAPERS 5

Wednesday 11.00am-12.30pm

SESSION 5 – INTER-PROFESSIONAL EDUCATION

- 44 **Does SBAR Actually Work? Initial Findings from a 2 Year Prospective Trial**
Neil Cunningham, Julian van Dijk, Tracey Weiland, Nicole Shilkovski, Paul Paddle and Nicola Cunningham
- 45 **The First 5 Minutes: An Inter-professional Learning (IPL) Project Using Simulation**
Katherine Holmes, Nicola Deacy, Carole Watson, Alicia Massarotta, Maggie Brigg and Ted Stewart-Wynne
- 45 **Applying a Psychological Model to Analysis of Behaviour in a Simulation**
Elysabeth Leigh and Werner Naef
- 46 **Learning About Inter-professional Clinical Practice in a Simulated Ward Environment**
Debra Kiegaldie

POSTER ROUND

Wednesday 11.00am-12.30pm

- 47 **Development of the Monash University Simulation Network**
Jennifer Keast and Brendan Flanagan
- 47 **The Potential of Simulation for Aero-medical Mission Rehearsal**
Anthony Hopcraft, Sandra Riley and Marcus Watson
- 48 **Actor Training for Surgical Team Simulations in a Portable Simulation Environment**
Eva S Kassab, Dominic King, Louise M Hull, Nick Sevdalis, Sonal Arora, Roger L Kneebone and Debra Nestel
- 48 **Creating an Immersive Simulation to Support the Development of Non-Technical Skills in Surgical Trainees**
Jennifer Keast, Adrian Anthony, Margaret Bearman, David Birks, Sheryl Cardozo, Ian Civil, Kathleen Hickey, Brendan Flanagan, Brian Jolly, Mary Langcake, Liz Molloy, Debra Nestel and Cathy Steele
- 49 **Development of a Device for Improving the Fidelity of Respiratory Auscultation During Simulations**
Peter Thomas, Daniel Host, Andrea Thompson and Dylan Campher
- 49 **Multi-Parameter Fully Wireless Physiological Monitoring System for a Simulation Training Environment**
Joshua Khoo, Ke Ma and Ian Brown
- 50 **Infection Control: Don't Spread the Glow**
Carolyn Insley, Chavonne Wyatt and Janet Willhaus
- 51 **Phlebology Emergency Crisis Management Course: A Pilot Study**
Martin Rochford
- 51 **The Deteriorating Patient – Simulation Training for Medical Students and Junior Doctors**
Adam Rehak, Stephanie O'Regan, Jenny Ludeman and Jacqui Langeris
- 52 **Multidisciplinary Crew Resource Management (CRM) in Health Care: Is Combined Classroom and Simulation-based Training Additive or Synergistic?**
Robyn Clay-Williams, Catherine McIntosh, Ross Kerridge and Jeffrey Braithwaite

WORKSHOPS

Wednesday 11.00am-12.30pm

WORKSHOP 8

- 52 **'Rural Round Up'**
Jennene Greenhill and Leanne Rogers

WORKSHOP 9

- 53 **Research Methods**
Peter Dieckmann

WORKSHOP 10

- 53 **Courses for Horses: How Different Approaches to Scheduling Training Suit Different Organisations**
Leonie Watterson, Julian Van Dijk, Janet Chan and Peter Cosman

FREE PAPERS 6

Wednesday 1.30pm-3.00pm

SESSION 6 – SIMULATED PATIENTS

- 54 **Triage Training: Virtual Reality vs Standardized Patients**
Jen Frankel and Pamela Andreatta
- 54 **Using Human Simulated Patients (SPs) in Medical, Nursing and Health Professional Education – A Review of the Literature**
Debra Nestel and Tracy Morrison
- 55 **Evaluation of a University Wide Simulated Patient Database – MonSim**
Debra Nestel, Tracy Morrison, Brian Chapman, Sheryl Cardozo, Jenny Keating, Cathy Haigh, Laura Dean, Jonathan McConnell, Jill French, George Somers and Chris Browne
- 55 **A Novel Use of Simulation to Increase Attention to Patient-centred Care for Vaginal Examination**
Sheila Klimczyk, Mareen Harris, Joyce Hendricks

FREE PAPERS 7

Wednesday 1.30pm-3.00pm

SESSION 7 – VIRTUAL REALITY

- 56 **The Impact of Non-Verbal Communication in Virtual-Environment-Based Teamwork Training**
Stefan Marks, John Windsor and Burkhard Wünsche
- 56 **A Decade of Developing Virtual Reality Medical Simulators: Mistakes Made and Lessons Learned**
Alan Liu and Gilbert Muniz
- 57 **3D ROSE: A Virtual Reality Radiation Oncology Simulation Environment**
Iwan Cornelius, Laz Kastanis, Darren Pack, Andy Boud, Chris Poole and Christian Langton
- 57 **What Components of Simulation Courses can be Optimised by e-learning**
Niall Higgins, Stephen Francis, Richard Campbell, Joshua Harvey and Marcus Watson



ROUND TABLE

Wednesday 1.30pm-3.00pm

58 ROUND TABLE 1 - SIMULATION INSTRUCTOR CERTIFICATION

FREE PAPERS 8

Wednesday 1.30pm-3.00pm

SESSION 8 - OPERATIONS AND LOGISTICS

- 58 The Operationalisation of a Simulation Centre in a New Graduate-Entry Medical School in Regional Australia**
Kathleen Cartwright, David Birks, Caroline Rossetti, George Somers, Debra Nestel and Chris Browne
- 59 CRM Behind the Screen: Planning and Logistics Template for Multi-scenario Research**
Kaylene Henderson
- 59 Introduction to Simulation Instruction and Facilitation Program**
Irwyn Shepherd
- 60 US Military Medical Simulation: State of the Art**
Gilbert Muniz and Alan Liu

WORKSHOPS

Wednesday 1.30pm-3.00pm

WORKSHOP 11

- 60 Teaching Undergraduates Methods in Simulation**
Harry Owen and Cyle Sprick

WORKSHOP 12

- 60 Writing for Publication: You Can Do It**
Suzie Kardong-Edgren

PLENARY SESSION

Wednesday 3.30pm-5.00pm

PLENARY SESSION 4

- 60 A 50,000 Foot View of Simulation from a 12,500 Foot Kinda' Gal**
Suzie Kardong-Edgren
- 61 Producing the New Health Professional: Inter-Professional Learning and 'Joined Up Practice'**
Alison Lee

THURSDAY, 10TH SEPTEMBER 2009

BREAKFAST SESSIONS

Thursday 7.30am-9.00am

ASK THE EXPERTS: RESEARCH I AM TRYING TO DO?

- 61 Simulation and its Effect on Clinical Decision Making: A Constructivist Investigation**
Jacinta Secomb
- 62 Software Framework for Performance Assessment in Medical Training Simulations**
Greg Ruthenbeck and Fabian Lim
- 62 Introducing Team STEPPS into Medical Education via Clinical Simulation**
Peter Loa

FREE PAPERS 9

Thursday 9.00am-10.30am

SESSION 9 - TECHNICAL

- 63 The Development of a Haptic Device for Abdominal Palpations in Colonoscopy Simulation**
Mario Cheng, Marcus Watson, Stephan Riek, Josh Passenger and Olivier Salvado
- 63 Evaluation of the Trucorp and iSTAN as a Training Tool for Supraglottic Airways**
Colin Torrance, Alan Jones and Alun Jenkins
- 64 Comparison of Respiratory Mechanics on the METI Emergency Care Simulator and Human Patient Simulator using Physiologically Modeled Lung Volumes**
Dylan Campher, David Liu, Lara Brewer and Simon Jenkins
- 64 Are Mannequin Chests an Accurate Representation of a Human Chest?**
Malcolm Boyle and Brett Williams

FREE PAPERS 10

Thursday 9.00am-10.30am

SESSION 10 - PROGRAM EVALUATION

- 65 Participant or Observer - Is the Learning the Same? A Student Perspective**
Monica Peddle
- 65 Manikin to the Market: Insitu Paediatric Simulation using Simbaby and SimnewB**
Irwyn Shepherd and Lyn Taylor
- 66 The Clinical Impact of a Pediatric Mock-Code Program**
Pamela Andreatta, Michael Marsh and Gail Annich
- 66 Watch and Learn: Evaluating Scenario Based Learning Outcomes in Participant and Observer Groups**
Andrea Thompson, Victoria Hynes, Dane Barclay, Stephanie Fox-Young, Elesha Toscano, Pauline Varghese and Tracey Brandis



ROUND TABLE

Thursday 9.00am-10.30am

- 67** ROUND TABLE 2 – ACCREDITATION OF SIMULATION PROGRAMS

WORKSHOPS

Thursday 9.00am-10.30am

WORKSHOP 14

- 67** Facilitating Simulation Using Actors and Standardised Patients: Tools and Techniques
Christopher Churchouse and Kirsty Bayley

WORKSHOP 15

- 68** Introduction to Setting up an AV System for Teaching
Chris Carpenter, Sue Wulf and Martin Rochford

WORKSHOP 13

- 68** The Value of Multi-source Feedback and Reflection Tools for Learning Within the Simulation Environment
Margaret Bearman, Brian Jolly, Elizabeth Molloy and Debra Nestel

ROUND TABLE

Thursday 11.00am-12.00noon

ROUND TABLE 3 – POLICY

- 69** Policy – What the Future Holds?
Peter Carver

POSTERS

On Display: Tuesday 8th September 2009 – Thursday 10th September 2009

Poster Discussions: Tuesday 8th September 2009 (1700–0900)

Poster Round: Top Ten Presentations (P1 – P10) Wednesday 9th September 2009 (1100–1230)

P1

- 69** Development of the Monash University Simulation Network
Jennifer Keast and Brendan Flanagan

P2

- 70** The Potential of Simulation for Aero-medical Mission Rehearsal
Anthony Hopcraft, Sandra Riley and Marcus Watson

P3

- 70** Actor Training for Surgical Team Simulations in a Portable Simulation Environment
Eva S Kassab, Dominic King, Louise M Hull, Nick Sevdalis, Sonal Arora, Roger L Kneebone and Debra Nestel

P4

- 71** Creating an Immersive Simulation to Support the Development of Non-technical Skills in Surgical Trainees
Jennifer Keast, Adrian Anthony, Margaret Bearman, David Birks, Sheryl Cardozo, Ian Civil, Kathleen Hickey, Brendan Flanagan, Brian Jolly, Mary Langcake, Liz Molloy, Debra Nestel and Cathy Steele

P5

- 71** Development of a Device for Improving the Fidelity of Respiratory Auscultation During Simulations
Peter Thomas, Daniel Host, Andrea Thompson and Dylan Campher

P6

- 72** Multi-Parameter Fully Wireless Physiological Monitoring System for a Simulation Training Environment
Joshua Khoo, Ke Ma and Ian Brown

P7

- 73** Infection Control: Don't Spread the Glow
Carolyn Insley, Chavonne Wyatt and Janet Willhaus

P8

- 73** Phlebology Emergency Crisis Management Course: A Pilot Study
Martin Rochford

P9

- 74** The Deteriorating Patient – Simulation Training for Medical Students and Junior Doctors
Adam Rehak, Stephanie O'Regan, Jenny Ludeman and Jacqui Langeris

P10

- 74** Multidisciplinary Crew Resource Management (CRM) in Health Care: Is Combined Classroom and Simulation-based Training Additive or Synergistic?
Robyn Clay-Williams, Catherine McIntosh, Ross Kerridge and Jeffrey Braithwaite

P11

- 75** Simulation Training for RMOs – Evaluating the Effectiveness in Transferring Theory into Practice
Jon Hayman and Paul Hudson

P12

- 75** Pencil to Practice: Nursing Student Recognition of an Emergent Patient Condition
Rebecca Sander and Janet Willhaus

P13

- 76** Contextualising a Generic Trauma Team Training Curriculum for One Organisation's Local Practices and Environment
Stephanie O'Regan, James Kwan, Duncan Reed and Leonie Watterson

P14

- 76** Actor Training for Surgical Team Simulations in a Simulated Operating Suite
Eva S Kassab, Louise M Hull, Dominic King, Sonal Arora, Nick Sevdalis, Roger L Kneebone and Debra Nestel

P15

- 77** Three Phases of Simulation and Influence of Bloom's Domains Embedded in Effective Simulation
Chris Huggins

P16

- 77** Evaluating the Impact of Multiple Critical Care Simulations within a Large Cohort of Undergraduate Nursing Students
Jon Mould and Haidee White



P17

- 78 "Workplace-based Simulation Training": How to Combine Off-JT and OJT as a Human Performance Improvement (HPI) Program**

Daisuke Sugiki, Toshirou Kamisasanuki, Hiroko Iwashita, Toshio Miyahara, Koujiro Yamada and Keiichi Ikegami

P18

- 78 Recognising, Escalating and Treating the Deteriorating Patient – Instilling Confidence in New Graduate Nurses using Simulation**

Paul Hudson, Amanda Yates and Aaron Jones

P19

- 79 International Collaboration to Develop a New Web-based Recourse Centre for Simulation Educators – Introducing the SIRC**

Michelle Kelly

P20

- 79 Crisis Management Training Course for Nurses in Japan: How to Teach 6th Sense of Experienced Nurses to Novice?**

Emiko Asaka, Izumi Kawai, Daisuke Sugiki and Keiichi Ikegami

P21

- 80 Use of Two Tools to Objectively and Subjectively Assess the Efficacy of Simulation in Critical Care Scenarios**

Graham Reece

P22

- 80 Novice Nurses E-learning and Mannequin Simulator-based Training Design and Evaluation**

Takako Yoshizato, Dennis Arturo Ludeña Romaña and Maria Luisa Catalan

P23

- 81 Clinical Alignment Workshops for Doctors-in-Training**

Marnie Connolly

P24

- 81 International Doctors in the Workplace: Supporting Victoria's IMGs through Clinical Skills and Simulation Based Training**

Stuart Dille, Con Georgakas, Neil Cunningham, Robert O'Brien and Julian Van Dijk

P25

- 82 The Deteriorating Patient: Simulation Training for Junior Registered Nurses and Endorsed Enrolled Nurses**

Stephanie O'Regan, Adam Rehak, Leonie Watterson, Jenny Neilsen and Jacinta Kilpatrick

P26

- 82 Planting Seeds: Fostering Undergraduate Inter-professional Practice through Scenario Based Simulation**

Tracey Brandis, Elesha Toscano, Pauline Varghese, Andi Thompson, Fiona Bogossian, Kevin Forbes, Phillipa Neads, Victoria Hynes, Dane Barclay and Stephanie Fox-Young

P27

- 83 Basic Life Support Education through the Use of High Fidelity Simman and Immersive Simulation: Improving Confidence and Competence in Resuscitation Technique**

Nigel Chong and Mark Zasadny

P28

- 83 Emergency Airway Management Course for Nurses Using High-Fidelity Simulation in Korea**

Junho Cho and Hyun Soo Chung

P29

- 84 The Analysis of Team Performance Factors during Critical Care Scenarios Using Colour Coded, Three Dimensional Graphical Profiling – the H.E.A.T. Profile**

Graham Reece

P30

- 84 Integration of Simulated Learning Activities to Improve Student Satisfaction**

Joanne Gray, Rachel Smith, Caroline Homer and Raymond Jane

P31

- 85 Simulation Beyond Skills to Clinical Reasoning**

Chris Huggins

P32

- 85 Innovative Use of Simulation with Masters' Students – Purpose Built Team Scenarios to Improve Practice**

Michelle Kelly

P33

- 86 Extending Patient Simulation Capabilities Addition of a Tympanic Thermal Output Simulator for a Low Fidelity Patient Simulator Mannequin**

John Forbes and Chris Carpenter

P34

- 86 An Australian National Health Innovation and Training Network**

Mike Rebbechi

P35

- 87 A Good Simulation Spoilt by the Real World**

Stewart Montano

P36

- 87 The Contribution of Simulation-based Training in Paediatric Sedation to the Institutional Quality Improvement Process**

Susan M Lord, Cate McIntosh and Kathryn Davies

P37

- 88 Introducing Clinical Safety Early in the Undergraduate Curriculum: A Pilot of a Simulation-Based Course**

Stuart Marshall and Helen Kolawole

P38

- 88 A Private Healthcare Service Best Practice Patient Safety Strategy Using Simulation**

Irwyn Shepherd, Lyn Taylor, Sam Ho and Louise O'Connor

P39

- 89 Take a Step to the Left: The Benefits of Cross-training in the Simulation Environment**

Melinda (Min) Berry

P40

- 89 Exercising Surge Management with Simulated Scenarios**

Nick Howden, Julie Trpkovski, Dan Zikovitz and Richard Hodge

P41

- 90 'The Drugs Don't Work': Or Maybe They Do**

Lisa McCoy and Dylan Campher



TUESDAY, 8TH SEPTEMBER 2009

PLENARY SESSION

Tuesday 9.00am-10.30am

PLENARY SESSION 1 – INTERACTIVE VIDEO SESSION

An Inconvenient Truth ... Addressing Real World Issues with Simulation

Written and produced by the staff of the Southern Health Simulation & Skills Centre, Monash Medical Centre, Southern Health, Vic.

With special thanks to Ambulance Victoria and Laerdal Australia.

Watch as a patient's journey unfolds and participate in an interactive audience discussion to explore real patient safety problems in the work place. Can simulation assist in addressing the needs of the healthcare workforce? Let's get talking and discuss how to best use simulation to enhance workplace learning and address patient safety concerns.

PRESENTATIONS

Tuesday 11.00am-12.30pm

PRESENTATIONS

DOHA sponsored Non-Technical Skills (NTS) In Synthetic Learning Environments Project: Achievements and Lessons

Non-Technical Skills (NTS) in Synthetic Learning Environments for Specialist Trainees: Results of the ASSH and DOHA Funded Consultancy Project

Robert O'Brien, Debbie Paltridge, Tracey Weiland, Stuart Dilley, Neil Cunningham, Julian van Dijk and Tess Vawser

Aim

Demonstrate how Non Technical skills (NTS) relevant to accredited specialist training are taught in synthetic learning environments (Simulation) contribute to patient safety and compliment clinical skills in increasing patient safety.

Background

The Australian Federal Government Department of Health and Aging funded the Australian Society for Simulation in Healthcare to conduct a consulting project looking at the teaching of non technical skills in simulated learning environments. St Vincent's

Hospital, Melbourne, was the successful tendered for this project to undergo a three stage process.

1. Engagement process / Literature Review
2. Training Needs Analysis and Curriculum Mapping
3. Piloting Process.

Methods

An extensive Literature Review was undertaken into the use of simulation at postgraduate medical level for the teaching of NTS. These results were then used to flow into the Training Needs Analysis (TNA) and Curriculum mapping process. Three variations of an online TNA questionnaire were designed using a modified Delphi technique. Questionnaires were sent the following groups from three Australian specialist training colleges:

1. College Administrators
2. Trainees
3. Trainers/educational supervisors.

Items addressed demographics, current NTS skills education and simulation-based training programs.

The data from the TNA was analysed both quantitatively and qualitatively using Microsoft Excel, and SPSS 15.0 software (Chicago IL). Where possible data were analysed using Pearson's Chi-square or Fisher's test. The curriculum mapping and additional interview with supervisors and trainers outlined when and how skills were introduced and reinforced in the learning process and compared against the data from the TNA. The results of the TNA and curriculum mapping process then further informed pilot providers of the content and possible delivery methods.

Conclusions

The results of the Literature Review, TNA and curriculum mapping process in conjunction with the piloting of the simulation based NTS courses will be discussed to assist in looking at how patient safety levels can be increased and compliment the teaching of clinical skills by specialist training colleges.



Developing Non Technical Skills for Surgical Trainees Using Simulation

Margaret Bearman, Adrian Anthony, David Birks, Sheryl Cardozo, Ian Civil, Kathleen Hickey, Brian Jolly, Jennifer Keast, Brendan Flanagan, Mary Langcake, Elizabeth Molloy, Debra Nestel and Cathie Steele

Aim

This presentation describes a pilot course designed to teach surgical trainees non-technical or professional skills using a range of immersive simulation methodologies.

Background

This two day program is part of a wider project exploring the use of simulation in specialist medical training to teach non-technical skills, funded by the Department of Health and Aging (DoHA).

Methods

The project team comprised simulation and educational experts from Monash University, Faculty of Medicine, Nursing and Health Sciences as well as clinical educators from the Royal Australasian College of Surgeons (RACS). The course was based upon a feedback-reflection-experience cycle and contained three main components:

- Learning conferences where a trainee, an educational facilitator and a surgical educator discussed learning goals based upon multi-source feedback collected from the workplace.
- Three scenarios which focused on developing patient-doctor communication skills through the use of simulated patients.
- Teamwork skills development sessions, including two adaptive simulation scenarios using manikins.

Results

RACS recruited twelve surgical trainees from a six surgical specialties who completed the pilot at the Centre for Health Innovation, the Alfred Hospital in March 2009. An internal evaluation noted a generally positive response and that teaching faculty were 'pleased with the level of participant engagement'. A number of areas for improvement were noted, including logistics and continuity. Trainees additionally suggested expanding the course to include developing collegial communication skills using simulated patients.

Conclusions

This pilot program indicates the potential value that simulation has for surgical trainees in developing their communication, teamwork and other professional skills.

Developing Communication Skills for a Ophthalmological Setting

Gary Eves

Background and Aims

The quality of communication between health care professionals, their patients and team members is long recognised as impacting on the quality of care received by patients. The question remains: how can health care professionals be trained in non-technical skills? The Australian Society for Simulation in Healthcare (ASSH) contracted several organisations including QinetiQ and the University of Queensland Centre for Medical Education (UQ CME) to develop a course that promoted non-technical skills for specialists in training in a synthetic learning environment.

The program QinetiQ and UQ CME developed was a two day workshop run in Brisbane for the Royal Australian and New Zealand College of Ophthalmologists delivered to 14 second year trainees. The course used various learning methods to focus on three main scenarios where the importance of high quality communication is paramount.

Methods

The three scenarios were pre-operative consultation, post operative consultations and operating theatre. In order to maximise the realism, and therefore the trainees engagement experienced actors or the students themselves were used to play different roles in each situation. Interacting within and observing the scenario's provided trainees with an opportunity to develop their communication skills in a risk free setting and the techniques to develop formal plans before they face difficult situations with a patient.

Conclusion

This pilot course for teaching via a synthetic environment was very well received and considered by ASSH to be a successful method of imparting non-technical skills to health care professionals. The use of multimodal formats including, case-based learning, role play, scenario's and debrief proved to be a relatively quick method of establishing the core elements of quality communication techniques in a way that could be immediately applied in the trainee's professional life.



Non-Technical Skills (NTS) Training for Specialist Trainees Using Simulation – A Pilot Course for Intensive Care Trainees

Janet Chan, Stewart Dunn, Priya Nair, Margaret Bramwell, Leonie Watterson, Charlie Corke and Peter Morley

Background and Aim

The Commonwealth of Australia funded an initiative (managed by the Australian Society for Simulation in Healthcare (ASSH)) aimed at promoting NTS relevant to specialist training in synthetic learning environments. NTS are cognitive functioning and observable behaviours that underpin safe and effective clinical practice.

The aims of this project were to develop and pilot a curriculum of NTS using Simulation for ICU trainees.

Methods

We identified the areas of Advanced Communication in the context of Family Conferencing (breaking bad news, open disclosure, conflict resolution, aspects of End-of-Life (EOL) care) and Crisis Resource Management as particular NTS pertinent to Intensive Care practice that lend themselves well to the simulated environment. Collaborating with the Joint Faculty (JFICM), Communication, CRM and other content experts, a 2-day course incorporating didactic presentations, workshops and a variety of simulation techniques including simulated patients (professional actors), hybrid and high fidelity simulation was run for 11 trainees at St Vincent's Hospital Sydney.

Participant evaluation was obtained through pre and post-course questionnaires.

Results

Overall the course rated highly for relevance, realism, course quality and simulation experience. Participants were unanimous in recommending the course to colleagues. All but one participant felt there they had the opportunity to practice skills they otherwise were not able to during their training. Obtaining feedback about their communication skills during the simulations was valuable to their learning experience. While only half the group was experienced in leading family discussions, by the end of the course, all felt confident in leading a discussion involving breaking bad news and EOL decisions.

Conclusions

The learning objectives of this pilot course were achieved effectively with the use of various Simulation techniques. The feedback suggests that this course is relevant to ICU training and could address potential gaps in the curriculum. The challenges at hand relate to reproducibility and feasibility, and tying learning objectives to improved practice.

References

1. Simulation Industry Association of Australia Ltd – Contractor's Agreement November 2008

FREE PAPERS 1

Tuesday 11.00am-12.30pm

SESSION 1 – CURRICULUM DESIGN

Assessing Staff Beliefs: Anticipating and Navigating the Obstacles when Introducing Simulation into an Undergraduate Nursing Curriculum

Karen Livesay, Karen Lawrence and Clive Miller

Aim

The aims of the study were to identify the barriers staff perceived about the integration of simulation into a new undergraduate nursing curriculum.

Background

Most schools of nursing are contemplating placing greater emphasis on the use of simulation, however as this presents a significant pedagogical change it is vital to identify the likely obstacles so that they may be addressed.

Methods

Nineteen in-depth, semi-structured interviews were conducted with faculty in a school of nursing and midwifery. Thematic analysis of the data was carried out.

Results

A range of congruent and competing themes emerged from the data reflecting beliefs about the plan to introduce simulation to a large student population. These included pessimism related to self belief, students tolerating observation and the confronting nature of the learning. Additionally, inflexible timetables, class size and workload recognition were acknowledged as system related themes, while concern about the clinical currency of academic staff also emerged.

Conclusions

The themes reflect the knowledge and experience staff had of simulation and highlighted their anxiety or comfort about using this pedagogy whilst demonstrating a high level of knowledge and concern about student related issues. Addressing the perceived barriers to implementation is an important consideration when introducing change to teaching and learning methods.



Preparing Academic Staff for the Introduction of Simulation: Perceived Needs and Implications

Clive Miller, Karen Lawrence and Karen Livesay

Aim

The aim of the study was to investigate the needs of academic staff prior to the introduction of simulation into a new undergraduate nursing curriculum.

Background

This work is part of a wider study into the introduction of simulation into all levels of a new undergraduate curriculum within a School of Nursing.

Methods

Nineteen in-depth, semi-structured interviews were conducted with faculty in a school of nursing and midwifery. Thematic analysis of the data was carried out.

Results

Two significant themes were identified in the data:

- (i) the need for staff development,
- (ii) the need for ongoing staff support.

The need for staff development was addressed directly and indirectly. Some participants expressed this as 'need more knowledge' and need for 'written resources'. The need for staff support highlighted the perceived requirement for technical and 'expert' support, including assistance from clinical staff to develop scenarios, and the need for smaller tutorial groups.

Conclusions

Development of adequate resources is a strong factor in reducing the likelihood of resistance when introducing simulation. It is recommended that preparation to implement simulation include provision of both human and financial resources to support staff development throughout the implementation process.

Observational Simulation: The Key to Meeting the Learning Needs of an Inter-professional Healthcare Team

Christopher Churchouse and Kirsty Bayley

Aim

This presentation will examine the intricacies of developing and facilitating inter-professional observational simulation based training programs. Using an obstetric emergency based simulation, where over 100 staff were put through a training program, the presenters will provide participants with the resources necessary to implement this form of simulation within their own facilities.

Background

Simulation is used mostly to meet the needs of small groups of participants. This is incredibly resource intensive in terms of staff, equipment, and time, which ultimately equals money. For health care facilities wishing to utilise simulation as an effective teaching methodology to educate a large number of staff, it becomes a logistical and financial impossibility. Edith Cowan University's Health Simulation Centre has developed observational simulation as a means of meeting the clinical education goals of the health sector, address their needs in relation to providing:

- programs that are cost effective
- inter-professional learning opportunities
- course content focusing on the non-technical skills such as communication and teamwork.

Methods

More than 100 obstetric & midwifery staff from a local obstetric unit were rostered over three separate days, to attend the 4 hr simulation. This involved observing the simulation and partaking in small facilitator guided discussion around the critical incident observed. The key learning objectives included:

- communication
- teamwork
- adherence to policy & procedure.

Results/Conclusions

The results of the entire unit participating in this observational simulation based program will not be quantifiable in the short term. The health care facility involved will review their obstetric emergency management over the next 12 months to see if staff communication, teamwork and ultimately patient safety improves.



Cabin Fever: In-situ Simulation of Airborne Emergencies for the Royal Flying Doctor Service

Mark Baldwin and Victoria Brazil

Aim

The program used in-situ simulation in an operational aircraft to enable facilitated experiential learning of a range of in-flight emergencies.

Background

The Royal Flying Doctor Service (RFDS) comprises a heterogeneous group of practitioners providing primary care and aeromedical critical care.

The management of in-flight emergencies was recognized as a unique challenge that requires tailored education.

The Royal Flying Doctor Service contracted us to deliver an educational program including in-situ simulation within their aircraft.

Methods

An operational RFDS aircraft was positioned in the Cairns Base Hangar adjacent to office facilities. The aircraft was fitted with audiovisual equipment and a second generation Laerdal Simman. A control room was improvised in the medical equipment store and the lounge was configured as a debriefing room.

Simulated patients were established in the aircraft and two person (doctor/nurse) teams were given handover (consistent with usual practice at shift changeover) outside the aircraft.

The teams would manage their patient through crises of varied acuity and return for facilitated debrief with their peers, who observed the process throughout from the debrief room.

Results

16 medical officers, 5 flight nurses and one paramedic participated in the program on August 16 and 17 2008. The in-situ component was rated the most valuable part of the program by the majority of participants and further sessions are planned in November 2009.

Conclusions

In-flight emergencies present unique cognitive and resource challenges for aeromedical staff. In situ simulation as part of a larger program enables RFDS professionals to experience and review infrequent but critically important conditions within the context of their specialised environment.

FREE PAPERS 2

Tuesday 11.00am-12.30pm

SESSION 2 – UNDERGRADUATES

Cognitive Apprenticeship & Authentic Assessment within High Fidelity Simulated Clinical Environments: An Education Framework for Bridging the Gap between Higher Education and Practice Settings

Colin Torrance, Keith Weeks and Peter Lewis

Background

A key driver behind the design and employment of authentic learning environments and authentic assessment is the requirement to bridge the perceived gap that exists between the processes of instruction, learning and assessment (Boud 1990, Gulikers et al 2004). Nowhere is this more critical than in the health care professions where learning and assessment schedules must support and measure the construction, synthesis and meaningful application of the knowledge, problem-solving and professional skills that underpin safe professional practice.

Previous & current work being undertaken in the field of simulation: Following 16 years of research and development of computer based authentic learning and assessment environments (Weeks et al 2000, 2001, 2006), our focus has now extended to application of the underpinning education model within high fidelity simulated clinical environments. We will explore how a cognitive apprenticeship framework (Collins, Brown & Newman 1989) has been employed to:

1. Model and capture expert problem-solving processes via demonstration and use of video technology
2. Support learning via the processes of coaching and scaffolding
3. Facilitate articulation of learner's knowledge and skill
4. Support reflection upon learner performance and diagnosis of errors via comparison of student performance with expert models.

Presentation Context

The context of the presentation will focus on the authentic assessment, reflection and feedback processes employed in the education of pre-registration nursing students when engaged in the management of an acute clinical emergency.

Conclusions

Performance outcomes and nursing student evaluations following engagement in this innovative immersive learning and assessment environment will be presented.

Take Home Messages

Employment of a cognitive apprenticeship and authentic assessment model offers a robust and practical education framework for both supporting learning and assessment within simulated clinical environments and bridging the gap between higher education and practice settings



Novice to Expert: Nursing Assessment Using Human Patient Simulators

Carolyn Insley and Janet Willhaus

Aim

This presentation describes the use of simulators with beginning nursing students in a nursing health assessment lab. The method gives students an opportunity to assess abnormal lung, cardiac and bowel sounds.

Background

Simulation of clinical situations has become more sophisticated with the introduction of human patient simulators. Simulation is used in nursing education to provide students with a safe environment in which to practice and improve clinical skills, gain self confidence, and reduce fear in caring for real patients. Patricia E. Benner's theory of novice to expert supports student skill acquisition with basic physical assessment. This course combines practice on fellow students with human patient simulators. David Kolb's experiential learning theory provides a basis for a simulated patient scenario for learning abnormal findings. The use of a human patient simulator also appeals to the predominant psychomotor-kinesthetic learning style of many of today's nursing students. This type of learning states that students learn best when doing actual hands-on activities. This method utilizes both the cognitive and psychomotor domain to practice skills.

Methods

Beginning nursing students learn basic assessment skills in a lab where they practice on fellow students after instructor demonstration and explanation. Simulators allow students to listen to normal and abnormal breath, heart and bowel sounds not present in peers. Near the course conclusion students receive scenarios and are instructed to do head-to-toe assessments of patient simulators. The scenarios include adult male, adult female and child simulators. The students then describe and document their findings of the simulated patients.

Results

Students report that they better grasp what they are listening for when assessing actual patients and report more confidence with assessment skills. Instructors report both advantages and disadvantages with this teaching method.

Conclusions

The use of simulators for teaching basic assessment skills to beginning nursing students positively enhances learning.

Structured Clinical Skills Education Adds Value to Self-directed Learning during Clinical Placement Time

Julia Harrison, Brendan Flanagan and Stuart Marshall

Clinical exposure for students is becoming a limited resource. This presentation will delineate some educational strategies that may help to optimally prime students for learning in the clinical environment.

Background

Final year medical students at Monash University undergo six six-week ward placements, plus a five day Patient Safety Unit interspersed throughout the year. The Patient Safety learning activities include simulation scenarios, workshops, lectures, discussion, games, readings and on-line activities(1). Feedback from students during the first year (2006) of the Patient Safety unit suggested that the contact days were influencing the way they learned during subsequent clinical placements. This warranted further exploration.

Methods

Student responses to a combination of open and closed questions were sought, (n = 161 and 92% response rate).

Results

This data revealed 84% of students strongly agreed that the Patient Safety Unit enhanced learning during clinical placements. The major themes emerging from the responses to the question "If the Patient Safety unit enhanced your learning during clinical rotations please describe how" include improved confidence, better clinical skills, awareness of patient safety, ability to reflect and critique self and others, enhanced communication and clearer thought processes. The authors will elaborate on this data and share their thoughts on what aspects of the Patient Safety program may be responsible for the effect on learning in the clinical environment.

Conclusions

Our data suggests that "time out" of the clinical environment, if well used, can enhance "time in" the clinical environment.



Cognitive Apprenticeship: A Model for the Teaching Non-Technical Skills to Final Year Medical Students

Tim Gray, Julia Harrison and Brendan Flanagan

Background

The acquisition of sound advanced life support (ALS) skills is an important component of making final year medical students 'fit to practice' as interns the following year. Traditionally students have been taught basic skills and are expected to learn the non-technical and cognitive aspects of managing unwell patients 'on the job'. This presentation outlines an alternative model for ALS skills teaching. Based on the principles of cognitive apprenticeship and situated cognition, the model aims to better prepare medical students for clinical practice by teaching the cognitive as well as the technical skills required for assessment and management of acutely unwell patients then allowing them to practice these skills in a realistic simulated clinical environment.

Methods

ALS is a core theme of a five day teaching module on Patient Safety in Healthcare run for final year medical students at our centre. Students learn and consolidate technical and non-technical ALS skills using techniques of modelling, coaching, and 'scaffolding' in small group workshops and simulator-based scenarios using a 'pause and discuss' format in a realistic clinical environment.

Results

The cognitive apprenticeship model is a useful framework to help shape meaningful simulation based education. It's use has been described previously in the teaching of technical skills. We have demonstrated that non-technical skills can be effectively taught using this model.

Conclusions

We have developed a model for ALS skills teaching that aims to improve final year medical students 'fitness-to-practice' by teaching them the technical as well as the non-technical skills needed to manage acutely unwell patients prior to commencing clinical practice as interns.

WORKSHOPS

Tuesday 11.00am-12.30pm

WORKSHOP 1

The Simulation Coordinator: 'To Infinity and Beyond'

Dylan Campher, Andrea Thompson, Kaylene Henderson and Stephanie O'Reagan

Aim

This discussion aims to identify some essential criteria to initiate discussion on the potential for standardisation of the role description, training and the development of core competencies as it pertains to the emerging profession of simulation coordinator/ technician/educator.

Background

In the past decade, simulation-based training in healthcare has experienced rapid growth (1, 2, and 3). Consequently, the need for specialty staff to deliver realistic simulation based experiences for students and clinicians is also paramount.

At the heart of simulation-based training is the 'simulation coordinator/technician/educator', a simulation specialist who is an 'expert' in the delivery of 'simulation activities' that are consistent with 'desired simulation goals' (2). While recognised as a key member of the simulation team, typically simulation coordinators/ technicians/educators, come from varied clinical and non-clinical backgrounds, their role is often poorly defined, and their training is often ad-hoc in nature and localised to individual centres.

A more focused approach to describe where the profession fits and the boundaries the position operates within is necessary to provide a standard approach across facilities.

References

1. Kneebone, R: Crossing the Line: Simulation and Boundary Areas. *Simul Healthcare*, 2006; 1: 160-163
2. Seropian, M, Driggers, B, Gubrud-Howe, P. The Oregon Simulation Experience: A Statewide Simulation Network and Alliance. *Simul Healthcare*, 2006; 1: 56-61
3. Salas, E, Wilson, K, Shawn Burke, C, Priest, H. Using Simulation-Based Training to Improve Patient Safety: What does it take? *Journal on Quality & Patient Safety*. July 2005; Vol 31, Number 7



WORKSHOP 2

How to Set Up Obstetric Simulation in Your Unit

Tim Draycott and Jo Crofts

In the UK the Confidential Enquiry into Maternal and Child Health has repeatedly identified substandard care in a significant proportion of maternal, fetal and neonatal deaths, and have recommended multi-professional training for emergencies since 1997. This has recently been reiterated by the Kings Fund (2008) who recommended: 'all maternity teams should undertake simulation-based training with clinical, communication and team skills for all maternity staff, ideally within their own units'.

We have previously demonstrated that training improved knowledge for, and management of, simulated obstetric emergencies and is associated with improved real life outcomes: 50% reduction in number of babies with Apgar <7 at 5 mins, a 70% reduction in brachial plexus injury after Shoulder Dystocia as well as shorter decision-delivery intervals for cord prolapse.

However, not all training is equal, or effective. Moreover there is no standard curriculum or set of drills to use and small units in particular may be disadvantaged due to lack of staff time to facilitate training.

In this simulation workshop we will demonstrate a multi-professional team approach to the evidence-based management of three important obstetric situations: shoulder dystocia, PPH and cord prolapse, using low cost props, high fidelity part-task trainers and standardized patients that provide environmental fidelity and team communication benefits. We will use the PROMPT course Trainers Manual to illustrate how best to set up the drills; with standard equipment lists, drill scenarios, learning objectives and validated measurement tools for clinical and teamwork outcomes.

Participants will be able to use the course materials to help them set up Obstetrics drills in their own units, in the most cost-effective manner.

WORKSHOP 3

In Situ Simulation

Andrew Heasley, Mark Hayden and Bruce Lister

In May 2008 a simulation bed space was created within the Mater Children's PICU Unit to help manage the risks associated with relocating the Queensland Paediatric Cardiac Services. With the support of the Queensland Health Skills Development Centre the PICU simulation bedspace and mannequin have developed into a pocket simulation centre.

There are several advantages of having a pocket simulation centre located within the clinical area. The fidelity of the simulations is higher than those that can be generated in a simulation centre as everything other than the mannequin is real. Staff are familiarized with their own environment, equipment and processes. Training can be dynamic with a broad range of potential applications that can be tailored to meet the organization's specific educational needs. Its accessibility gives it potential for high usage and it is also very effective for recruitment as the training offered is attractive to prospective employees.

There are also unique challenges associated with running insitu simulations. Overcoming problems like freeing up participants from a busy workplace can be difficult to achieve. Staff anxiety and resistance to peer evaluation requires careful management. There are also patient safety concerns if expired or fake drugs are used within a clinical environment.

This workshop will take the participants on a journey through the set up of a pocket simulation centre discussing the potential applications, the challenges and the key ingredients for success. Participants will have opportunity to plan insitu simulations to meet the unique educational needs of their own workplace.



FREE PAPERS 3

Tuesday 1.30pm-3.00pm

SESSION 3 – SURGICAL/SIMULATORS

Differentiating Levels of Experience on a Virtual Reality Temporal Bone Simulator

Yi Chen Zhao, Stephen O'Leary, Richard Hall and Gregor Kennedy

Background

Cadaver temporal bone dissection exercises are the foundation of otological surgical training. However with increasing number of trainees and shortage of cadaver temporal bones investigation of other surgical training tools has begun. Virtual reality simulation is increasingly been incorporated into surgical training. We have developed a temporal bone simulator that immerses the user in a virtual environment where they can practice drilling a virtual temporal bone with auditory and tactile feedback. We aim to test whether measurements derived from the simulation can differentiate between levels of experience in the participants.

Methods

20 participants were recruited for the study comprising of 9 participants experienced in temporal bone surgery and 11 participants who were novices. They were asked to perform a cortical mastoidectomy and a modified radical mastoidectomy on the simulator. The computer software logged every aspect of their performance such as force of the drill and distance to vital structures. Comparison of these values was made between the 2 groups to elucidate which specific metrics would discriminate experience level.

Results

Experts on average completed the task 20min faster ($P < 0.0001$) and removed more bones ($P = 0.04$) compared with novices. Novice participants overexposed more dura ($P = 0.021$) and overexposed more facial nerve ($P = 0.043$) compared with experts.

Conclusions

This study shows that measurements of performance from within the virtual reality simulator can differentiate between levels of experience. These results will help in the development of "intelligent" tutor in the virtual reality simulator that can teach novices on how to perform temporal bone surgery.

Randomised Control Trial of Cognitive vs Directed Teaching Styles for Laparoscopic Suturing in Medical Students

Sarah Moore, Michael Murphy and Steve Smith

Background

With increasing pressure for quality teaching in the presence of diminishing surgical time combined with increasing public expectations regarding their surgery and its outcomes a need to maximise the quality and effectiveness of teaching registrars.

Methods

31 medical students were randomised to receive instruction in laparoscopic (intracorporeal) suturing technique in a training box using either a cognitive method (utilizes explicit teaching methods to form mental template of the process) or directed training (the more traditional method). No students had previously used such training aids nor been instructed on laparoscopic surgical techniques.

Students were randomised to the 2 study groups (15 to cognitive group, 16 to directed group) and were asked to watch a short video demonstrating the suture required with verbal descriptive cues for performance. Students were then taught using the appropriate method how to tie a single intracorporeal suture in a 20 minute supervised teaching session (maximal student to teacher ratio of 3:1). Videos were recorded of performance of 1st suture at this session, a distracted test and a final undistracted test. The knots were strength tested and the videos assessed for performance quality.

Results

The 2 groups were quite similar with the exception of female predominance in the cognitive learning group ($n = 10/15$ compared to $6/16$) – age, hand dominance, year of medical school, age and suturing experience were equally distributed. There was no statistically significant difference between the 2 groups when times taken to perform the task or strength of the suture generated were compared.

Conclusions

There is no demonstrated difference between students taught using a cognitive vs directed teaching method.



Using SimMan 3G to Enhance Healthcare Professionals' Clinical Skills in the Neurological Assessment of the Deteriorating Patient

Lyn Taylor and Irwyn Shepherd

Aim

To provide participants the opportunity to develop and expand their neurological clinical assessment skills of the deteriorating patient using SimMan 3G.

Background

Box Hill Institute has developed and implemented simulation scenarios focusing on neurological assessment and management of the deteriorating patient for their undergraduate nursing students. This was developed and implemented using Sim Man and a standardised patient approach, as not all learning outcomes could be achieved by using Sim Man alone.

Since taking delivery of their first SimMan 3G, Box Hill Institute identified various scenarios as suitable for adapting and modifying for use with SimMan 3G. The neurological scenario was seen as particularly suitable for adaptation due to the increased specifications and fidelity of SimMan 3G. As a result a simulation scenario focusing on neurological symptoms and signs using SimMan 3G presenting as a deteriorating patient was developed and integrated into the nursing curriculum.

Methods

This presentation will discuss the strategic operational and application differences between SimMan and SimMan 3G, the adaptation process used, highlighting the positives, pitfalls and ongoing limitations. Outcomes to date of observed participant assessment skills using a modified Clinical Response Verification Tool (CRVT) © will also be presented as will thematic analysis of the participant's perceptions of the SimMan 3G as a learning tool.

Conclusions

Early application of the Sim Man 3G and intervention outcome data would indicate that its specifications increase the fidelity of several pertinent factors in a scenario and thus facilitate the enhancement of participants' neurological clinical assessment skills of the deteriorating patient.

FREE PAPERS 4

Tuesday 1.30pm-3.00pm

SESSION 4 – TEAMS

The Team Emergency Assessment Measure (TEAM): Validity, Reliability and Feasibility?

Simon Cooper, Robyn Cant, Jo Porter, George Summers, Ken Sellick, Leigh Kinsman and Debra Nestel

Aim

To develop a valid, reliable and feasible non technical skill assessment measure for emergency team performance. Background: Generic and profession specific team performance assessment measures are available (e.g ANTS1) but there are no measures for the assessment of emergency resuscitation team performance.

Methods

1. An extensive review of the literature for teamwork/leadership instruments, and
2. development of a draft instrument with an expert clinical team.
3. Review by an international team of 7 independent experts for content validity.
4. Instrument pre-testing and
5. pilot testing on 3 previously video recorded hospital resuscitation events and 48 videoed simulated multi-professional events.
6. Secondary rating of 25% for inter-observer reliability, and
7. a final set of ratings (for feasibility) on 18 simulated 'live' events.

Results

Following expert review selected items were found to have a high content validity index of > 0.83. Internal consistency of the scale was high with a Cronbach alpha of .974 and all items were highly inter-correlated, including a significant correlation between the total score and global rating ($r = .974, p.001$). The final 12 item (11 specific and 1 global rating) were rated on a five point scale and covered three domains, leadership, team work and task management, covering skills such as communication, adaptability and situation awareness.

Conclusions

In this primary study TEAM has been found to be a valid instrument and should be a useful addition to clinicians' tool set for the measurement of emergency non-technical skills.



A Typology for Healthcare Teams

Pamela Andreatta

Aim

To determine which team development and performance models are most applicable to interdisciplinary team training in healthcare contexts comprising all aspects patient care.

Background The effectiveness of healthcare teams is critical to successful outcomes in patient care, as well as to the successful maintenance of practice across healthcare systems[1-4]. Because effective teamwork improves both clinical and financial outcomes, interdisciplinary team training to improve team efficiencies and accuracy[5-7] and assessment of team-based competencies are central to establishing patient safety oriented practice[8-10]. Proposed competencies for healthcare teams are based on theoretical and empirical work derived from other professional domains[11-14].

Methods

25 healthcare teams were observed over a 6-month period in multiple public/private hospital and ambulatory care centers in the United States. Team composition and role behaviors were compared and categorized through the constant comparative method of analysis.

Results

Four types of healthcare teams were identified: stable role, stable personnel (Type SS); stable role, variable personnel (Type SV); variable role, stable personnel (Type VS); variable role, variable personnel (Type VV). Healthcare teams are more complicated than teams in other professions where teams are typically Type SS, i.e. a specific individual serves in an established capacity to benefit team performance.

Conclusions

A singular model derived from other professional domains will not adequately inform training specific to interdisciplinary healthcare teamwork. To achieve optimal performance, each team type will require adaptable training strategies. The 4-types of healthcare teams designated by this study will help inform the selection of appropriate team training and assessment of competencies.

Centre Operation's Report: How we Built a Simulation Centre within the Emergency Department. The Grass Roots Approach.

Jon Hayman

Aim

To develop a simulation centre with high fidelity, full environment simulation capability within the Emergency Department (ED) for the Royal Prince Alfred Hospital (RPAH) Emergency staff. The centre set up to be operated internally by existing clinical staff.

Background

The department of Emergency Medicine considered simulation to be an important component of medical and nursing education. We set out to build a cost effective and easily operated centre where our staff could be trained.

Methods

A business plan was developed that involved seeking funding from potential stakeholders. The Dean of the Central Clinical School of Medicine, University of Sydney and the RPAH Director of Prevocational Training provided funding for the Laerdal Simman and contributed to audiovisual requirements. Hospital administration agreed to build the infrastructure for the centre by converting existing rooms.

Results

Two Years after the initial concept was envisaged we have a functioning ED simulation centre with around 80 participants using it each month. We have 8 clinical staff who can technically drive the centre and use it regularly for ACLS, trauma and complex medical and surgical education. Despite not having dedicated staff for the centre in the first 15 months we have experienced very few technical issues. The centre now has a 2-day per week Clinical Nurse Educator provided by the RPAH Centre for Education and Workforce Development.

Conclusions

Whilst most simulation centres capable of high fidelity simulation in Australia are set up on a larger scale, we have demonstrated that it is possible to have an internally driven centre capable of full environment immersive simulation within an ED managed by existing clinical staff.



Raise the Red Blanket: Rapid Transfer to Theatre for Simulated Critically Ill Trauma Patients

Mark Baldwin and Victoria Brazil

Aim

To introduce, inform on and review a new protocol expediting surgical intervention in critically unstable trauma patients, including:

- multidisciplinary decision making in emergency
- immediate transit to theatre bypassing normal process
- graduated handover from emergency physicians to anaesthetists.

Background

Trauma review at Royal Brisbane and Women's Hospital recognized a subset of presentations requiring immediate surgical intervention for haemorrhage control.

A 'Red Blanket' protocol is activated when life threatening haemorrhage and critical instability are present. The patient is identified with a strong visual cue – the 'Red Blanket' – en route to theatre.

In the operating room, emergency and theatre staff form resuscitation and intervention teams. Handover is graduated as resuscitation progresses.

Methods

A series of trauma presentations were simulated in-situ in emergency using Laerdal's original Simman.

Two simulated patients met 'Red Blanket' activation criteria and were transferred immediately to theatre, powered by an uninterruptable power supply and controlled by a networked personal digital assistant.

Participants in emergency observed events in theatre via video conference link and assembled for facilitated debrief.

Results

Participants acknowledged the subjective realism and value of the experience in feedback survey. Other perceived benefits included greater awareness of the roles and challenges of other staff in trauma care, enhanced communication and greater acceptance of the new protocol.

Conclusions

In situ simulation enabled clinical teams to practice applying a new 'Red Blanket' protocol across a health facility – from emergency via hallways and a lift to theatre. The communication challenges, resource difficulties, leadership transfer and handover process were explored in a uniquely effective way.

WORKSHOPS

Tuesday 1.30pm–3.00pm

WORKSHOP 4

Scenario Design

Jennifer Keast and Elysebeth Leigh

Have you experienced or observed a successful medical scenario and wondered how it was done? Or experience one that was unsatisfactory? Have you ever thought about wanting to make dense and complex subject material 'more engaging' but felt unsure how to proceed? This workshop will address these questions in a practical and engaging manner that ensures you will be able to confidently develop your own scenarios and/or improve and reuse those bequeathed to you by others. The presenters share a wealth of experience in a diverse range of fields and have designed an experiential session that will enable you to confidently begin, or extend, your own use of scenarios in your teaching/ learning practices.

This will be a working session where everyone will engage with the design process, and discover things you did not know about your own creativity – as well as being an enjoyable, active and noisy experience of creativity in action.

WORKSHOP 5

Distributed Simulation: Increasing Access to Simulation Based Education

Debra Nestel and Marcus Watson

In Australia, the Commonwealth Government is making a large investment in synthetic (simulated) learning environments for healthcare. However, knowledge of how to implement different simulations methodologies is inadequate.

The Chief Medical Officer in the United Kingdom has identified simulation as one of the top ten challenges for their health service.

Based on the above it is probably safe to assume that simulation based education for the health professions is a given. This workshop is designed to explore breadth and depth of simulation methodologies with a particular interest in ways to increase access so that broad national level objectives can be achieved.

The presenters have experience of innovative and diverse ways of working with simulation both within and outside of healthcare. The content of the workshop in part depends on participants' expectations and contributions. Discussions may explore the content, timing, amount, nature and location of simulation based education for professionals in training as well as those in the workforce. We will move away from traditional conceptions of immersive simulations as manikins in static specialized facilities to low cost, portable and accessible resources available anywhere, any place and time it is required.

We invite participants to think creatively about the possibilities in this new era of simulation based education.



WORKSHOP 6

Simulation Evaluation Tools: An Imperative for the Discipline

Suzie Kardong-Edgren

This presentation reviews a sample of currently available evaluation tools for the cognitive, psychomotor, and affective domains in simulation, as well as team evaluation tools. Strategies for increasing the reliability and validity of these and your own tools will be discussed and demonstrated. Bring your current evaluation tools to share with others and critique.

WORKSHOP 7

Bringing Crisis Management to Life: CRM Bingo

Peter Dieckmann

Crisis Resource Management (CRM) helps improving patient safety by optimizing both individual cognitive factors as well as team work and communication. In this workshop participants will use and learn a creative method to increase "cognitive friction" when processing CRM: the CRM Bingo. Based on traditional Bingo, this exercise will improve participants' skills in integrating CRM in simulation-based training. Participants will watch video sequences and try to spot CRM principles, checking them off on their bingo card – fiercely defending their view in a following discussion in the group, facilitated by a faculty member. Participants will be able to replicate the exercise in their own courses and will be provided with instruction for replication. The workshop focuses primarily on persons who have experience with running CRM-related simulations and who want to deepen their understanding of the underlying principles and get ideas how to help participants apply CRM during simulation and clinical practice. The workshop is, however, suitable for persons who want to get a basic understanding of CRM principles using experienced based methods.

Goals are:

- participants broaden their "connotative space" related to the CRM principles
- participants are able to replicate the introduced exercise during their own simulation-based
- CRM trainings
- participants apply strategies to analyze CRM issues involved in exercises, scenarios, and
- debriefings that were practiced during the workshop.

PLENARY SESSION

Tuesday 3.30pm-5.00pm

PLENARY SESSION 2

Non-Technical Skills: A Prescription for Safer Healthcare

Rhona Flin

This presentation describes how the methods used to design a behavioural rating system (NOTECHS) for the assessment of European airline pilots' non-technical skills, have been adapted into similar rating systems for training and assessing healthcare professionals. The non-technical skills include situation awareness, decision making, leadership, teamwork, as well as being able to manage work-related stress and fatigue. They complement workers' technical skills and should reduce errors, increase the capture of errors and help staff to cope when problems occur.

Two rating systems designed by our group have been released, ANTS (Anaesthetists Non-Technical Skills and NOTSS (Non-Technical skills for Surgeons). A third system SPLINTS (Scrub Practitioners List of Non-Technical Skills) is under development. Details of these systems will be presented, along with several 'health warnings' regarding their use in the workplace. Possible applications beyond the operating theatre will also be considered.

Knowing More About it to Know More With it: Simulation and Research

Peter Dieckmann

The keynote will address the use of simulation for research, as well as research about simulation and provide examples of both in terms of connecting simulation and research. Simulation offers the possibility to combine analytical and interventive processes in research to investigate how simulation can best play a role to increase patient safety. Ideally, simulation environments can become a research and intervention laboratory. Quality criteria for simulation-based research will be discussed as well as potential threats to the validity and reliability of findings. Possible elements of a research agenda for simulation-based research will be presented as well as the influence of different stake holders on this agenda. Finally, there will be a report on the research support activities of the International Society for Simulation in Healthcare (SSH) and the European Simulation Society (SESAM).



WEDNESDAY, 9TH SEPTEMBER 2009

PLENARY SESSION

Wednesday 9.00am-10.30am

PLENARY SESSION 3

Obstetrics Simulation: What Works Where

Tim Draycott

The UK based independent UK medical charity, the Kings Fund: Safer Births, recently identified that the overwhelming majority of births are safe, but some births are less safe than they could, and should be. They recommended that all maternity teams should undertake simulation-based training with clinical, communication and team skills for all maternity staff, ideally within their own units.

Isolated aviation-based team training programmes have not been associated with improved perinatal outcomes when applied to labour ward settings, whereas obstetric-specific training interventions with integrated teamwork have been associated with clinical improvements; improvement in HIE, improvements in rate of Brachial Plexus Injury after Shoulder Dystocia as well as improved decision-delivery times for Category 1 Caesarean Section.

However, there are also a number of training programmes that have demonstrated deterioration in clinical outcomes. Therefore not all training is equal and not all training is effective.

I will present data from a large randomised study of training in Obstetric Emergencies and review the published literature to demonstrate what works, where and at what cost.

Obstetric emergency training programmes from hospitals have demonstrated improvements in outcome and there are a number of common themes, namely: training of all staff in their units, teamwork training integrated with clinical teaching and use of high fidelity simulation models. Local training also appeared to facilitate self-directed infrastructural change.

I will present data to help units design effective training programmes for Obstetric Emergencies.

The Rapid Response Team Paradox: "Why Doesn't Anyone Call for Help?"

Michael Buist

The author is a director and shareholder of Patientrack.

What conclusions can we draw from the evolving literature on Medical Emergency Teams (MET) and Rapid Response Teams (RRT) and the place of simulation? Firstly, critical care physicians need to discover and then dissolve the barriers that prevent staff from calling for appropriate and timely help for their patients. We also need to understand more clearly the relationship between resuscitation status and the calling of teams such as the MET. Secondly, the question of who should be doing the resuscitation of critically ill hospital patients needs to be addressed. As the specialists trained in resuscitation and management of critically ill patients, critical care physicians should be guiding, educating and supporting their colleagues in the general wards. It would be totally unacceptable to have a cardiac surgeon doing orthopedic surgery or a hematologist attending a patient with severe asthma. Similarly, management of critical illness should be performed by the specialists with training in this area. Thirdly, there needs to be much greater innovation from the health information communication technology industry for new solutions that provide real time patient information to healthcare providers with patient alerts and alert logic that ensures appropriate and timely clinical responses. Fourthly, education and training of all staff in the management of the complex critically ill ward patient needs to be a priority. In particular, there needs to be greater focus on team training, skills development and communication. Finally, we need to consider the perspective of our patients. "Right Care, Right Now" should be a patient right.



PANEL SESSION

Wednesday 11.00am-12.30pm

OBSTETRICS PANEL

Designing and Implementing Structures to Improve Care

Tim Draycott

UK Confidential enquiries into maternal and neonatal deaths have identified substandard practice in >50% of cases, and this has hardly changed over the last decade. Common and recurring themes were: failure to recognise a problem, failure to respond and poor communication.

There have been a plethora of recommendations, training programmes and guidelines produced in response, but these can be confusing and difficult to use in practice.

I will demonstrate some cheap, local solutions that support best practice by 'making the right way the easiest way'.

The use of CTG stickers produced in line with the NICE Guidelines has reduced HIE and Apgars <7 at 5 minutes by 50% - copies will be available at the presentation.

Moreover, I will demonstrate an Obstetric specific Early Warning Score system, structured consent forms, standardised documentation, thromboprophylaxis scoring systems and a CS specific WHO Checklist - examples will be available at the panel meeting.

We need to make the right, the easiest way; develop systems from best practice, train all staff to use them and then make sure they are used. Local implementation of national guidance remains a challenge, but there are solutions available to share that can improve care and outcomes, for mothers and babies.

Learning Together to Improve Outcomes in Maternity Care: The FONT Project

Helen Cooke

During the period 2004 to July 2006 31 percent of maternal and perinatal Reportable Incident Briefs (RIB), received by the NSW Department of Health (DOH), related to inadequate fetal welfare surveillance; inadequate or untimely maternity or neonatal emergency response; and poor communication between teams.

This presentation demonstrates the Interprofessional, train the trainer, education program NSW DOH has developed to address the educational requirements of maternity clinicians working throughout the NSW Public Health System.

The aim of the Fetal welfare, Obstetric emergency, Neonatal resuscitation Training (FONT) education program was to reduce the number of critical incidents associated with Fetal Heart Rate monitoring, maternity emergency management and neonatal resuscitation.

The program had three stages that all occurred concurrently:

- introduction of K2 Medical System Computerised Training Program for Fetal Surveillance and CTG interpretation during labour
- development of a train the trainer education program for Fetal Heart Rate (FHR) Interpretation and Surveillance
- development of a train the trainer education program for Maternity Emergency Management and Neonatal Resuscitation.

Throughout NSW 240 clinicians, Obstetricians, General Practitioners and Midwives have been trained a trainers. Over 1500 clinicians have received fetal welfare training and over 400 have received maternity emergency and neonatal resuscitation training.

This paper will demonstrate some the outcomes and achievements of FONT and provide discussion on some of the pitfalls to Interprofessional education, it's implementation and possible solutions.



Now You've Got Skills, How Do You Keep Them? In-Situ Simulation with Flat Maggie

Pauline Lyon

Queensland Health's Maternity Crisis Resource Management program (MaCRM) has been providing multidisciplinary, simulation based training to Maternity clinicians since 2006. MaCRM, developed as an outcome of the Hirst Report (2005) provides participants with the opportunity to enhance their clinical knowledge and skills in the management of maternity emergencies whilst introducing and applying the essential human factor elements to attain optimal outcomes.

Retention of knowledge and skills requires application and as over 70% of MaCRM participants have identified, regular exposure to maternity emergencies is uncommon. Ongoing access to simulation based training appeared to offer the most appropriate solution to this dilemma.

This presentation will provide the framework used to establish MaCRM's adjunct program MiniMaC's, brief (30 minutes from set up to unit check), insitu simulation sessions.

The framework will address:

- Gaining local 'buy in' a challenge that has to be addressed
- Templates for site specific simulated cases
- Resources and the introduction of 'Flat Maggie' as well as keeping the unit safe
- Evaluation and record keeping

Feedback from site's who have implemented MiniMaC's not only includes evidence of staff's retention of knowledge and skills but also:

- Improvements to local processes
- Improved interdisciplinary communication
- Staff commitment to professional development.

Simulation, both at the 'high end,' in dedicated simulation training environments and 'in-situ,' in local clinical units has a significant role to play in staff education. Local level simulation not only helps to consolidate expertise but provides opportunities to identify and address local issues and facilitate positive interdisciplinary staff relations.

FREE PAPERS 5

Wednesday 11.00am-12.30pm

SESSION 5 – INTER-PROFESSIONAL EDUCATION

Does SBAR Actually Work? Initial Findings from a 2 Year Prospective Trial

Neil Cunningham, Julian van Dijk, Tracey Weiland, Nicole Shilkovski, Paul Paddle and Nicola Cunningham

Aim

To test the effectiveness of the SBAR communication tool in training junior doctors to transfer critical information up a hierarchical chain.

Background

SBAR (Situation-Background-Assessment-Recommendation) is a tool that provides a framework for communication between health professionals. Medical students are taught to present a clinical case in the form of a thorough structured systematic history and examination. This presentation can take 15 minutes or more which is unsuitable for rapid and effective transfer of critical information in an urgent or semi-urgent situation such as a telephone referral to a more senior doctor. This study looks at whether the implementation of SBAR training improves the ability of a first year doctor (intern) to discuss and refer a moderately urgent case to a more senior doctor (registrar).

Methods

Randomised controlled trial with participants and rating clinicians blinded to group allocation. Two evenly balanced simulated cases were created. Participants were given a set time to review a simulated case, and then asked to contact a registrar to discuss the case. All calls were recorded and scored by a blinded clinician for content and effectiveness.

Results

Data currently being analysed, results to be presented on the day.

Conclusions

The presenter will discuss the utility and effectiveness of the SBAR tool in improving critical information transfer among junior doctors.



The First 5 Minutes: An Inter-professional Learning (IPL) Project Using Simulation

Katherine Holmes, Nicola Deacy, Carole Watson, Alicia Massarotto, Maggie Brigg and Ted Stewart-Wynne

Aim

The primary objective is to improve the quality of team work by enhancing communication and collaboration between health professionals, whilst providing an introduction to IPL, in a simulation environment.

Background

In health care harm to patients may occur as a result of errors in communication. With the increasing complexity of delivery of health care the promotion of close, collaborative and inter-professional team work is recommended.

Methods

Mixed teams of six (doctors, nurses and physiotherapists) will be provided with a pre-reading package consisting of IPL concepts, basic life support algorithm, MET calling criteria and iSoBAR handover checklist. Following a brief introduction the participants will familiarise themselves with the training room and facilities. An emergency scenario will be discussed and then run by the facilitator. Participants will be expected to contribute to immediate management of the patient. At 4 1/2 minutes the MET leader will arrive, expecting a concise handover of information gathered. A video recording of the scenario will be used for debriefing. The focus will be on communication, leadership, teamwork and inter-professional attitudes. The scenario will then be re-run and a further debrief will occur. The participants will complete the assessment tool. Training sessions will run weekly over a three month period.

Results

The information gathered from approximately 72 participants will be presented, including participant self-evaluation of their non-technical skills and attitudes to inter-professional team-work and details of the evaluation form and iSoBAR checklist.

Conclusions

It is anticipated that the study will confirm the importance of communication and effective team work as integral to an optimal clinical outcome, in the simulation environment. The next step is to design a study to assess improvement in patient outcomes, using the same methodology.

Applying a Psychological Model to Analysis of Behaviour in a Simulation

Elysebeth Leigh and Werner Naef

In a recent publication (Leigh, Naef, & Blakelock, 2009) we explored some key features of the psychological model known as Process Communication Management (PCM™) and its relevance to analysis of behaviour in simulation for learning contexts. That paper was the first concerning an intended research process designed to extend the broader societal understanding of how simulations and models like PCM™ can be combined to create learning contexts that are powerful, insightful and greatly extend the capability of non-technical skills training. In this – the second paper – we report on using PCM to analyse the behaviours of a group of health professionals taking part in an extended simulation as part of their non-technical skills training. We are expecting the analysis to reaffirm the manner in which PCM predicts individual descent into stressful/dysfunctional behaviours. The sequence of human behaviour along a predictable path into distress is explored and means of recovery from such a condition are explored – in particular appropriate interventions focusing on communication and motivation. The paper will present the findings of the research and contribute to a broader understanding of how awareness of behavioural indicators can assist both the person, and those observing them, to draw back from inappropriate or damaging actions.

Reference

Leigh, E, Naef, W, & Blakelock, R (2009). This Strange Dominant Logic – Decoding Behaviour Under Stress. Paper presented at SimTeCt 2009.



Learning About Inter-professional Clinical Practice in a Simulated Ward Environment

Debra Kiegaldie

Aim

This paper will report on findings from an interprofessional teaching and learning activity for final year medical and nursing students using simulated older patients with delirium in a simulated ward environment. The aims of the study were to develop, trial and evaluate an interprofessional learning (IPL) approach. This was then compared to standard educational approaches used for medical and nursing students provided separately. Students' performance in an authentic simulated scenario was evaluated. The objectives of the proposal were to:

1. Determine if final year medical and nursing students were ready for interprofessional learning.
2. Determine if an interprofessional approach:
 - developed students' appreciation of the roles of doctors, nurses and the health care team in the management of delirium;
 - increases students' confidence in managing patients with delirium;
 - develops medical and nursing students' collaborative team working skills, communication skills,
 - patient centeredness skills, and professional identify.
3. Measure the effect of case based learning, simulation and the use of simulated patients on the development of effective interprofessional practices.
4. Investigate the feasibility of using interprofessional learning in teaching undergraduate medical and nursing students.

Background

Hall and Weaver (2001) identify health professional collaboration as a highly significant area of clinical practice in complex health care settings. The use of simulated environments and IPL in undergraduate education is emerging as a way to foster interpersonal, communication and team working skills amongst health professionals. Simulated patients have been used in undergraduate and postgraduate medical education for over 30 years for the teaching of communication and clinical skills and for monitoring the performance of doctors for clinical examinations (Wallace et al., 2002). Delirium is probably the single most common acute neurological disorder affecting adults in general hospitals affecting 10-20% of all adults in hospital and 30-40% of older patients in hospital. Effective management of delirium is contingent upon a multiprofessional approach necessitating among other things clear communication and an understanding of the respective health care team members' roles.

Methods

This study compared the experiences of two groups of learners:

- a discipline specific group consisting of two subgroups each comprised of medical and nursing students (n=100 students)
- an interprofessional group of 100 medical and nursing students together.

Measures

Prior to and on completion of the clinical simulation two tests were administered. First, all students completed a pre-validated survey - "The Readiness for Interprofessional Learning Scale" to measure their attitudes and perceptions towards IPL. Second, a knowledge test determined what the students knew about delirium. Following the pre-test, the discipline specific group underwent a 1 hour discipline specific lecture on delirium followed by a discipline specific case based tutorial. The interprofessional group participated in the same activities; however, this was achieved using a fully integrated interprofessional approach. All students then participated in a simulation activity of delirium using a simulated ward setting and simulated patients. Students remained in their groups but were further divided into groups of 10 (4 participants and 6 observers). Video recording and observation of the simulation measured the team work, communication and patient centeredness skills of medical and nursing students after learning about delirium either within disciplines or via IPL. Follow up surveys determined the perceptions of the students during this experience (self reporting of benefits/constraints) and individual interviews provided an opportunity for further exploration of perceptions of the students during this experience.

Results

Results are currently being analyzed and will be presented at the conference but initial findings indicate positive feedback about the experience from students and tutors. Those students not involved in the interprofessional groups felt they missed out and the interprofessional groups appeared to perform better in the simulation. Comments from follow up telephone interviews reveal the value of the experience: ...you could see the value of having the two working side by side...(medical student) I really began to see how much patient contact the nurses have in comparison to the medical students (medical student) ...the main thing was learning communication between doctors and nurses... (nursing student) If we can work together or learn to work together while we are still at uni with scenarios, by the time we hit the wards we have a better idea of what each one does and therefore provide better care for the patient...(nursing student).

Conclusions

A complex interprofessional intervention is logistically possible and highly valued by students.

References

1. Commonwealth of Australia (2006) Aged Care in Australia. Canberra: Department of Health and Ageing.
2. Hall, P & Weaver, L (2001). Interdisciplinary education and teamwork: a long and winding road. *Medical Education*, 35: 867 – 875.
3. Wallace, J, Rao, R, & Haslan, R (2002). Simulated patients and objective structured clinical examinations: review of their use in medical education. *Advanced in Psychiatric Treatment*, 8, 342 – 350.



POSTER ROUND

Wednesday 11.00am-12.30pm

Development of the Monash University Simulation Network

Jennifer Keast and Brendan Flanagan

Aim

This poster visually plots the course of the Monash University Simulation Network from its inception to its current state.

Background

During 2008 it was recognised that Monash University had an opportunity to establish a national leadership role with respect to simulation in healthcare through establishment of a faculty wide simulation network. Aims included organizing, standardizing and formalizing simulation based delivery within the faculty, to form partnerships with potential health services, to recognize research opportunities and to address the burgeoning clinical placement challenges. From an educational perspective, the crucial component of the development of sustainable vertically integrated curricula, interprofessional learning opportunities and development of workplace-based assessment techniques was identified as key drivers.

Methods

Issues identified:

- aims, objectives and purpose
- governance issues
- clinical sites
- site visits
- existence of overseas networks
- mapping exercise
- basic needs analysis.

Results

Data was collected and collated from all sites and an action plan for each site developed in order to harness existing enthusiasm at sites, plan for short and long term goals, and assist in supporting existing programs.

Conclusions

Where to from here? There is still much work to be done. This poster describes the challenges, successes, trials and tribulations to date of the implementation of a faculty wide simulation network, and also describes future planning and anticipated outcomes.

The Potential of Simulation for Aero-medical Mission Rehearsal

Anthony Hopcraft, Sandra Riley and Marcus Watson

Aim

The Royal Australian Air Force's (RAAF) Health Operational Conversion Unit, wishes to explore the potential of simulation for Aero-Medical Evacuation (AME) mission rehearsal.

Background

The RAAF has a long history of using simulation to conduct potentially hazardous training in risk-mitigated environments. It has realised the capabilities and cost-containment potential of simulation and expanded its employment to a multitude of other roles. Notable inclusions include the delivery of healthcare and mission rehearsal. In response to real-world operations, there is often little time to prepare for more complicated AME missions. Simulation may be applied to such circumstances to achieve near real-time mission rehearsal.

Methods

Subject to AME mission requirements, carrying a medical simulator mannequin on-board the aircraft may allow team members to rehearse caring for the patient in-flight. Familiarising the AME team with the anticipated physiology, prior to retrieving the actual patient, may help focus the AME team for the mission ahead. Simulation may also allow the team to rehearse their response to patient deterioration in-flight. Allowing a synergy of preparedness to be achieved between the clinicians and the aircrew.

Results

Previous trials of carrying a medical simulator mannequin on-board have shown promise in creating a more immersive environment for the AME team to train in.

Conclusions

Simulation has provided a capable vehicle to predict the effects of change and to rehearse the required tasks. It prepares the health worker for the challenge ahead and helps them achieve the desired mindset in an environment tolerant to mistakes and error.



Actor Training for Surgical Team Simulations in a Portable Simulation Environment

Eva S Kassab, Dominic King, Louise M Hull, Nick Sevdalis, Sonal Arora, Roger L Kneebone and Debra Nestel

Background

Surgical training provides opportunities for structured learning of the complex set of skills required for safe surgical practice. Simulations enable surgeons to practise these skills without risk to patients. However, recruiting healthcare professionals to recreate a full surgical team is difficult and resource intensive. We trained professional actors to portray members of a surgical team in a portable surgical environment, which recreates a fully-equipped operating theatre (OT) by using portable, low-cost equipment. Aim: To evaluate a training programme for actors to play roles of surgical team members (anaesthetist, scrub nurse and surgical assistant) in the context of a portable OT simulation environment.

Methods

The iterative one-day-programme comprised written materials, video discussion and experiential activities. Evaluation methods consisted of post-simulation interviews and questionnaires with actors and participating surgeons. Participants were recruited by convenience sampling. Quantitative data were analysed using descriptive statistics and interviews by thematic extraction.

Results

Three actors underwent training for simulations. Six surgeons completed six simulations. Surgeons' perceived realism of actors was 4.7 (SD= 1.4; 6-point scale 1=not at all realistic to 6=completely realistic). Feedback, rehearsal and a video of the surgical procedure were highlighted as particularly valuable. Suggestions to improve training include watching real operations and talking to healthcare professionals.

Conclusions

After relatively brief training actors can realistically portray members of a surgical team in simulations designed to support surgical training. Although the study has some limitations, its findings have relevance to the growing field of high fidelity, simulation-based surgical team training.

Creating an Immersive Simulation to Support the Development of Non-Technical Skills in Surgical Trainees

Jennifer Keast, Adrian Anthony, Margaret Bearman, David Birks, Sheryl Cardozo, Ian Civil, Kathleen Hickey, Brendan Flanagan, Brian Jolly, Mary Langcake, Liz Molloy, Debra Nestel and Cathy Steele

Aim

This presentation describes an inexpensive and rudimentary part-task trainer interfaced with a SimMan mannequin to engage surgical trainees in an immersive simulation to explore non-technical skills.

Background

Immersive simulation can provide an ideal setting to teach non-technical skills in a realistic environment. However, without a relevant clinical context, it is harder to engage trainees in learning. Our research focus was the extent to which surgical trainees engaged in the simulation designed for the development of non-technical skills.

Methods

A simple, low cost device was aligned with SimMan in an operating theatre environment. This was the "hook" to engage surgical trainees and we hypothesized that this simple device would be an additional and critical trigger. It was important that the device complimented rather than distracted from the learning objectives of the scenario.

Results

Two trainees completed the scenario with twelve others observing. Trainees reported that the environment was realistic whilst observers could not tell that it was a simulation. Genuine discourse between the surgeons occurred with respect to the immediate management of the patient-their shared priority was achieving haemostasis. In parallel a secondary conversation took place between nurses on management of uncertain intra operative instrument sterility. These two groups had differing priorities which highlighted the use of skills such as communication and leadership, graded assertiveness and situation awareness to achieve a common goal.

Conclusions

This scenario demonstrated that with simple adjustments to SimMan a scenario was created that engaged trainee surgeons in learning activities designed to support the development of non-technical skills.



Development of a Device for Improving the Fidelity of Respiratory Auscultation During Simulations

Peter Thomas, Daniel Host, Andrea Thompson and Dylan Campher

Aim

To develop a device that could be used with standardised patients and manikins to improve the fidelity of respiratory auscultation during simulations.

Background

Limitations in the design of many commercially available manikins impair the fidelity of respiratory auscultation and may prevent the attainment of associated learning outcomes. These limitations include the inaccurate replication of lung sounds; manikin designs that hamper transmission of lung sounds to a clinicians' stethoscope; and poor reproduction of normal anatomical / physiological variations in lung sounds.

Methods

A computer engineer was employed to develop software that allowed selection of lung sounds from a remote computer. The computer was linked to fourteen switches that can concealed and positioned on a manikin to reflect common anatomical auscultation points. A range of wireless transmission devices were trialled for range/clarity/interference to transmit the lung sounds to a modified stethoscope.

Results

The auscultation device allowed the fidelity of auscultation during simulations to be significantly improved and increased the ability to interpret lung sounds. The software allowed selection of lung sounds that can be different over the fourteen triggers/switches. Additionally, the software allowed lung sounds to be pre-set for specific scenario set-ups and easy modification during scenarios.

Conclusions

The design of the auscultation device has been effective in improving the fidelity of simulations that require the reproduction of lung sounds on manikins (e.g. SimMan™) or standardised patients/actors. It is affordable and can be integrated with manikins that are currently available commercially.

Multi-Parameter Fully Wireless Physiological Monitoring System for a Simulation Training Environment

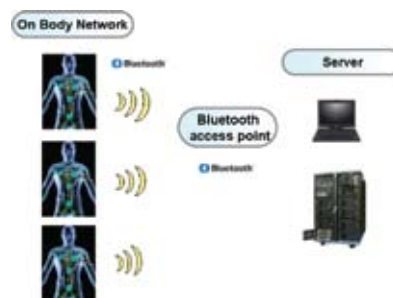
Joshua Khoo, Ke Ma and Ian Brown

Aim

This paper concerns the development of a non-invasive, non-intrusive fully wireless physiological monitoring system in a simulation-training environment to observe physiological variances during periods of high emotional stress in physicians.

Introduction

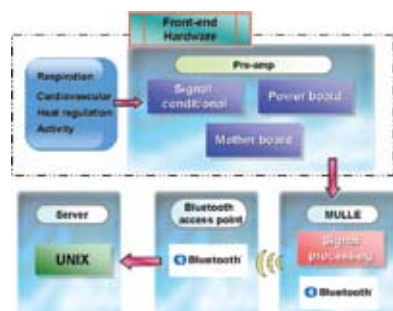
Wireless monitoring systems have been developed for countless ambulatory applications and have the advantage of being less intrusive [1] and being more mobile than their wired counterparts [2]. Implementing a wireless physiological monitoring system in a simulation-training environment enables transparent monitoring of a subject or multiple subjects simultaneously for example, physicians and nurses undergoing simulation training.



On body network' external network connections

Methods

An integrated multi-parameter signal conditioning board, micro power board and sensor node expansion board have been developed for this application and is capable of wirelessly monitoring stress related parameters such as heart rate, heart rate variability, respiration depth and rate, temperature, activity, upper body posture and skin conductance. The Bluetooth sensor node is based on the MULLE platform designed in collaboration with Lulea Institute of Technology, Sweden. Figure 2 illustrates the system's implementation for this application.

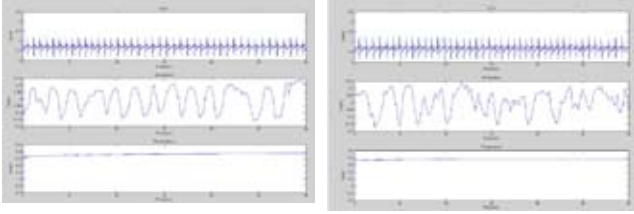


Block Diagram of the Monitoring System



Results

The waveforms below highlight the physiological signal variances observed from a subject during rest and subsequent emotional stress related activity.



Ground truth measurements Emotional Stress Related Activity

Conclusions

This system has been validated with the traditional gold standard measures for physiological signals and is proven to be accurate and robust even with significant subject activity. This system can be used to analyze the effectiveness of training in a simulation environment without the intrusive need for wires 'on' and 'off' the subject under study

References

1. Hurford, R, A Martin, and P Larsen. Designing Wearables. in *Wearable Computers*, 2006 10th IEEE International Symposium on. 2006.
2. Sungmee, P and S Jayaraman, Enhancing the quality of life through wearable technology. *Engineering in Medicine and Biology Magazine, IEEE*, 2003. 22(3): p. 41-48.

Infection Control: Don't Spread the Glow

Carolyn Insley, Chavonne Wyatt and Janet Willhaus

Aim

The simulation's aim was to help nursing students prioritize care in an infection control environment and to provide a review of specific skills learned in the prior semester.

Background

Using Patricia E Benner's "Novice to Expert" theory, nursing students progress through levels of expertise. In this scenario, nursing students were expected to prioritize care from tasks requiring various levels of infection control. This simulation was conducted prior to beginning hospital clinicals for the semester.

Methods

A static manikin was prepared with a central line, a gastric tube, a foley catheter and a leg wound with a known Methicillin-resistant *Staphylococcus aureus* (MRSA) infection. The students provided care to the patient from a set of written physician's orders. Contact isolation precautions were in effect. The physician orders were written without specific sequence. The students gathered supplies to perform central intravenous line care, gastric tube care, foley catheter care and a dressing change. The leg dressing had been saturated with light-sensitive dye that becomes visible under a ultraviolet light. After the scenario and during the debriefing time, the instructor used a ultraviolet light to detect stray fluorescence "glow" dye on the central line, gastric tube or foley catheter as well as the patient gown and bedding and student gowns and faces.

Results

Students did not always prioritize care from "clean to dirty". Light-sensitive dye was found primarily on patient's gown and bed linens. The instructor redirected students when initiated care was improperly prioritized.

Conclusions

This instructional scenario received positive feedback from the nursing students. Critical thinking about infection control is minimally developed in this level of student. Instructor prompting was limited to asking the student to rethink their sequence of tasks. This scenario could potentially be used as an assessment for more advanced students or for competency of practicing nurses.



Phlebology Emergency Crisis Management Course: A Pilot Study

Martin Rochford

Introduction

Phlebology is a medical discipline involving the treatment of venous disorders in the practitioner's rooms. This new 1-day course was designed to provide training in crisis resource management (CRM) and management of medical emergencies.

Aim

This pilot study aimed to assess whether participant confidence in life-saving techniques and CRM would increase after Simulation training.

Methods

The course began with a teamwork ball-game and leadership training. Participants then received hands-on training in airway management and advanced cardiac life support using an ALS simulator. The afternoon involved 4 scenarios using a Laerdal SimMan and an actor. A 10-question pre and post-course questionnaire examined participant confidence in life-saving techniques and their perception of medical simulation as a training tool using a 5-point Likert scale. Participants rated each section of the course on a Likert scale as well as their perceived level of skill in resuscitative techniques before and after the course.

Results

11 participants were surveyed (median years practicing 30). None had prior experience of medical simulation. There was a significant increase in confidence in life-saving techniques as well as acceptance of simulation as a training method ($P < 0.05$). All sections of the course were rated in the "good" to "excellent" range while subjective rating of skill in resuscitation showed a significant increase from "fair" to "good" [2.36 ± 1.03 vs. 4.0 ± 0.43] ($P < 0.05$).

Conclusions

This course significantly improved participant's confidence in dealing with medical emergencies and CRM while medical simulation was highly accepted as a training method.

The Deteriorating Patient – Simulation Training for Medical Students and Junior Doctors

Adam Rehak, Stephanie O'Regan, Jenny Ludeman and Jacqui Langeris

Aim

Describes and evaluates a curriculum conducted for final year medical students addressing their imminent role in management of the acutely deteriorating ward patient.

Background

Early and effective management of acutely deteriorating patients is an important issue that has traditionally been ignored in undergraduate medical teaching. Although multiple hospital-specific models for managing the deteriorating patient exist, they are all predicated on certain fundamental principles of rapid, simultaneous assessment and stabilisation. A grounding in these principles could prepare undergraduate medical student for their imminent role irrespective of the destination hospital.

Methods

Curriculum was delivered over four hours using a range of simulation based activities designed to both introduce new knowledge, skills and behaviours, and to allow immersive practice of these in a realistic environment. Each station required independent curriculum so they could be completed in any order, but have core themes developed throughout the session. Course evaluation involved a pre and post-course self-assessment measuring participants' confidence and preparedness to assess and manage acutely deteriorating patients.

Results

The comparison of pre and post questionnaires demonstrated a mean improvement in the participants' level of confidence and preparedness in all the aspects of managing the deteriorating patient included in the self-assessment.

Conclusions

This curriculum addresses an identified need within undergraduate training and also, by the generic nature of its content, integrates with a broader program of activities aimed to prepare various levels of medical and nursing personnel, from the bedside nurse through to the resuscitation team, for care of the deteriorating patient.



Multidisciplinary Crew Resource Management (CRM) in Health Care: Is Combined Classroom and Simulation-based Training Additive or Synergistic?

Robyn Clay-Williams, Catherine McIntosh, Ross Kerridge and Jeffrey Braithwaite

Aim

This study aims to determine the synergy of combined classroom and simulation-based teamwork training, by investigating attitude and behavioural changes in multi-disciplinary teams resulting from implementation of a CRM intervention.

Background

A growing body of published literature supports delivery of CRM-based teamwork training as an appropriate strategy to address the issue of patient safety in health care. Although studies have attempted to assess the contribution of various CRM training courses to improved teamwork attitudes and behaviours, few health care studies have examined classroom and simulation-based courses in combination. Teamwork training is constrained largely in health care by limited time and resources, so it is important to establish whether a synergy exists by combining the two forms of training in a similar manner to aviation.

Methods

160 doctors and nurses working in selected complex, time-critical hospital environments within an Area Health Service were randomised to receive no training, or training in the classroom, simulator, or both. Pre- and post-intervention attitudes will be measured via a modified and validated version of Sexton and colleague's 'Safety Attitudes Questionnaire' Participant teamwork behaviours will be measured via observation of team performance in two simulated scenarios, and assessed using the Mayo High Performance Team Scale (MHPTS). Participants will self-assess behaviours using the MHPTS, for comparison with observer scores. Participant knowledge and reaction data will also be gathered via questionnaire.

Discussion

Training and assessment commenced in Dec 2008, and are expected to be completed by Jul 2009. It is anticipated that sufficient data will be available to enable presentation of preliminary findings at SimTect Health 2009, alongside some of the major lessons learned in implementing this type of research intervention.

WORKSHOPS

Wednesday 11.00am-12.30pm

WORKSHOP 8

'Rural Round Up'

Jennene Greenhill and Leanne Rogers

"If you think you are too small to be effective you've never been in bed with a mosquito!"

This workshop aims to provide a forum for rural people interested in clinical simulation to come together. It will build upon the work last year. The evaluations last year showed the workshop benefits were: providing networking, sharing ideas, discussing rural issues and how to address practical problems. This year we would like to create more in-depth discussion through round table dialogue. The questions are:

What are the major challenges in rural areas that require skills development through clinical simulation?

1. What programs and/or scenarios are offered specifically for rural clinicians and what makes them work so well?
2. How can we use clinical simulation to enhance rural clinical placements and increase workplace readiness?
3. What are the priorities for building confidence and competence for rural clinicians (including post grads of all health disciplines) that will address rural health workforce shortages?

Our discussions will determine key priorities for the benefit of rural clinical simulation and develop recommendations to inform the National Health Workforce Taskforce.



WORKSHOP 9

Research Methods

Peter Dieckmann

Simulation-based research is becoming more and more important. In small groups, the workshop participants will discuss, research designs, sampling and methods needed to investigate given (or own) research questions. The questions provided will stem from research about simulation (e.g. studying the effects of simulation-based training) and research with simulation (e.g. investigating human factors issues in the simulation setting). Participants will discuss, which methods or combination of methods are needed to answer the questions, which advantages and disadvantage the methods have, what confounding variables need to be controlled, which results can be expected and how those can be interpreted. There is a limit of 24 participants for the workshop.

The goals of the workshop are:

- participants know different qualitative and quantitative research methods and are able to select those which are appropriate to answer their research questions and to implement them in an appropriate study design
- participants acknowledge the importance of confounding variables and the need to control for their influence
- participants know information sources that help them to deepen the topics addressed in the workshop.

WORKSHOP 10

Courses for Horses: How Different Approaches to Scheduling Training Suit Different Organisations

Leonie Watterson, Julian Van Dijk, Janet Chan and Peter Cosman

Aim

This workshop aims to assist participants in making decisions about the approaches to scheduling training and how these may impact on staffing, funding requirements and the business models that underpin these.

Background

One way in which simulation learning varies between facilities is the frequency and duration of contact of participants and faculty with the simulation hub. We describe five common models:

1. Episodic – learners complete a topic by attending the hub facility for relatively long periods of time; generally one or more days. Learners and faculty may travel from other centres and generally have to arrange leave from clinical service duties to attend training.
2. Sequential – learners attend the hub facility frequently and the learning often builds on previous learning. Learners and faculty are often from the hospital where the centre is based, with short scheduled breaks from their clinical service duties to participate in teaching from the facility.
3. The extended ward – the hub facility is used as a breakout room from the clinical ward; learners going there to focus on a clinical task immediately before or after clinical practice. On some occasions training activities may be opportunistic and hence unscheduled. This requires flexibility on the part of learners, instructors and facilities.
4. In-situ – Mobile simulation units are employed to deliver training within the clinical environment. This approach needs to be adaptive to the clinical service delivery requirements of the organisation, especially when the training is delivered in high acuity environments where unbooked admissions are normal.
5. Self – directed learning – learners attend on their own or in groups without a tutor present face to face.

There are strengths and weaknesses of each model. While few centres would only provide one learning model, many new and smaller centres may concentrate their resources on one. The predominant model favoured by a facility will be reflected in its strategic direction, staffing, utilisation and business plan. Ultimately this will be relevant to negotiations with hospital executives about resources. This workshop will explore the advantages and disadvantages of each approach.



FREE PAPERS 6

Wednesday 1.30pm-3.00pm

SESSION 6 – SIMULATED PATIENTS

Triage Training: Virtual Reality vs Standardized Patients

Jen Frankel and Pamela Andreatta

Aim

The aim of this study was to determine the relative impact of two simulation-based methods for training emergency medicine residents in disaster triage; full immersion virtual reality and standardized patients.

Background

Properly performed triage is a determinant of survival in critically injured casualties. Although no current training modality can absolutely prepare clinicians to perform disaster triage for a true mass casualty, practice and familiarity with the process can increase practitioner confidence and help physicians respond more efficiently to triage tasks. Optimal cost effective disaster triage training methods are presently indeterminate.

Methods

16 PGY1-PGY4 Emergency Medicine residents were randomly assigned to two groups. One group participated in an immersive virtual reality scenario using avatars to perform triage of a mass disaster. The second group participated in a live disaster drill using standardized patients. The setting and patient presentations were identical between the two modalities. Resident performance and knowledge of disaster triage was assessed pre/post and after one week.

Results

There were no significant differences between the virtual-reality and the standardized patient triage training group performance. Standardized patient training is more resource intensive than virtual reality training. Situational modifications are both feasible and desirable to expand the contextual aspects of mass disasters in the virtual reality environment to include multiple scenarios and levels of clinician-patient engagement.

Conclusions

Virtual reality may provide a reliable, expandable and affordable solution for mass disaster triage training for first responders to mass casualty events, thus increasing the availability and impact of such training globally.

Using Human Simulated Patients (SPs) in Medical, Nursing and Health Professional Education – A Review of the Literature

Debra Nestel and Tracy Morrison

Aim

This paper presents a review of the literature of simulated patients.

Background

Simulation is a widely used for the development of clinical skills of medical and health professionals. Effective patient interaction is a vital skill for safe clinical practice. Simulated patients (SPs) are one method by which these skills can be taught and assessed in a 'safe' environment.

Methods

An electronic search of databases CINAHL, ERIC, Medline, PubMed and Web of Science using the key words 'simulated patient', 'standardized patient', 'actor patients' and 'human simulators' was performed. All key words were searched with term 'education'. Only articles using human SPs were included for review. All articles were evaluated for educational impact.

Results

The search generated articles 650. Inclusion criteria reduced the number of relevant papers to 65. The results show that SPs regularly contribute to education, mainly in medicine. However, there are examples from other professions (nursing, pharmacy). SPs are also used in skills based training and examinations. Students largely rate SP based work favourably.

Conclusions

Although expanding rapidly, the literature on SP based education has many gaps and often lacks theoretical foundation. Few studies measure changes to behaviour in practice or longer term impact focusing instead of participant reaction to training. It is an exciting field to explore and rich in research opportunities.



Evaluation of a University Wide Simulated Patient Database – MonSim

Debra Nestel, Tracy Morrison, Brian Chapman, Sheryl Cardozo, Jenny Keating, Cathy Haigh, Laura Dean, Jonathan McConnell, Jill French, George Somers and Chris Browne

Aim

Develop a University wide simulated patient database.
Describe the process and report challenges.

Background

Simulated patient (SP) methodology enables students to practise and receive feedback on skills essential for clinical practice. At Monash University, Australia SPs are integral to programmes in medicine and pharmacy. Recent and predicted changes in health service delivery in Victoria will necessitate a greater, more fully developed reliance on SPs at all levels of health professional education, expanding into nursing, midwifery, physiotherapy and radiography.

This paper describes the development of an SP database (MonSim) as a central repository of SP based information.

Methods

- Phased project (December 2008–June 2009)
- Initial stakeholder meeting to outline MonSim's purpose and discuss schools needs and challenges
- Prototype development based on Phase I outcomes
- Rapid cycle test MonSim with stakeholders, obtain feedback and revise prototype
- Pilot MonSim in selected schools
- Evaluate MonSim from multiple stakeholder perspective

Results

- Content and functionality of database identified and created using ToolBook.
- Pilot database entered to Excel and imported into ToolBook database application enabling access to SP personal information, photos and audio recordings.

Conclusions

The improved administration of the SP programme improves quality and extent of SP based education.

A Novel Use of Simulation to Increase Attention to Patient-Centred Care for Vaginal Examination

Maureen Harris, Joyce Hendricks and Sheila Kimzczyk

Introduction

Students have little opportunity to build essential skills before undertaking vaginal examinations during childbirth. Even with increased use of simulation there are capacity and resource constraints. We designed an on-line reflective action clinical learning environment (ORACLE) to augment the development of patient-centred care for vaginal examination.

Methods

Students were allocated to either ORACLE or standard teaching. The ORACLE site comprised four audio-video recordings of vaginal examination scenarios (exemplary to poor) using a patient actor 'integrated' with a realistic vaginal examination model. Student observation was guided using a checklist to explore aspects of patient-centred care. On completion of the learning activities all students undertook a simulated 'patient actor' vaginal examination, which was captured to audio-video recording. An independent expert rated students' performance against the patient-centred care checklist. Between-group comparison was by Mann-Whitney U Test.

Findings

Eight student midwives completed the study. The expert reviewer, who was blind to allocation, rated the ORACLE group ($n = 4$) higher than the control group ($n = 4$) for patient-centred care. The median score for the ORACLE group was 54 versus 41 for the control group ($p = 0.029$ Mann-Whitney U test).

Conclusions

This new approach is designed to provide structured learning to accelerate skill development in simulations, and ultimately, in clinical practice. The small sample size limits the generalisability of the findings. However, the results do contribute to proof of concept. Further work is required to establish proof of principle for this approach, which has the potential to increase the effectiveness of simulation-based learning, and to contribute to patient-centred professionalism.



FREE PAPERS 7

Wednesday 1.30pm-3.00pm

SESSION 7 – VIRTUAL REALITY

The Impact of Non-Verbal Communication in Virtual-Environment-Based Teamwork Training

Stefan Marks, John Windsor and Burkhard Wünsche

Aim

To present a simple method to use a webcam to enhance non-verbal communication in virtual-environment-based teamwork training.

Background

Over the last decade, healthcare profession training has been enriched by educational technology such as virtual-reality simulators for skills training and mannequins for team training. More recently, there has been the development of several metaverses that are now being used for virtual-environment-based teamwork simulations. This type of simulation lends itself to networking, allowing participants to participate from remote locations. The significant drawback of training in virtual worlds is that the avatars, in-world representatives of the participants, are capable of very limited non-verbal communication. Of note there is no facial expression, gaze control or head movement. Our thesis is that enhanced non-verbal communication will improve training outcomes.

Methods

We have developed a model of the aspects of non-verbal communication that a simple webcam (Creative Live! Cam Video IM Pro) can capture. This model has been integrated into a program that monitors and evaluates the webcam input. The data is fed into a simulation based on Valve's Source Engine that has been modified to mirror the information on the avatar.

Results

Initial tests suggest a more realistic and effective communication between users in virtual world simulation. Feedback from medical and other professionals suggests that this approach has significant advantages and potential to enhance team training.

Conclusions

Using additional input from a webcam to control the avatar, we have achieved enhanced non-verbal communication. Initial feedback is very positive. The next step is to conduct extended user studies.

A Decade of Developing Virtual Reality Medical Simulators: Mistakes Made and Lessons Learned

Alan Liu and Gilbert Muniz

Aim

Virtual reality medical simulators lie at the confluence of four major disciplines: medicine, engineering, cognitive sciences, and the arts. Building educationally relevant simulators require finding a balance between them.

This presentation highlights lessons learned in almost a decade of VR-based simulation development at the National Capital Area Medical Simulation Center (SimCen).

Background

The SimCen is one of the largest and oldest integrated medical simulation facilities in the United States. The SimCen has developed many first-in-kind simulators. They include craniotomy, cricothyroidotomy, peritoneal lavage, and pericardiocentesis. The SimCen is presently developing the world's largest virtual reality theater for medical team training.

Many lessons were learned during the development. We discuss some in the following section. If accepted as an oral presentation, we will expand on these themes.

Methods

The requirements analysis process is an essential first step in simulator development. Factors include the nature and scope of the problem, and identifying stakeholders and educational goals. Pitfalls arise when technology triumphs learning needs. Our presentation, will further explore issues surrounding the requirements analysis process.

Consumer-grade computers now have multiple CPU cores and massively parallel graphics processors (GPUs). Fully utilizing their capabilities requires a rethinking of how medical simulators are developed. We have developed novel a pipelined architecture that dynamically balances workload between CPU-cores yet remains transparent to the application developer.

Good visual sense is necessary for developing virtual patient models. The 3D medical illustrator blends artistry with anatomical knowledge. Preserving the visual fidelity of the artist in a real-time simulator is non-trivial. In the presentation, we describe some of the techniques that help bridge this gap.

Results and Conclusions

In this abstract, we have outlined some key areas to consider when developing simulation applications. The insight we hope to share can benefit simulator developers and others planning to enter the field.



3D ROSE: A Virtual Reality Radiation Oncology Simulation Environment

Iwan Cornelius, Laz Kastanis, Darren Pack, Andy Boud, Chris Poole and Christian Langton

Aim

To develop an immersive virtual reality environment of radiotherapy treatment room to be used for the training of health care professionals and patient awareness.

Background

Linear Accelerators (LINACs) are used to deliver a dose of radiation to a tumour whilst sparing surrounding healthy tissue. The training of health care professionals in the operation of these machines can take up valuable time that could be used for treating patients; some of this training could take place in a virtual environment. Moreover, many patients have no contact with the treatment room prior to a course of radiation treatment. The foreign sights and sounds of the treatment room can cause significant anxiety during the first irradiation. Over the course of treatment this anxiety subsides, which can lead to a change in patient posture. As patient position is crucial to accurate dose delivery, this may increase the radiation dose received by healthy tissue.

Methods

3D-ROSE is composed of a 3D model of a treatment room projected onto a 240cm x 180cm display wall. Users wear 3D glasses to view the resulting stereoscopic image. A tracking system detects the position of the user on the floor space as well the direction in which they are looking; software then adjusts the projected image accordingly. The full functionality of the machine is reproduced, with replica hardware controllers being used to operate the LINAC and treatment bed. Sounds sampled from the actual room are reproduced in stereo. This completely immerses the user in a virtual reality radiotherapy room.

Results

A prototype system has been established at Queensland University of Technology. The system is currently being tested by Radiation Oncologists, Radiation Therapists, and Medical Physicists, along with Cancer Consumer Groups in order to optimize design and operation.

Conclusions

Funding from Queensland Health has enabled the creation of a prototype immersive virtual reality radiotherapy facility. Further developments will enable this tool to be used to train Radiation Therapists and Physicists, as well as provide valuable patient awareness in order to reduce patient anxiety. Future work will focus on measurable outcomes such as patient wellbeing and the effect on patient positioning.

What Components of Simulation Courses can be Optimised by e-learning

Niall Higgins, Stephen Francis, Richard Campbell, Joshua Harvey and Marcus Watson

Aim

To examine systematic approaches to implementing pre e-learning packages to improve simulation based training. Reducing the time and resources spent in preparing for simulation scenarios will provide opportunity for better use of clinician instruction time. Learner preparation that is spent on self-directed e-learning establishes a better baseline understanding of the requisite material needed for simulation courses.

Methods

The centre engages instructors using a standard approach in order for the e-learning team to have a clear understanding of education approach used and desired salient educational outcomes. The use of existing on line simulations helps the instructors to explore the potential for ability of e-learning to augment their simulation courses. In addition to this, equipment based practical skills are explored for generic methods of use. Pre and post assessments are included to help instructors understand their learning group prior to commencing simulation training.

Results

Learners benefit from e-learning using an interactive approach to assist their understanding of abstract clinical concepts that are often necessary for simulation scenarios. E-learning simulation models have been constructed for learners to enhance engagement with complex material that has been traditionally presented as tables or charts. For example a learner may change the type of intravenous infusion prescribed for a patient with shock and view the resulting level of extra cellular fluid shift with explanatory comments. Using a modular approach allows re-use of e-learning material that reduces the time needed to develop material and helps to standardise components of training. The presentation will include both example of the generic on-line simulations and the process of engaging with instructors.

Conclusions

Better communication between simulation instructors and technical designers has enhanced the transferability of e-learning modules across different clinical simulation courses.



ROUND TABLE

Wednesday 1.30pm-3.00pm

ROUND TABLE 1

Simulation Instructor Certification

Chair: Marcus Watson

Panel:

1. Izhak Nadler, Aviation / Military
2. Irwyn Shepherd, TAFE
3. Christopher Churchouse, Universities Nursing
4. Harry Owen, Universities Medicine
5. Leonie Watterson, Simulations Centres
6. Michael Seropian, SSH and USA Simulations Centres

David Gaba in 2004 stated "Simulation is a technique, not a technology to replace or amplify real experiences with guided experiences that evoke or replicate substantial aspects of the real world in a fully interactive manner." How much of the benefit of this technique is due to the quality of the instructors and how much is due to the advantages of the methodology for training?

With the increasing focus and funding for simulations to improve clinical training in healthcare, Australia must address the issue of how simulations are going to be implemented. This round table will examine the simulations instructors' skills and if there should be some form of credentialing to meet the needs of our future healthcare workforce. A panel of experts with experience in delivering simulations in Universities, TAFE, simulations centre and other industries will help to answer the following Questions. The round table will also use an audience response system to collect feedback on the direction Australia should pursue on development of instructor guidelines or certification for healthcare.

1. How do you get job done: is running the course more important than the quality of the instructor?
2. Is it desirable to have instructor standards?
3. What are the skills of a simulation instructor?
4. Are there different levels of a simulation instructor?
5. Do we certify different educational methodologies?
6. What sort of training is required to become a simulation instructor?
7. What current courses are available for health professionals to become a simulation instructor?

FREE PAPERS 8

Wednesday 1.30pm-3.00pm

SESSION 8 - OPERATIONS AND LOGISTICS

The Operationalisation of a Simulation Centre in a New Graduate-Entry Medical School in Regional Australia

Kathleen Cartwright, David Birks, Caroline Rossetti, George Somers, Debra Nestel and Chris Browne

Aim

There is a distinct gap in the literature about the operationalisation of new Simulation Centres. To this end, we documented the opportunities and challenges of establishing and managing such a Simulation Centre in an equally new medical school.

Background

The Gippsland Medical School (GMS)-Monash University's graduate-entry medical program based in regional Victoria-received its first student intake in 2008. A purpose-built Simulation Centre featuring a wide range of technological fidelity (from fully animated manikins driven by sophisticated software in immersive environments to low fidelity manikins and part-task trainers) was an integral part of the curriculum delivered to students.

Methods

We documented simulation activities during 2008, exploring student and staff experience and stakeholder feedback on the conduct and delivery of simulation activities.

Results

The high fidelity manikin, SimMan (Laerdal P/L, Oakleigh, Victoria), captured the imagination of the cohort, resulting in high expectations of its integration in the teaching program. The possibility of embedding the technology in the curriculum exposed areas of unmet need (staff training, management of student expectations). Supporting operational documentation was incomplete and complex.

Our results suggest that the following are important during the early initial phases of operationalisation of a Simulation Centre: rapid-cycle infrastructure testing, comprehensive user training, and complete documentation in an accessible form.

Conclusions

Our experience in the operationalisation of a new Simulation Centre highlights the limited value of technology as an end to itself. Adequate support, skills integration, trained staff, and cross-disciplinary involvement will provide opportunities for improvement in curriculum delivery.



CRM Behind the Screen: Planning and Logistics Template for Multi-scenario Research

Kaylene Henderson

Introduction

Use of multi-scenario simulation as a research tool requires planning, consultation, consistency, and teamwork. We undertook a major research project which involved 14 different complex ICU scenarios each study day. A high level of consistency in all aspects was required on more than 20 study days over 15 months.

Nine ICU's in 4 cities provided more than 40 critical care teams (1 doctor, 3 nurses) as study volunteers.

Methods

In the planning stage, with the challenge of limited time and budget, a core team of four planned, programmed and documented 14 complex scenarios. These mandated the creation of a generic ICU with a very high level of fidelity including use of real drugs. The conduct of the day was tightly scripted, including orientation process, scenario staging and supporting presentations.

Each day was delivered by the same 4 faculty following the exhaustive template and using check lists. CRM principles were explicitly applied for the successful delivery of these very high activity days. These included clear leadership by a designated coordinator, role allocation, closed loop communication and cross monitoring.

Given the complexity of requirements, the group expected unanticipated events which indeed occurred. Resolution came from tight teamwork and dynamic decision making (ironically the subject of the research).

Discussion

We present a template approach which may assist others with the extensive planning, development and delivery of research using simulation. Creating a consistent environment suitable for research requires a dedicated team with a very clear understanding of the research project.

Introduction to Simulation Instruction and Facilitation Program

Irwyn Shepherd

Aim

To deliver a vocationally-based beginner simulation instruction and facilitation program that provides participants opportunity to begin using a range of education theories and simulation information, techniques and technologies in developing and delivering simulation education programs.

Background

This three (3) day program was designed to fill a gap in the current clinical teaching environment where there is an identified dearth of healthcare personnel with the necessary fundamental knowledge and skills for designing, delivering and evaluating simulation-based education programs.

Methods

The program format was designed around current evidence, benchmarking and a need analysis. It is learner-focused towards generating a beginning understanding of the role of a Facilitator and Instructor, with practical applications for participants to now build on. The program covered what was deemed to be the essentials to get started using simulation as a teaching and learning process. The format of the program provided sequenced opportunities for the participants to link theory to practice as individuals and as a group.

Results

Pre-program data indicates they all identified limited understanding of simulation and its applications. Post program data demonstrates a measurable shift in their understanding of simulation and its applications. Responses are based on a self-judgement / self-efficacy education model. Thematic analysis of qualitative data reinforces this outcome.

Conclusions

We have been able to design, deliver and evaluate a quite unique program in the sense that it has a solid underpinning educational modelling and paradigm necessary to maximize the use and impact of simulation. Some modifications will be generated based on customer input.



US Military Medical Simulation: State of the Art

Gilbert Muniz and Alan Liu

The experience of military medical simulation in the United States has been quite different than that of the Australian Defense Forces (ADF). The ADF military medical simulation has been driven by a cohesive Defence Simulation Strategy expressed in the 2006 Defence Simulation Roadmap. On the other hand, the experience of the United States armed forces (ie the Department of Defense, the US Army, the US Air Force and the US Navy) began as an ad hoc, piecemeal, fragmented approach with many costly failures. More recently, the US military experience has begun to evolve in a more cohesive effort but still driven by individual service specific initiatives. More specifically, each of the armed services in the US have over the past ten years developed a curriculum based medical simulation training platforms to address specific training needs of specific medical personnel. Much of the focus has been on skills and procedure based training and is only today beginning to concern itself with comprehensive medical simulation team training. But they lack a strategic policy. As such, they lack a roadmap that identifies the key policy makers and shareholders and defines and details the resources which can be targeted to stated, measureable aims. This presentation will focus on the evolution of the US military medical simulation experience to see where it stands today and how it might benefit from the experience of the ADF. Specifically, the discussion will tease out the experience at the corporate level which is the Department of Defense and then follow suit with the Army, Air Force and Navy experience. Lastly, the discussion will turn to a brief list of policy recommendations to guide subsequent development of the US military medical simulation effort.

WORKSHOPS

Wednesday 1.30pm-3.00pm

WORKSHOP 11

Teaching Undergraduates Methods in Simulation

Harry Owen and Cyle Sprick

Not available at time of printing.

WORKSHOP 12

Writing for Publication: You Can Do It

Suzie Kardong-Edgren

Writing is a learned skill that can take you, your career, and your simulation center farther than you thought possible. This workshop will help you discover your unique slant on ideas for publication and prepare you for the submission, peer review, and response process. Come with your ideas for manuscripts to share.

PLENARY SESSION

Wednesday 3.30pm-5.00pm

PLENARY SESSION 4

A 50,000 Foot View of Simulation from a 12,500 Foot Kinda' Gal

Suzie Kardong-Edgren

From the perspective of an author, editor, researcher, member of multiple simulation organizations, visitor of many simulation centers, and humble private pilot, Dr. Edgren will present a 50,000-foot overview (heights flown by the SR-71 spy plane) of where simulation worldwide is today and where it is going. Thoughts on simulation as an adjunct to traditional clinical placements, best practices in simulation adoption, prospects of a national/international approach to simulation, and the role of competency testing in academia and the practice setting will be shared.



Producing the New Health Professional: Inter-Professional Learning and 'Joined Up Practice'

Alison Lee

Where are health systems heading in the move towards addressing crises in sustainability and new challenges for the delivery of safe, effective health care? What kinds of health professionals are required to meet these challenges? How are they to be educated?

In this presentation I will outline one Australian initiative in the re-shaping of health professional education: the development of interprofessional learning. I will discuss the findings of a national project, Learning and Teaching for Interprofessional Practice (L-TIPP [Aus]), and outline directions suggested for future development in health professional education arising from this study. I will conclude with a broader discussion about a range of challenges to health professional practice and learning: consumer engagement, patient voice and the use of new technologies for learning, and ask questions about how these impacts on curriculum development in health.

THURSDAY, 10TH SEPTEMBER 2009

BREAKFAST SESSION

Thursday 7.30am – 9.00am

ASK THE EXPERTS: RESEARCH I AM TRYING TO DO?

Simulation and its Effect on Clinical Decision Making: A Constructivist Investigation

Jacinta Secomb

The objective of this research is to explore knowledge development and clinical decision making in undergraduate nursing students using self instructive computer based simulation activities. Currently in nursing education the use of technology is self limiting. Previous research on simulation education activities has failed to fully inform pedagogies and its effect on clinical decision making. This study involves two investigations that follow a logical sequence of mixed methods. The theoretical perspective that underpins both investigations is William Perry's (1970) cognitive constructivist theory. It is an assumption of this study that the higher the cognitive score, the greater the ability of the nursing student to make informed valid decisions in their clinical practice. Firstly, the objective scoring instrument of cognitive development based on Perry's scheme the Learning Environment Preferences (LEP) will be used in a group parallel randomised controlled trial design, to refute the null hypothesis that self instructive computer based simulation activities have a negative effect on cognitive abilities. Secondly, Perry's scheme and previous research will provide the initial coding framework in a directed content analysis of focus group transcripts. This second investigation will explore factors reported by students' that relate to knowledge development and increased abilities to make decisions in their real world clinical practice from the use of simulation activities. This approach stands to make a contribution to current understandings of online self instructive simulation technology and clinical decision making in health science education.



Software Framework for Performance Assessment in Medical Training Simulations

Greg Ruthenbeck and Fabian Lim

Aim

The Software Framework for Performance Assessment (SoFPA) provides a system for adding standardised assessment capabilities to medical simulation software.

Background

As the acceptance and usage of medical simulation training increases, there is a growing need for a standardised method for competency evaluation. Medical tasks and procedures typically consist of interactions between surgical instrument and tissue. Interactions can be decomposed into measurable elements which will provide a basis for standardised assessment measures. Since most medical procedures can be decomposed in this way, SoFPA can be applied to a wide range of computer based medical simulations.

Methods

The initial implementation of SoFPA will be integrated with our medical training simulations. This includes simulations for endotracheal intubation and ablation tonsillectomy. Performance assessment measures to be included are:

- accuracy of movement (path tracking)
- accuracy of interaction (identifying key anatomies and pathologies)
- appropriate use of force
- timing (task completion and reaction times) SoFPA will be trialled on medical students through both procedures to demonstrate its capabilities and flexibility.

SoFPA also provides an effective means for determining which measures are important for assessing competency for specific procedures.

Introducing Team STEPPS into Medical Education via Clinical Simulation

Peter Loa

Up to 70% of clinical errors has been associated with poor communication and teamwork (Kohn, Corrigan & Donaldson, 1999). However, assessing teamwork and communication has been fraught with difficulty. The efficacy of training programs can also be difficult to prove.

However, TeamSTEPPS (Team Strategies and Tools to Enhance Performance and Patient Safety) is a comprehensive teamwork and communication program developed by the AHRQ in the United States (Agency for Healthcare Research and Quality) and the DoD (Department of Defense) in the US (Clancy & Tornberg, 2007). Training systems such as TeamSTEPPS have been shown to reduce observed clinical errors by 50% (Morey et al., 2002).

In the October 2004 supplement of the Quality and Health Care journal, there are numerous examples of simulation training being used to teach teamwork and communication skills successfully. Aggarwal et al. (2004) reports simulating an operating theatre to teach junior residents safety and human factor issues that may make the operation difficult. Features of simulation training is conducive to teaching communication and teamwork skills are its flexible delivery via various scenarios, ability to create new group formation and reinforcement over many years throughout medical.

Simulation training can be used to teach TeamSTEPPS principles. The evaluation of its efficacy and how it can be integrated throughout the medical school curriculum and later throughout junior doctor training and continuing medical education programs is ripe for further discussion and research.

References

- Clancy, CM and Tornberg DM, 2007. "TeamSTEPPS: Assuring Optimal Teamwork in Clinical Settings", *American Journal of Medical Quality*, Vol 22, No 3, 214.
- Kohn LT, Corrigan JM & Donaldson MS, 1999. "To err is human: Building a safer health system". Washington, DC: National Academy Press.
- Aggarwal R, Undre S, Moorthy M, Vincent D, Darzi A 2004, "The simulated operating theatre: comprehensive training for surgical teams" *Quality Safety Health Care*; 13 (Supplement 1), i27-i32.
- Morey, JC, Simon, R, Jay, G.D et al, 2002. "Error reduction and performance improvement in the emergency department through formal teamwork training: evaluation reports from the MedTeams project". *Health Services Research*, Vol 37, No 6, 1553-1581.



FREE PAPERS 9

Thursday 9.00am-10.30am

SESSION 9 – TECHNICAL

The Development of a Haptic Device for Abdominal Palpations in Colonoscopy Simulation

Mario Cheng, Marcus Watson, Stephan Riek, Josh Passenger and Olivier Salvado

Aim

We aim to develop a pneumatic haptic device for implementation in a mannequin for simulation of abdominal palpations during colonoscopy procedures.

Background

Abdominal palpation is a technique used in 15-20% of cases to aid the gastroenterologist when loops form in the colon causing paradoxical motion. The assistant places hand pressure on the abdomen as directed by the gastroenterologist to facilitate colonoscope progress past troublesome flexures. Current colonoscopy simulators cater only for the gastroenterologist and neglect team training. A novel pneumatic haptic device utilising air bladders to simulate abdominal palpations may improve colonoscopy team training.

Methods

To verify the accuracy and fidelity of the haptic device, we measured forces applied by an assistant. We have conducted a pilot study with a single subject placed in the prone position on a force plate. In addition, 6 infra-red LEDs were attached to the surface of the abdomen to map the deformation.

Results

The pilot study results show high sensitivity in measuring light to medium abdominal pressures which reach a maximum of 40N. Similar force curves were used as inputs to evaluate the haptic device performance. The measured force showed strong correlation with the input force during palpation. However, weak correlations with post-palpation forces were measured. This limits time between palpation simulations but does not affect the forces experienced by the user.

Conclusions

The results show that the device was capable of reproducing forces of an average palpation. The study population will be expanded to better understand the variations and range of forces involved with different body types.

References

1. J Prechel, C Young, R Hucke, T Young-Fadok and D Fleischer. "The Importance of Abdominal Pressure During Colonoscopy: Techniques to Assist the Physician and to Minimize Injury to the Patient and Assistant." *Gastroenterology Nursing* 28(3):232, 2005.
2. M Cheng, S Riek, M Watson, S Ourselin, J Passenger, O Salvado. "Pneumatic Haptic Interface Fuzzy Controller for Simulation of Abdominal Palpations During Colonoscopy." *Proceedings of the Third Joint Eurohaptic Conference and Symposium on Haptic Interfaces for Virtual Environment and Teleoperator Systems*, IEEE Press (2009) 250-255.

Evaluation of the Trucorp and iSTAN as a Training Tool for Supraglottic Airways

Colin Torrance, Alan Jones and Alun Jenkins

In the past few years a range of supraglottic airway devices (SADs) have been introduced. SADs are used by anaesthetists to overcome some of the disadvantages associated with endotracheal intubation or when there are problems with intubation. Increasingly SADs are also being used by paramedics when endotracheal intubation fails. Currently paramedics in the UK are expected to perform 25 intubations during a hospital placement as part of their criteria for requalification. However, hospital placements may provide only limited opportunities for paramedics and other health professionals to gain experience with using SADs as rescue devices for non-intubatable patients and for paediatric airway management. The Glamorgan Clinical Simulation Centre in collaboration with the Welsh Ambulance Service's Pre-Hospital Emergency Research Unit (PERU) is evaluating practical and educational aspects of preparing paramedics and other professional groups to use SAD for problematic intubation. Participants will be educated in the use of SADs using the AirSim (Trucorp) part-task trainer and METI high fidelity manikins. Preliminary results from this study focusing on assessing the fidelity of the part-task trainer and manikin airways, ease of use, correct insertion of SADs and adequacy of ventilation will be presented.



Comparison of Respiratory Mechanics on the METI Emergency Care Simulator and Human Patient Simulator using Physiologically Modeled Lung Volumes

Dylan Campher, David Liu, Lara Brewer and Simon Jenkins

Aim

We compared the respiratory mechanics of the METI (Medical Education Technologies Inc, Sarasota, FL) Emergency Care Simulator (ECS) and Human Patient Simulator (HPS).

Background

The HPS incorporates a high-fidelity mechanical lung that simulates consumption of oxygen/anesthetic gases and exhalation of carbon dioxide [1], whereas the ECS is portable and inexpensive but uses a lower fidelity lung that simply simulates carbon dioxide exhalation.

Methods

Simulator lung volumes were measured in a 2x2x3x3 factorial design. The independent variables were Simulator (HPS, ECS) and Ventilation Mode (Spontaneous, Volume Controlled Mechanical), and the controlled variables were Respiratory Rate (5, 10, 20 bpm) and Tidal Volume (200, 500, 800 mL). The dependent variable was the total lung volume reported by the physiological models. For each condition, the *Left Vol.* and *Right Vol.* parameters in the METI software [2] were recorded at 20 Hz for 180 seconds. The data were analyzed by comparing plots of the total lung volumes versus time.

Results

Measured RR was accurate for all conditions. Measured TV was lower than expected for all ECS-Mechanical, HPS-Spontaneous and HPS-Mechanical conditions.

Graphic plots of lung volume versus time approximated "normal" under all ECS-Spontaneous conditions, but the expiratory phase of the ECS-Mechanical conditions had excessively rapid expirations and "overshot" expiration below the Functional Residual Capacity (FRC).

Expiratory phases of all HPS conditions were realistic, including lung volumes consistent with the presence of intrinsic PEEP [3], which was present in the HPS-Mechanical condition when RR=20 bpm and TV \geq 500 mL. However, HPS-Spontaneous showed a reduced FRC compared to expected, and there were high frequency oscillations during all HPS conditions.

Conclusions

The higher fidelity of the mechanics in the HPS lung model is demonstrated by its realistic expiratory phases and simulation of intrinsic PEEP, although the high frequency oscillations through inspiratory and expiratory phases are difficult to interpret. The lower-fidelity ECS lung model resulted in expiratory phases more consistent with poorly compliant lungs than "normal" during mechanical ventilation (as found in [4]), despite highly realistic TV versus time curves during spontaneous ventilation.

References

- van Meurs WL, Good ML, Lampotang S. Functional anatomy of full-scale patient simulators. *J Clin Monit* 1997;13:317-324.
- Medical Education Technologies Inc. Patient Parameters. In: *ECS User Guide, Rev. 5*. Sarasota, FL: Medical Education Technologies, Inc. 2004:8.8-8.10.
- Brochard L. Intrinsic (or auto-) PEEP during controlled mechanical ventilation. *Intensive Care Med* 2002;28:1376-1378.
- Liu D, Jenkins S. Simulating Capnography in Software on the METI Emergency Care Simulator. *Sim Healthcare* 2009;4(2).

Are Mannequin Chests an Accurate Representation of a Human Chest?

Malcolm Boyle and Brett Williams

Aim

To identify if mannequin chests are an accurate representation of a human chest for decompression of a tension pneumothorax.

Background

The presentation of traumatic tension pneumothorax in the Victorian prehospital setting is <1%. It is important this uncommon presentation, managed by needle decompression, is practiced by paramedics and undergraduate paramedics using a range of educationally sound and realistic mannequins.

Methods

This is a two part study. A review of the literature to identify chest wall thickness in humans and measurement of chest wall thickness on two commonly used mannequins. The literature search was conducted using the Cochrane Central Register of Controlled Trials (CENTRAL), MEDLINE, CINAHL, and EMBASE databases from their beginning until the end of March 2009. Keywords included chest wall thickness, tension pneumothorax, pneumothorax, thoracostomy, needle thoracostomy, decompression, and needle test. Studies were included if they reported chest wall thickness.

Results

For the literature review 3,109 articles were located with 7 meeting the inclusion criteria. Chest wall thickness in adults varied between 3cm and 9.3cm at the area of the second intercostal space mid clavicular line. The Laerdal manikin in the area of the second intercostal space mid clavicular line, right side of the chest was 1.1cm thick with the left 1.5cm. The MPL manikin in the same area, right side of the chest was 1.4cm thick with the left 1.0cm.

Conclusions

Mannequin chests are not an accurate representation of the human chest when used for decompressing a tension pneumothorax and therefore may not provide a realistic experience.



FREE PAPERS 10

Thursday 9.00am-10.30am

SESSION 10 – PROGRAM EVALUATION

Participant or Observer – Is the Learning the Same? A Student Perspective

Monica Peddle

Background

Simulation based education methodology in the education of health professionals, improves the cognitive, psychomotor, affective and professional domains. Literature related to teaching and learning in simulated based education experiences claim that smaller groups facilitate more effective learning for those participants. However in a large school of nursing with over 1600 undergraduate students enrolled in total, and over 800 enrolled on one campus it necessitated introducing innovative methods to ensure the large numbers of students could be accommodated.

Methods

The principle of Legitimate Peripheral Participation was utilised to support the use of large group simulated learning experiences in which half the group was allocated as observers and half participants. In this theory the learner moves from the periphery of the action to the central hub and learning is seen as a process of social participation.

A Pilot study utilizing large groups of up to ten members in simulated learning experiences was conducted in the first semester 2008. Second year nursing students experienced educationally sound simulated learning experiences. Participants within the group were allocated a role either participant or observer.

An evaluation was carried out post simulated learning experience to compare the learning of the participants with the observers.

Results

Preliminary results indicate that 62% of those student who were in the observers group felt their clinical decision making skills improved and 62% felt they learnt as much from observing the session as those who were participating in it.

Conclusions

This pilot indicates that simulated learning experiences in large groups do have the potential to accommodate large numbers with similar learning outcomes for all students whether they are participants or observers. Further investigation of this process is warranted with the use of experimental research to compare the learning outcomes of each group of learners.

Manikin to the Market: Insitu Paediatric Simulation using Simbaby and SimnewB

Irwyn Shepherd and Lyn Taylor

Aim

To provide a client based simulation experience embedded in the workplace.

Background

A client was experiencing increases in paediatric presentations to their organisation. Staff indicated they were not comfortable and competent in dealing with potential paediatric emergencies. As a result the client requested a specific simulation workshop on high risk paediatric scenarios for nursing and medical staff. Because of operational factors and our simulation mobility it was agreed to deliver the program within their clinical setting.

The program was designed, constructed, tested and validated collaboratively with the senior educator of the organisation. To help contextualise the scenarios the setting was in the recovery room of their operating theatre complex.

Methods

Two simulation scenarios dealing with the deteriorating baby and the child with laryngospasm were provided. Following a sequenced orientation, participants undertook two roles of intervention and observation and vice versa. Structured debriefing was subsequently facilitated to encourage reflection on practice.

Results

Evaluation was based on program delivery and identified learning outcomes. Using a likert scale format all participants indicated a high degree of positive outcomes for both. Data and comments will be presented.

Conclusions

The use of insitu learning using simulation is expanding and diversifying as simulation becomes more mobile. It also provides a further opportunity to engage clinicians in contextualised immersive, interactive, experiential and reflective learning, especially where the clinicians have only periodic exposure to high risk issues. If the workforce cannot find opportunities to go to a dedicated simulation centre then the simulator can come to the workplace. It just needs planning.



The Clinical Impact of a Pediatric Mock-Code Program

Pamela Andreatta, Michael Marsh and Gail Annich

Aim

The aim of this study was to determine the impact of a simulation-based mock code program for pediatric medicine residents on clinical outcomes of pediatric patients in cardiopulmonary arrest.

Background

Rapid and accurate clinical response is a critical factor in the successful management of cardiopulmonary arrest. This clinical response is often referred to as a "code" and is a coordinated effort of multiple specialists performing emergency procedures under the direction of a senior resident. The resident's leadership ability is integral to accurate and efficient clinical response to the patient. Experience managing codes is a contributing factor to a resident's leadership ability.

Methods

Mock codes for pediatric medicine residents were randomly called at least monthly. All code team members responded to the mock event as they would an actual event. 36 mock code events were called over 18 months. Mock codes were recorded and used for immediate debriefing facilitated by clinical faculty and including other team members whenever possible. Hospital records for pediatric resuscitations were examined for two years beginning 6-months prior to the mock code program and continuing for 18 months after its start.

Results

Resuscitation rates for pediatric patients increased from 3% to 48% after the initiation of the simulation-based mock code program.

Conclusions

A mock code program can significantly benefit patient outcomes in the clinical response to cardiopulmonary arrest in pediatric patients. This study provides clinical evidence of the value of simulation-based training for the benefit of patient care.

References

- Abella, B S, J P Alvarado et al (2005) "Quality of cardiopulmonary resuscitation during in-hospital cardiac arrest." *JAMA* 293(3): 305-10.
- Eisenberg, M S and TJ Mengert (2001) "Cardiac resuscitation." *N Engl J Med* 344(17): 1304-13.
- Hunt, E A, A R Walker et al (2008) "Simulation of in-hospital pediatric medical emergencies and cardiopulmonary arrests: highlighting the importance of the first 5 minutes." *Pediatrics* 121(1): e34-43.
- Risser, DT, MM. Rice et al (1999) "The potential for improved teamwork to reduce medical errors in the emergency department. The MedTeams Research Consortium." *Ann Emerg Med* 34(3): 373-83.
- Roback, M, S Teach et al (1998) *Handbook of Pediatric Mock Codes*. St Louis, Mosby.
- Su, E, TA Schmidt et al (2000) "A randomized controlled trial to assess decay in acquired knowledge among paramedics completing a pediatric resuscitation course." *Acad Emerg Med* 7(7): 779-86.

Watch and Learn: Evaluating Scenario Based Learning Outcomes in Participant and Observer Groups

Andrea Thompson, Victoria Hynes, Dane Barclay, Stephanie Fox-Young, Elesha Toscano, Pauline Varghese and Tracey Brandis

Aim

To examine the value of facilitated observation for a group of medical and nursing students during an inter-professional simulated ward exercise.

Background

A series of inter professional simulated ward exercises were developed, conducted and evaluated in a joint Skills Development Centre and University of Queensland Faculty of Health Sciences project. Overarching objectives of the exercise included introducing students to a inter professional learning environment, the management of clinical challenges and developing students' awareness and understanding of non technical skills and their impact on clinical performance.

Methods

Each ward exercise featured nine standardised patients managed by three nursing and two medical students, with senior staff available as appropriate. Prior to the exercise, students were allocated a participant or observer role. Participants performed as newly graduated practitioners through three related scenarios, with "ward time" suspended during the debriefing phase. The observer group were facilitated by a member of the faculty whilst observing the ward simulation. All students actively participated in the debrief process. Pre and post course questionnaires and post course telephone interviews were conducted.

Results

Pre ward exercise questionnaires indicated high levels of readiness for inter-professional learning. Analysis of questionnaires and students' reports exhibited increases in both the participant and observer groups in attitudinal changes towards inter-professional learning. Preliminary findings of student interviews indicated similar learning perceptions and perceived benefit of the experience between participants and observers.

Conclusions

Evaluation data suggests that facilitated observation of a simulated event can produce perceived learning outcomes comparable to that of participation. This may benefit areas where large numbers of students are required to undertake an activity which is traditionally conducted on a high faculty to student ratio.

References

1. Parsell G, Bligh J. The development of a questionnaire to assess the readiness of health care students for inter professional learning (RIPLS). *Medical Education*. 1999;33:95-100.



ROUND TABLE

Thursday 9.00am-10.30am

ROUND TABLE 2

Accreditation of Simulation Programs

Chair: Cate McIntosh

Panel:

1. Spencer Beasley, Clinical Professor of Paediatrics and Surgery, Christchurch School of Medicine and Chair, Board of Surgical Education & Training, Royal Australasian College of Surgeons
2. Peter Dieckmann, Researcher, Danish Institute for Medical Simulation, Herlev, Chair, Society for Simulation in Healthcare (SSH) Research Committee, and Vice-President, Society in Europe for Simulation Applied to Medicine (SESAM)
3. Alexander (Sandy) Garden, Associate Professor and Clinical Associate Director, Sleep Wake Research Centre, Massey University, Supervisor, Central NZ Rotational Training Scheme, Department of Anaesthesia, Wellington, and Chair, Australian and New Zealand College of Anaesthetists' Courses Working Group
4. Joanne Gray, Senior Lecturer, Director of Midwifery Studies, University of Technology, Sydney
5. Jennifer Keast, Senior Lecturer, Manager, Monash Simulation Network, Monash University
6. Brian Robertson, Director, National Patient Simulation Training Centre, Wellington Hospital Associate Professor, Department of Anesthesiology, University of Auckland, and Chair, NZ Association for Simulation in Healthcare (NZASH)
7. Leonie Watterson, Clinical Associate Professor, Director, Simulation Division, Sydney Clinical Skills & Simulation Centre, and Chair, Australian Society for Simulation in Healthcare

This roundtable will explore the following questions:

1. Do we need standards for simulation programs?
2. Which body, or bodies, should be responsible for developing and managing such standards?
3. Is there a baseline level of common expectations and language in relation to core elements required for a program? What are these elements?
4. Can or should such standards be international or national?
5. Will standards maintain or improve quality in simulation-based education and training?
6. What are the potential barriers to adopting a set of standards for programs?
7. What checks and balances are currently in place to ensure standards for simulation based education and training?

Format

The session will open with a 5-minute presentation describing the efforts to date of the Society for Simulation in Healthcare (SSH) in developing a set of standards for the accreditation of simulation programs.

Each panel member will briefly outline their views on the need for, and potential benefits of standards. The panel and audience will then explore a series of questions and hypothetical situations to discuss the pros and cons of standards for simulation programs.

WORKSHOPS

Thursday 9.00am-10.30am

WORKSHOP 14

Facilitating Simulation Using Actors and Standardised Patients: Tools and Techniques

Christopher Churchouse and Kirsty Bayley

The use of actors or community members as Standardised Patients (SP) is being embraced more and more in healthcare simulation. Barrows (1987) defines a SP's as a person ... who has been carefully coached to simulate an actual patient so accurately that the simulation cannot be detected by a skilled clinician".

The use of SP enables simulation to go beyond skills based education and to encompass a more holistic approach to the learning experience.

This workshop will provide guidelines to assist facilitators in preparing actors or SP to present holistically relevant healthcare simulation.

The aim of this 90 minute workshop is to:

- demonstrate how to develop a template for creating scenario based improvisation scripts to guide actors and SP in the simulation environment
- outline techniques for facilitators to work with actors and the SP to define the parameters and action of the scene to be improvised
- provide facilitators with technical skills to undertake pre and post production management processes
- provide direction on design and production requirements to ensure the illusion of reality is maintained.

Using case scenarios, this workshop will summarise the development of resources to support the use of actors and SP in a variety of scenarios. It will also discuss the need for training to emphasise psychological fidelity, with the aim of providing a training workforce with all the usual benefits of simulated patients but with the flexibility of a valid performance that mimics the real health environment.

Reference

Barrows, H (1987). (Standardized) Patients and other Human Simulations. Retrieved December 22, 2008 from Association of Standardized Patient Educators at http://www.aspeducators.org/sp_info.htm



WORKSHOP 15

Introduction to Setting up an AV System for Teaching

Chris Carpenter, Sue Wulf and Martin Rochford

Many simulation centres are setup and run by individual(s) from a clinical background. While the skills of teaching and curriculum development may be solid, their technical knowledge of audio-visual systems is usually a weakness that can lead to a large outlay of funds for a system which is not adequate for the purpose envisaged by the centre's creator. Centre directors do not always require detailed knowledge of AV products, but rather a general understanding of AV systems to be able to adequately participate in two-way communication of their needs to a third party.

This workshop will increase the participant's knowledge and understanding of AV systems to allow them to conduct a needs analysis, communicate with an AV third party and/or design and build/modify their own system.

Disclaimer

Chris Carpenter is a Biomedical Engineer with SCSSC. Mr Carpenter also runs a business called CC Simulation which provides design and consultation services for the set up of audio visual systems for Medical Simulation Centres. CC Simulation is not affiliated with SCSSC.

WORKSHOP 13

The Value of Multi-source Feedback and Reflection Tools for Learning Within the Simulation Environment

Margaret Bearman, Brian Jolly, Elizabeth Molloy and Debra Nestel

This workshop explores the value of two clinical education feedback and reflection tools – multi-source feedback (MSF) and learning needs analysis – with respect to learning through simulation. Multi-source feedback, where a practitioner and self-nominated peers assess the practitioner's performance using standardised rating forms, enables clinicians to compare how they see their own practice with their colleagues' perspectives on their performance. Learning needs analysis takes a different approach to the MSF and provides a way of focusing a learner to reflect on strengths and deficits in learning and performance and to generate meaningful and targeted personal learning goals. Data derived from both of these tools, in conjunction with skilled facilitation techniques such as a face-to-face 'learning conference' can optimise learning within a simulation experience.

This workshop uses small and large group activities as well as formal presentations to explore the theoretical underpinnings and application of these tools in simulation environments. After completing this workshop, participants should be able to:

- locate commonly available multi-source feedback (MSF) tools
- tailor a learning needs analysis form for use within a specific simulated environment
- describe the benefit and challenges associated with using MSF
- describe the benefit and challenges associated with using learning needs analysis
- illustrate the potential integration of MSF and learning needs analysis into a simulated environment
- practice using feedback and reflection principles in clinical simulations.



ROUND TABLE

Thursday 11.00am-12.00noon

ROUND TABLE 3 - POLICY

Policy – What the Future Holds?

Peter Carver, Executive Director of the National Health Workforce Taskforce (NHWT)

Chair: Leonie Watterson

Talk (20-30 minutes)

Talk will address the following topics:

1. Overview of the COAG reforms.
2. How the reforms will impact on clinical training governance, organisation and delivery; including simulation.
3. Overview of the SLE project including consultation and communication.

Panel discussion (30-40 minutes)

Panellists (5)

1. Peter Carver – Director of National Healthcare Workforce Taskforce (NHWT)
2. Brian Jolly – Head of Department, Centre for Medical & Health Science Education, Monash University, VIC
3. Peter Dieckmann – Work and Organizational Psychologist, Danish Institute for Medical Simulation (DIMS), University Hospital in Copenhagen
4. Rhona Flin – Professor of Applied Psychology, Industrial Psychology Research Centre University of Aberdeen, King's College, Old Aberdeen
5. Suzie Kargong- Edgren – Assistant Professor of Nursing, Washington State University College of Nursing, Spokane, Washington, USA

The panel discussion will explore the following questions

1. National planning and Implementation
 - a. What are the major considerations in establishing a national plan?
 - b. To what extent have these been adopted in other countries/ jurisdictions/centres?
 - c. How is training delivered in other countries – vertical or horizontal (inter-professional) integration?
2. What have we learnt from simulation in the last decade that can inform the national plan for Australia?
3. Evaluation and outcomes
 - a. How is work conducted via SLES evaluated?
 - b. What outcomes will be most highly valued? – improved training, increased capacity, improved patient safety, improved organisational culture, workforce competency or other
 - c. How much weight should be given to evidence of improved outcomes in respect to allocation of resources?
4. How ready are SLEs at present to carry out the work of the NHWT in respect to the training of health professionals?
5. Funding models – what makes a successful SLE business model?

POSTERS

On Display: Tuesday 8th September 2009 – Thursday 10th September 2009

Poster Discussions: Tuesday 8th September 2009 (1700-0900)

Poster Round: Top Ten Presentations (P1 - P10)
Wednesday 9th September 2009 (1100-1230)

P1

Development of the Monash University Simulation Network

Jennifer Keast and Brendan Flanagan

Aim

This poster visually plots the course of the Monash University Simulation Network from its inception to its current state.

Background

During 2008 it was recognised that Monash University had an opportunity to establish a national leadership role with respect to simulation in healthcare through establishment of a faculty wide simulation network. Aims included organizing, standardizing and formalizing simulation based delivery within the faculty, to form partnerships with potential health services, to recognize research opportunities and to address the burgeoning clinical placement challenges. From an educational perspective, the crucial component of the development of sustainable vertically integrated curricula, interprofessional learning opportunities and development of workplace-based assessment techniques was identified as key drivers.

Methods

Issues Identified:

- Aims, objectives and purpose
- Governance issues
- Clinical sites
- Site visits
- Existence of overseas networks
- Mapping exercise
- Basic needs analysis

Results

Data was collected and collated from all sites and an action plan for each site developed in order to harness existing enthusiasm at sites, plan for short and long term goals, and assist in supporting existing programs.

Conclusions

Where to from here? There is still much work to be done. This poster describes the challenges, successes, trials and tribulations to date of the implementation of a faculty wide simulation network, and also describes future planning and anticipated outcomes.



P2

The Potential of Simulation for Aero-medical Mission Rehearsal

Anthony Hopcraft, Sandra Riley and Marcus Watson

Aim

The Royal Australian Air Force's (RAAF) Health Operational Conversion Unit, wishes to explore the potential of simulation for Aero-Medical Evacuation (AME) mission rehearsal.

Background

The RAAF has a long history of using simulation to conduct potentially hazardous training in risk-mitigated environments. It has realised the capabilities and cost-containment potential of simulation and expanded its employment to a multitude of other roles. Notable inclusions include the delivery of healthcare and mission rehearsal. In response to real-world operations, there is often little time to prepare for more complicated AME missions. Simulation may be applied to such circumstances to achieve near real-time mission rehearsal.

Methods

Subject to AME mission requirements, carrying a medical simulator mannequin on-board the aircraft may allow team members to rehearse caring for the patient in-flight. Familiarising the AME team with the anticipated physiology, prior to retrieving the actual patient, may help focus the AME team for the mission ahead. Simulation may also allow the team to rehearse their response to patient deterioration in-flight. Allowing a synergy of preparedness to be achieved between the clinicians and the aircrew.

Results

Previous trials of carrying a medical simulator mannequin on-board have shown promise in creating a more immersive environment for the AME team to train in.

Conclusions

Simulation has provided a capable vehicle to predict the effects of change and to rehearse the required tasks. It prepares the health worker for the challenge ahead and helps them achieve the desired mindset in an environment tolerant to mistakes and error.

P3

Actor Training for Surgical Team Simulations in a Portable Simulation Environment

Eva S Kassab, Dominic King, Louise M Hull, Nick Sevdalis, Sonal Arora, Roger L Kneebone and Debra Nestel

Background

Surgical training provides opportunities for structured learning of the complex set of skills required for safe surgical practice. Simulations enable surgeons to practise these skills without risk to patients. However, recruiting healthcare professionals to recreate a full surgical team is difficult and resource intensive. We trained professional actors to portray members of a surgical team in a portable surgical environment, which recreates a fully-equipped operating theatre (OT) by using portable, low-cost equipment. Aim: To evaluate a training programme for actors to play roles of surgical team members (anaesthetist, scrub nurse and surgical assistant) in the context of a portable OT simulation environment.

Methods

The iterative one-day-programme comprised written materials, video discussion and experiential activities. Evaluation methods consisted of post-simulation interviews and questionnaires with actors and participating surgeons. Participants were recruited by convenience sampling. Quantitative data were analysed using descriptive statistics and interviews by thematic extraction.

Results

Three actors underwent training for simulations. Six surgeons completed six simulations. Surgeons' perceived realism of actors was 4.7 (SD= 1.4; 6-point scale 1=not at all realistic to 6=completely realistic). Feedback, rehearsal and a video of the surgical procedure were highlighted as particularly valuable. Suggestions to improve training include watching real operations and talking to healthcare professionals.

Conclusions

After relatively brief training actors can realistically portray members of a surgical team in simulations designed to support surgical training. Although the study has some limitations, its findings have relevance to the growing field of high fidelity, simulation-based surgical team training.



P4

Creating an Immersive Simulation to Support the Development of Non-technical Skills in Surgical Trainees

Jennifer Keast, Adrian Anthony, Margaret Bearman, David Birks, Sheryl Cardozo, Ian Civil, Kathleen Hickey, Brendan Flanagan, Brian Jolly, Mary Langcake, Liz Molloy, Debra Nestel and Cathy Steele

Aim

This presentation describes an inexpensive and rudimentary part- task trainer interfaced with a SimMan mannequin to engage surgical trainees in an immersive simulation to explore non-technical skills.

Background

Immersive simulation can provide an ideal setting to teach non-technical skills in a realistic environment. However, without a relevant clinical context, it is harder to engage trainees in learning. Our research focus was the extent to which surgical trainees engaged in the simulation designed for the development of non-technical skills.

Methods

A simple, low cost device was aligned with SimMan in an operating theatre environment. This was the "hook" to engage surgical trainees and we hypothesized that this simple device would be an additional and critical trigger. It was important that the device complimented rather than distracted from the learning objectives of the scenario.

Results

Two trainees completed the scenario with twelve others observing. Trainees reported that the environment was realistic whilst observers could not tell that it was a simulation. Genuine discourse between the surgeons occurred with respect to the immediate management of the patient-their shared priority was achieving haemostasis. In parallel a secondary conversation took place between nurses on management of uncertain intra operative instrument sterility. These two groups had differing priorities which highlighted the use of skills such as communication and leadership, graded assertiveness and situation awareness to achieve a common goal.

Conclusions

This scenario demonstrated that with simple adjustments to SimMan a scenario was created that engaged trainee surgeons in learning activities designed to support the development of non-technical skills.

P5

Development of a Device for Improving the Fidelity of Respiratory Auscultation During Simulations

Peter Thomas, Daniel Host, Andrea Thompson and Dylan Campher

Aim

To develop a device that could be used with standardised patients and manikins to improve the fidelity of respiratory auscultation during simulations.

Background

Limitations in the design of many commercially available manikins impair the fidelity of respiratory auscultation and may prevent the attainment of associated learning outcomes. These limitations include the inaccurate replication of lung sounds; manikin designs that hamper transmission of lung sounds to a clinician's stethoscope; and poor reproduction of normal anatomical / physiological variations in lung sounds.

Methods

A computer engineer was employed to develop software that allowed selection of lung sounds from a remote computer. The computer was linked to fourteen switches that can be concealed and positioned on a manikin to reflect common anatomical auscultation points. A range of wireless transmission devices were trialled for range/clarity/interference to transmit the lung sounds to a modified stethoscope.

Results

The auscultation device allowed the fidelity of auscultation during simulations to be significantly improved and increased the ability to interpret lung sounds. The software allowed selection of lung sounds that can be different over the fourteen triggers/switches. Additionally, the software allowed lung sounds to be pre-set for specific scenario set-ups and easy modification during scenarios.

Conclusions

The design of the auscultation device has been effective in improving the fidelity of simulations that require the reproduction of lung sounds on manikins (e.g. SimMan™) or standardised patients/actors. It is affordable and can be integrated with manikins that are currently available commercially.



P6

Multi-Parameter Fully Wireless Physiological Monitoring System for a Simulation Training Environment

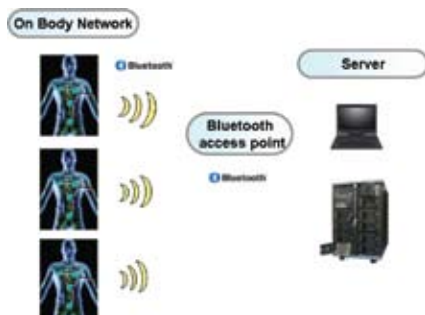
Joshua Khoo, Ke Ma and Ian Brown

Aim

This paper concerns the development of a non-invasive, non-intrusive fully wireless physiological monitoring system in a simulation-training environment to observe physiological variances during periods of high emotional stress in physicians.

Introduction

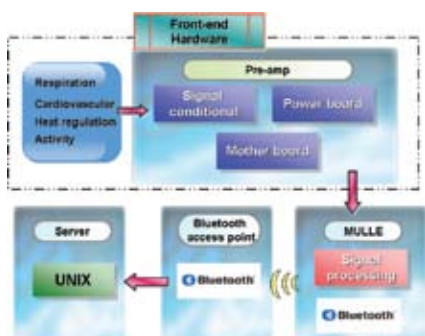
Wireless monitoring systems have been developed for countless ambulatory applications and have the advantage of being less intrusive [1] and being more mobile than their wired counterparts [2]. Implementing a wireless physiological monitoring system in a simulation-training environment enables transparent monitoring of a subject or multiple subjects simultaneously for example, physicians and nurses undergoing simulation training.



On body network' external network connections

Methods

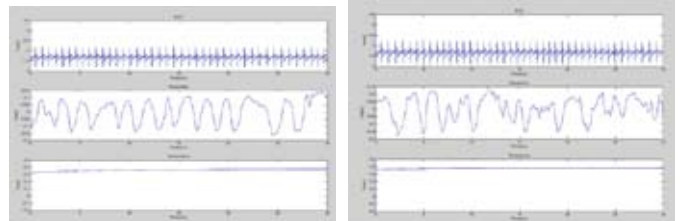
An integrated multi-parameter signal conditioning board, micro power board and sensor node expansion board have been developed for this application and is capable of wirelessly monitoring stress related parameters such as heart rate, heart rate variability, respiration depth and rate, temperature, activity, upper body posture and skin conductance. The Bluetooth sensor node is based on the MULLE platform designed in collaboration with Lulea Institute of Technology, Sweden. Figure 2 illustrates the system's implementation for this application.



Block Diagram of the Monitoring System

Results

The waveforms below highlight the physiological signal variances observed from a subject during rest and subsequent emotional stress related activity.



Ground truth measurements Emotional Stress Related Activity

Conclusions

This system has been validated with the traditional gold standard measures for physiological signals and is proven to be accurate and robust even with significant subject activity. This system can be used to analyze the effectiveness of training in a simulation environment without the intrusive need for wires 'on' and 'off' the subject under study

References

1. Hurford, R, A Martin, and P Larsen. Designing Wearables. in Wearable Computers, 2006 10th IEEE International Symposium On. 2006.
2. Sungmee P, and S Jayaraman, Enhancing the quality of life through wearable technology. Engineering in Medicine and Biology Magazine, IEEE, 2003. 22(3): p. 41-48.



P7

Infection Control: Don't Spread the Glow

Carolyn Insley, Chavonne Wyatt and Janet Willhaus

Aim

The simulation's aim was to help nursing students prioritize care in an infection control environment and to provide a review of specific skills learned in the prior semester.

Background

Using Patricia E. Benner's "Novice to Expert" theory, nursing students progress through levels of expertise. In this scenario, nursing students were expected to prioritize care from tasks requiring various levels of infection control. This simulation was conducted prior to beginning hospital clinicals for the semester.

Methods

A static manikin was prepared with a central line, a gastric tube, a foley catheter and a leg wound with a known Methicillin-resistant Staphylococcus aureus (MRSA) infection. The students provided care to the patient from a set of written physician's orders. Contact isolation precautions were in effect. The physician orders were written without specific sequence. The students gathered supplies to perform central intravenous line care, gastric tube care, foley catheter care and a dressing change. The leg dressing had been saturated with light-sensitive dye that becomes visible under a ultraviolet light. After the scenario and during the debriefing time, the instructor used a ultraviolet light to detect stray fluorescence "glow" dye on the central line, gastric tube or foley catheter as well as the patient gown and bedding and student gowns and faces.

Results

Students did not always prioritize care from "clean to dirty". Light-sensitive dye was found primarily on patient's gown and bed linens. The instructor redirected students when initiated care was improperly prioritized.

Conclusions

This instructional scenario received positive feedback from the nursing students. Critical thinking about infection control is minimally developed in this level of student. Instructor prompting was limited to asking the student to rethink their sequence of tasks. This scenario could potentially be used as an assessment for more advanced students or for competency of practicing nurses.

P8

Phlebology Emergency Crisis Management Course: A Pilot Study

Martin Rochford

Introduction

Phlebology is a medical discipline involving the treatment of venous disorders in the practitioner's rooms. This new 1-day course was designed to provide training in crisis resource management (CRM) and management of medical emergencies.

Aim

This pilot study aimed to assess whether participant confidence in life-saving techniques and CRM would increase after Simulation training.

Methods

The course began with a teamwork ball-game and Leadership training. Participants then received hands-on training in airway management and advanced cardiac life support using an ALS simulator. The afternoon involved 4 scenarios using a Laerdal SimMan and an actor. A 10-question pre and post-course questionnaire examined Participant confidence in life-saving techniques and their perception of medical Simulation as a training tool using a 5-point Likert scale. Participants rated each section of the course on a Likert scale as well as their perceived level of skill in resuscitative techniques before and after the course.

Results

11 participants were surveyed (median years practicing 30). None had prior experience of medical Simulation. There was a significant increase in confidence in life-saving techniques as well as acceptance of Simulation as a training method ($P < 0.05$). All sections of the course were rated in the "good" to "excellent" range while subjective rating of skill in resuscitation showed a significant increase from "fair" to "good" [(2.36±1.03 vs. 4.0±0.43) ($P < 0.05$)].

Conclusions

This course significantly improved participant's confidence in dealing with medical emergencies and CRM while medical Simulation was highly accepted as a training method.



P9

The Deteriorating Patient – Simulation Training for Medical Students and Junior Doctors

Adam Rehak, Stephanie O'Regan, Jenny Ludeman and Jacqui Langeris

Aim

Describes and evaluates a curriculum conducted for final year medical students addressing their imminent role in management of the acutely deteriorating ward patient.

Background

Early and effective management of acutely deteriorating patients is an important issue that has traditionally been ignored in undergraduate medical teaching. Although multiple hospital-specific models for managing the deteriorating patient exist, they are all predicated on certain fundamental principles of rapid, simultaneous assessment and stabilisation. A grounding in these principles could prepare undergraduate medical student for their imminent role irrespective of the destination hospital.

Methods

Curriculum was delivered over four hours using a range of simulation based activities designed to both introduce new knowledge, skills and behaviours, and to allow immersive practice of these in a realistic environment. Each station required independent curriculum so they could be completed in any order, but have core themes developed throughout the session. Course evaluation involved a pre and post-course self-assessment measuring participants' confidence and preparedness to assess and manage acutely deteriorating patients.

Results

The comparison of pre and post questionnaires demonstrated a mean improvement in the participants' level of confidence and preparedness in all the aspects of managing the deteriorating patient included in the self-assessment.

Conclusions

This curriculum addresses an identified need within undergraduate training and also, by the generic nature of its content, integrates with a broader program of activities aimed to prepare various levels of medical and nursing personnel, from the bedside nurse through to the resuscitation team, for care of the deteriorating patient.

P10

Multidisciplinary Crew Resource Management (CRM) in Health Care: Is Combined Classroom and Simulation-based Training Additive or Synergistic?

Robyn Clay-Williams, Catherine McIntosh, Ross Kerridge and Jeffrey Braithwaite

Aim

This study aims to determine the synergy of combined classroom and simulation-based teamwork training, by investigating attitude and behavioural changes in multi-disciplinary teams resulting from implementation of a CRM intervention.

Background

A growing body of published literature supports delivery of CRM-based teamwork training as an appropriate strategy to address the issue of patient safety in health care. Although studies have attempted to assess the contribution of various CRM training courses to improved teamwork attitudes and behaviours, few health care studies have examined classroom and simulation-based courses in combination. Teamwork training is constrained largely in health care by limited time and resources, so it is important to establish whether a synergy exists by combining the two forms of training in a similar manner to aviation.

Methods

160 doctors and nurses working in selected complex, time-critical hospital environments within an Area Health Service were randomised to receive no training, or training in the classroom, simulator, or both. Pre- and post-intervention attitudes will be measured via a modified and validated version of Sexton and colleague's 'Safety Attitudes Questionnaire' Participant teamwork behaviours will be measured via observation of team performance in two simulated scenarios, and assessed using the Mayo High Performance Team Scale (MHPTS). Participants will self-assess behaviours using the MHPTS, for comparison with observer scores. Participant knowledge and reaction data will also be gathered via questionnaire.

Discussion

Training and assessment commenced in Dec 2008, and are expected to be completed by Jul 2009. It is anticipated that sufficient data will be available to enable presentation of preliminary findings at SimTect Health 2009, alongside some of the major lessons learned in implementing this type of research intervention.



P11

Simulation Training for RMOs – Evaluating the Effectiveness in Transferring Theory into Practice

Jon Hayman and Paul Hudson

Aim

To determine the effectiveness of simulation training of RMOs in the management of the deteriorating patient.

Background

It is universally acknowledged that the recognition, escalation and treatment of the deteriorating patient is a significant health issue. This has led to the introduction of emergency response systems in many institutions. Identifying deterioration and having confidence to escalate treatment is key to activate any emergency response team. In 2009 Registered Medical Officers (RMO) at RPAH attended a designated educational session focusing on the deteriorating patient. This course included a combination of conventional small group work and simulation scenarios. The simulation created an opportunity to apply theory into practice, while facilitating an avenue for the introduction and application of crisis resource management into daily practice. From initial evaluations the participants indicated that simulation scenarios were an effective tool for the application of theory into practice, developing confidence, and motivating individuals to further their clinical education.

Methods

Participants completed a quantitative evaluation at the completion of the course, with a follow up evaluation planned after 5 months. The follow up evaluations aim to identify the effectiveness of the simulation, identifying if the initial results are consistent with results after participants have had an opportunity to apply knowledge and skills into their daily practice.

Results

Pending.

Conclusions

To be presented.

P12

Pencil to Practice: Nursing Student Recognition of an Emergent Patient Condition

Rebecca Sander and Janet Willhaus

Aim

This assessment scenario measured senior nursing student ability to assess, evaluate and recognize the development of an emergent patient condition.

Background

In a traditional paper/pencil test, nursing students had difficulty recognizing the signs and symptoms of a pulmonary embolism early in the spring semester 2009. The lead instructor wanted to evaluate whether students would act and independently administer appropriate care in the simulation lab setting when given the same signs and symptoms.

Methods

Using the Blackboard platform, a patient chart was prepared for students. This chart was made available to the student one hour prior to the simulation. The simulation was a hybrid product of an NLN developed scenario and the instructor's objectives. Twenty minute sessions were allotted for each of the 27 students. The instructor did not participate in the simulation, but debriefed each student individually afterwards. Students took a computer post test and turned in written paperwork following the debriefing.

Results

Of the 27 students assessed, four did not meet the instructors established criteria for standard of care. An unexpected finding from this simulation indicated that students at this level could not prioritize care from written orders. The post-test score mean was 21 out of 25.

Conclusions

Student feedback indicated this was an opportunity for self-evaluation. Students who did poorly recognized their own errors without prompting during the debriefing. The implication for practice is that students should be given more opportunity to prioritize care in the clinical setting without instructor or preceptor prompting.



P13

Contextualising a Generic Trauma Team Training Curriculum for One Organisation's Local Practices and Environment

Stephanie O'Regan, James Kwan, Duncan Reed and Leonie Watterson

Aim

We report on a pilot course, in which an established generic trauma team training course was contextualised for one institution.

Background

There are considerable benefits from developing curricula that have uniform content, objectives and methods as this ensures a minimum standard of practice and transferability, both pre-requisites for an accreditation process. But this should not be at the expense of learning that is contextualised to one's local workplace, which has been demonstrated to increase effectiveness and uptake. The NSW Institute for Trauma and Injury Management (ITIM)'s simulation focussed "Trauma Team Training" Course provides a consistent curriculum for multi-professional groups across NSW. The course does not instruct participants to use any specified trauma systems, in order to be applicable to a range of Emergency Departments. Westmead Hospital wanted to accredit its trauma teams with the established course and specifically against its local trauma systems. It was also hoped that the training would evaluate recent changes in the trauma system introduced as part of a recent, large organisational review of trauma services.

Methods

A needs analysis was undertaken for Westmead: identifying factors that are critical to contextualised learning, analysing whether these factors can be introduced into the established course without loss of uniform standards, and planning the course.

Results

Results to date suggest the course can be successfully contextualised, with key factors including a replication of the layout and equipment of the Westmead resuscitation ward; adapting scenarios to accommodate the configuration of trauma teams, trauma team roles and communication pathways; using local forms for scribing and aide memoires. The course will be piloted in July, when further results will be available.

Conclusions

Courses that have been developed for widespread application may be successfully contextualised to address local needs and this is likely to increase their effectiveness and also achieve quality improvement.

P14

Actor Training for Surgical Team Simulations in a Simulated Operating Suite

Eva S Kassab, Louise M Hull, Dominic King, Sonal Arora, Nick Sevdalis, Roger L Kneebone and Debra Nestel

Aim

To evaluate a training programme for actors to play roles of surgical team members to support surgeons learning new skills in a simulated operating suite (SOS).

Background

As high fidelity simulation-based surgical training is becoming increasingly more common, operating theatre (OT) teams are needed to provide a realistic context for trainee surgeons to train (e.g., in surgical crisis management skills). However, removing full OT teams from service is expensive and impractical. We created a simulated OT team by training actors to play the roles of anaesthetist, scrub nurse and surgical assistant. The training programme for the actors was developed by a multidisciplinary team and facilitated by psychologists.

Methods

The half-day programme included written materials, video discussion and experiential activities. Evaluation consisted of evaluation forms and focus group with actors. Surgeons were required to rate the team's authenticity on a 6-point-scale. Participants were recruited by convenience sampling. Quantitative data were analysed using descriptive statistics and interviews by thematic extraction.

Results

Four actors completed training and three scenarios with surgeons. Surgeons' ratings of realism were 4.7 (SD=0.6; 6-point scale 1=not at all realistic to 6=completely realistic). Actors identified the video, rehearsals of task, role and full scenarios as highly valuable. Suggestions for improvement include observation of real operations and talking to surgeons.

Conclusions

Training actors in half-a-day to realistically portray members of a surgical team for simulations was possible. These findings suggest that our training programme for actors has potential for wider application to simulation-based surgical team training.



P15

Three Phases of Simulation and Influence of Bloom's Domains Embedded in Effective Simulation

Chris Huggins

Aim

Simulation is often looked at as the practical application of skills in a scenario based application. However, is it more that this? A simulation can be divided into three distinct elements and this study looked at what each of these part plays in the effectiveness of simulation in the development of clinical reasoning.

Background

These are three logical elements of simulation:

the briefing (the affective domain, setting the scene and emotional preparing the participant) the scenario (the psychomotor domain, with some cognitive analysis) the debriefing (cognitive domain, critical analysis through public reflection).

Each of these parts plays an important role in the effectiveness of a simulation and can be linked to Bloom's three domains. These domains can play an important part the development of effective simulations and set the scene for the desired outcome of the simulation.

Methods

Nineteen health care students across five disciplines were interviewed and ten hours video observation was analysed. The data is triangulated through different data sources and professional groups.

Results

When the simulation divided into three sections, and the participants asked which if the three section they saw as the most important section, the debriefing was identified as being as important or more important that the scenario itself.

Conclusions

When you divide a simulation into its three elements and look at in conjunction with Bloom's three domains there is a clear link between the elements and the domains. This linkage helps us in developing simulations to achieve effective outcomes.

P16

Evaluating the Impact of Multiple Critical Care Simulations Within a Large Cohort of Undergraduate Nursing Students

Jon Mould and Haidee White

Aim

To assess whether the use of multiple simulated clinical scenarios is an effective way of enhancing competence and confidence in an undergraduate critical care nursing unit.

Background

Since 2005, Edith Cowan University has incorporated medium fidelity mannequins as a teaching and learning tool within a third year undergraduate critical care nursing unit. Students were exposed to nine scenarios, across a semester but due to large numbers, could only be immersed in a maximum of three. Anecdotally, the feedback has been positive but faculty staff felt that they could augment the experience by increasing the number of scenarios within the same teaching time. It was expected that the use of multiple simulation scenarios, as opposed to a single scenario would enhance problem based learning.

Methods

Within each tutorial, students were divided into clinical teams. Two Sim-men were programmed with different scenarios each week. The simulations involved the use of moulage and relevant equipment. Prompts were used, for example the mannequin would complain of chest pain prior to a cardiac arrest. These scenarios were video recorded, and then debriefed with the students afterwards. Following debriefing, a third scenario was given in the simulation suite to another team of students to problem-solve.

Results

Multiple simulations have imbedded the Australian Resuscitation Council (ARC) guidelines of advanced life support and have been a valuable learning tool. Anecdotally, faculty staff observed improvement in comparison to previous semesters.

Conclusions

The nursing students' have expressed increased clinical competence and confidence prior to attending practicum. This is evident from the students' evaluations of using multiple scenarios within a tutorial.



P17

"Workplace-based Simulation Training": How to Combine Off-JT and OJT as a Human Performance Improvement (HPI) Program

Daisuke Sugiki, Toshiro Kamisasanuki, Hiroko Iwashita, Toshio Miyanohara, Koujiro Yamada and Keiichi Ikegami

Background

Simulation-based education has been rapidly recognized in Japan. Therefore we need to have some kind of HPI program in our Trauma Center to train young doctors and nurses in an effective, efficient and engaging way. It is needed to develop such kind of instructional systems in terms of HPI. With such systems, simulation-based education in healthcare in Japan can be more popular.

Methods

We have developed a spiral-up training program which consists of workplace-based simulation (WBS) as an Off-JT and OJT. The good things of the program is that facilitator of Off-JT and a coach in OJT are the same person (faculty of our Trauma Center), thus, what young doctors learn in the simulation setting can be used in a real world. And learners and facilitators do not need to move way from their workplace.

Training was done in a small step beginning from simulation then had a real experience in our emergency room. Faculty facilitates learning using scenario-based simulation, and then coaches the learner in the real world to do tasks they learned in the simulation. Video debriefing system was used in both Off-JT and OJT.

Results

Twenty four residents participated in WBS in three years. Learning objectives were to successfully lead CPR team as a leader and successfully resuscitate trauma patients with faculty as a coach. They were interviewed after leading a real task in our emergency room. Evaluation of WBS indicated a positive response and two thirds of learners found themselves to be able to lead a team in a real situation.

Conclusions

New type of faculty who can facilitate learning and training in both simulated environment and real world is very much needed in medicine. Such faculty can be called Training Professional in Healthcare and we need to have a program to obtain such professionals.

P18

Recognising, Escalating and Treating the Deteriorating Patient – Instilling Confidence in New Graduate Nurses using Simulation

Paul Hudson, Amanda Yates and Aaron Jones

Aim

Through using simulation, the New Graduate Nurse will develop both the knowledge and confidence to recognize, escalate and treat the deteriorating patient.

Background

It has been well recognized within recent literature (both locally and internationally) that there are deficits in the recognition, escalation and treatment of the deteriorating patients. This has led to the introduction of emergency response systems in many institutions. As the recognition of the deteriorating patient is key to the activation of any emergency response team, education and the confidence to identify, assess, escalate and treat the deteriorating patient is vital. In 2008, the New Graduate Nurses Coordinator and the CPR Clinical Nurse Consultants at Royal Prince Alfred Hospital, developed a course for the New Graduate Nurse including the rapid core assessment, orientation to the cardiac arrest trolley, and team roles during an emergency response. High fidelity simulation was introduced to this course in 2009 with an aim to create a time sensitive opportunity to apply and solidify and develop the nurse confidence in their clinical knowledge and practice.

Methods

Participants complete both a pre and post quiz, and a course satisfaction survey, measuring the knowledge gain during the 1 day course and participant's satisfaction with the individual sessions. The survey and quiz is then repeated 6month after completing the course identifying knowledge and skills retained and utilized since completing the course.

Results

Pending.

Conclusions

To be presented.



P19

International Collaboration to Develop a New Web-based Recourse Centre for Simulation Educators – Introducing the SIRC

Michelle Kelly

Aim

To develop a web-based learning and resource centre to assist development and integration of simulation into curricula and facilitate dialogue with experts and peers.

Background

The Simulation and Innovation Resource Center (SIRC) is the second simulation based project, a collaborative alliance between the National League for Nursing (NLN) and Laerdal Medical. Led by a project director, nine USA and seven international simulation experts together with a technical team developed online courses and various areas of the SIRC.

Methods

The SIRC concept began in 2007 with nine USA simulation experts selected from a field of 169. International divisions of Laerdal (Australia, Canada, Chile, China, Japan and Norway) sourced local nursing simulation experts to provide international perspectives. Following the first face-to-face meeting in June 2007, work began on course development. Courses were reviewed by the international and external simulation experts. Audiovisual resources were created to complement website design. Public domains were created to enable benefit for those not taking the course options.

Results

Three courses were launched in June 2008 at a simulation conference in San Jose, California. The remaining six courses were launched in September 2008 at the NLN summit in San Antonio, Texas. Four additional courses are due for launch in June 2009. A paper on the experiences of the international participants with the project has been accepted for publication.

Conclusions

This innovative project has provided nurse educators the opportunity to engage in an international community of simulation practice and to advance the integration of simulation in nursing curricula.

P20

Crisis Management Training Course for Nurses in Japan: How to Teach 6th Sense of Experienced Nurses to Novice?

Emiko Asaka, Izumi Kawai, Daisuke Sugiki and Keiichi Ikegami

Background

It is well recognized that Rapid response system (RRS) is a MUST to have for every hospital, however, no consensus has been made on how to train healthcare providers as an effective member of Rapid Response Team (RRT). RRS works best when patients are found several hours ahead of cardiopulmonary arrest. We have challenged to develop a course to teach 6th sense to detect slight deterioration of patient physiological stability to novice nurses as the first step of RRT training.

Methods

We have adopted models of instructional design and Gagne's taxonomy. A course is divided into two parts. As a first part, learners see movie showing a patient with slight deterioration and they are asked to present what they heard or saw. Learners are expected to acquire mental skills to make a rapid assessment quickly. As next step of this part, additional information about vital signs and findings of quick physical examination is given and learners are challenged to make next assessment and report the situation using SBAR format. As a second part, scenario-based simulation in action is performed to see if learners can perform what they have learnt in the first part in real situation.

Results

We have performed beta test on four hundreds nurses and questionnaires have been studied. More than ninety percent of learners reported that 1) this course is useful to obtain assessment skills in critical situation, 2) fun to participate, 3) three to four hours is good enough to cover learning points without getting bored.

Conclusions

This course seems to fit learner's needs and instructional methods are useful for learners to get the points. This course is the first RRT Training program in Japan and it is expected that nurses take this course in addition to BLS/ACLS arm for cardiac arrest situation.



P21

Use of Two Tools to Objectively and Subjectively Assess the Efficacy of Simulation in Critical Care Scenarios

Graham Reece

The world of Medical Simulation is divided into those who believe that it provides a useful learning experience and those who do not. This uncertainty also extends into the field of Critical Care Medicine. The literature providing the evidence base to support the usefulness of Simulation in the Australian Critical Care situation, is similarly sparse.

The O.A.S.I.S. Simulation Centre at Blacktown Hospital, in western Sydney has trialled a number of tools, which together have demonstrated usefulness in multidisciplinary Critical Care settings in providing evidence of the efficacy of a number of simulated scenarios. These tools allow both the candidates involved in scenarios and their observers to measure performance across a number of fundamental dimensions, as well as to trend progress over time. The evidence generated contains both objective and subjective data points. Immediate feedback is therefore available for both those immersed in the scenario, as well as the trained observers.

These simple tools can be used to study the performance of individuals over time, groups of trainees within and across various disciplines and specialties in multidisciplinary environments, as well as to review the efficacy of certain training programs.

P22

Novice Nurses e-learning and Mannequin Simulator-based Training Design and Evaluation

Takako Yoshizato, Dennis Arturo Ludeña Romaña and Maria Luisa Catalan

Recently, nursing training has become very important in ensuring health of patients inside hospitals. Particularly in Japan where there is no standard nursing educational system, physical assessment diagnosis procedure problems appear as soon as novice nurses begin their job at hospitals. Some of these problems are directly related to the undergraduate education in view of the fact that they were not able to get enough actual nursing practice during their study period. In view of this reason, a training system for new nurses has been implemented with the aim of increasing the knowledge and skills of novice nurses at Kumamoto University Hospital. The result of the evaluation after the training of novice nurses shows that the training time is not enough. Their knowledge is not also sufficient to do appropriate, fast, efficient and confident diagnosis of a patient's condition. This improper diagnosis may lead to lower survival rate of patients. It is very well known that a successful initial diagnosis of an illness will lead to a successful treatment. Based on this principle, in this paper, we propose the fundamental steps, design concepts and implementation procedures of a more efficient training and evaluation process using information technologies, such as; e-learning systems, video-based training and utilization of mannequin simulator. All these tools together, with proper and efficient training design will lead to a successful training process. This new approach is more effective because novice nurses will be able to access the course anytime and study or review topics necessary for them to improve their knowledge and skills.



P23

Clinical Alignment Workshops for Doctors-in-Training

Marnie Connolly

Aim

Provide opportunity for Doctors in training in rural locations in East Gippsland to upgrade and maintain their emergency skills through an evening emergency skills workshop. Strengthen local emergency care networks through involving local care practitioners in collaborative learning activity.

To recognise the importance of a team approach to achieve optimal outcomes for patients.

Background

Doctors in training in East Gippsland are required to provide a range of emergency skills to rural and remote communities. There is an increased focus in medicine, nursing and paramedic education on the use of simulation for skill acquisition and maintaining skill level. This is a new method of collaboration and a new model of learning to support, educate and train rural and remote doctors in training in East Gippsland.

Methods

These workshops commenced in June 2008.

A 3 hour evening emergency skills workshop is held every 11 weeks and is part of the orientation program for new interns. All interns, 4th & 5th year medical students and GP registrars are invited to attend. Scenarios and emergency skills are derived from the feedback obtained from supervisors and participants.

Results

Participants indicate through the post workshop evaluation form, the information presented and emergency skills practiced was highly relevant and provided not only consolidation of knowledge, furthermore helped prepare participants for emergency situations. Integration of medical educational activities in the East Gippsland Region has been successful with all Doctor in training attending.

P24

International Doctors in the Workplace: Supporting Victoria's IMGs through Clinical Skills and Simulation Based Training

Stuart Dilley, Con Georgakas, Neil Cunningham, Robert O'Brien and Julian Van Dijk

International Medical Graduates (IMG) account for a large proportion of hospital-based doctors working in Victoria's public hospital system. Most of these doctors have trained in systems very different to Australian medical schools and begin work in Victoria's hospitals with little time to familiarise themselves with local work practices and cultures. Few have had any exposure to simulation based training, teamwork training or crisis resource management.

In 2008, the Post Graduate Medical Council of Victoria provided funding to allow IMGs to attend one of a number of two day clinical skills and simulation courses at St Vincent's Hospital Education Centre. IMGs working in Victoria's public hospital system were invited to attend.

The course comprised one day of advanced life support training and another devoted to trauma management. Clinical skills relating to these specific topics were refreshed, but the course also endeavoured to improve skills in the areas of teamwork, communication, leadership and crisis resource management so that these doctors would feel comfortable dealing with any critical patient regardless of their reason for presentation.

This presentation outlines the development and implementation of this course. Expected and actual challenges or difficulties are discussed and subjective participant evaluation will be presented.



P25

The Deteriorating Patient: Simulation Training for Junior Registered Nurses and Endorsed Enrolled Nurses

Stephanie O'Regan, Adam Rehak, Leonie Watterson, Jenny Neilsen and Jacinta Kilpatrick

Aim

Describe a pilot course for 130 junior nursing staff to equip them with the skills required in the recognition, communication and management of the acutely deteriorating patient on the ward.

Background

Timely recognition of the acutely deteriorating patient is an issue in all organisations, and multiple models of care have been developed to address this. Implicit in all models is the reliance upon the skills and abilities of the bedside nurse to identify, appropriately triage, initially manage and effectively communicate the relative urgency of the situation to the appropriate health care team. These bedside nurses are often the most junior members of the health care team.

Methods

A range of simulation based activities which introduce and then rehearse key skills and concepts were developed specifically for ward based nurses within their scope of professional practice in the organisation. The challenge of relatively large numbers for simulation based learning (32 per group) was met with the use of simulation stations. These stations required independent curriculum so they could be completed in any order, but have core themes developed throughout the day. Participant assessment consists of a pre and post course test and a post course workbook.

Results

The use of simulation stations has been successful in other large number courses and should adapt well to this group. The course pilots in June with four courses planned over the ongoing months.

P26

Planting Seeds: Fostering Undergraduate Inter-professional Practice through Scenario Based Simulation

Tracey Brandis, Elesha Toscano, Pauline Varghese, Andi Thompson, Fiona Bogossian, Kevin Forbes, Phillipa Neads, Victoria Hynes, Dane Barclay and Stephanie Fox-Young

Aim

To provide final year medical and nursing students with learning opportunities covering communication with colleagues and patients, scope of practice, reflection on practice and collaborative decision making.

Background

Emerging from the University of Queensland's Faculty of Health Sciences' commitment to interprofessional learning and the opportunity to work with the Queensland Health Skills Development Centre (SDC), the objective was to encourage interprofessional practice in ward based scenarios focussed on nontechnical skills.

Methods

A pilot, involving two iterations of five hours of simulation and debriefing, was undertaken in March and May 2009. Two medical and three nursing students were recruited to participate in each of the pilot exercises, with ten students undertaking observational roles. Nine patient scenarios simulating common medical, surgical and emergent events were developed by the Faculty and SDC staff.

The environment, a nine bed general medical surgical unit on a weekend, presented health related challenges, with particular themes in each of three segments – time management, challenging communication, management of crises – immediately followed by debriefing.

Results

Pre and post questionnaires and telephone interviews with students, staff and patients were used for evaluation to inform potential future developments eg expanding participation to include other professional groups, and extending the scenarios. Results of the evaluation and plans for future development of the simulation experience will be presented.

Conclusions

Overall it was a positive and valuable learning experience, albeit a staff and resource intensive exercise, with a number of recommendations for improvement in the future.



P27

Basic Life Support Education through the Use of High Fidelity Simman and Immersive Simulation: Improving Confidence and Competence in Resuscitation Technique

Nigel Chong and Mark Zasadny

A preliminary study of BLS education incorporating immersive simulation conducted at the University of Tasmania School of Nursing & Midwifery Simulation Centre, indicated undergraduate nursing students were better equipped, in terms of skill, knowledge and confidence, to deal with the complexities of delivering BLS in challenging situations.

The pilot study of third year undergraduate nursing students completing an acute care placement within a major regional hospital endeavoured to not only increase the tactile and procedural execution of BLS, but also use High Fidelity Simman to increase their confidence to perform BLS in stressful situations.

Baseline data was gathered when students performed BLS on high fidelity manikins without prior educational preparation. Pre and post BLS education questionnaires collected information concerning theoretical knowledge, competence, confidence, and previous BLS training. A theory and practical educational program was then provided to participants, culminating in an immersive BLS scenario. Following this, all participants acknowledged increased confidence and control of the BLS situation even when unforeseeable problems were introduced.

BLS is a mandatory skill that must be mastered by health care professionals and therefore, determination of the most effective and efficient education strategies must be explored. Competence in the execution of BLS has been widely reported on; however the confidence of participants within the BLS experience is an area enquiring ongoing research. Further investigation into skill retention, competency and confidence relating to BLS training may lead to a better understanding of the advantages of immersive simulation education as opposed to traditional delivery of BLS training programs.

P28

Emergency Airway Management Course for Nurses Using High-Fidelity Simulation in Korea

Junho Cho and Hyun Soo Chung

Introduction

There has been a tremendous growth in the use of high-fidelity simulator (HFS) in Korea. Nursing education is also undergoing a paradigm change as well. But no certain action was taken trying to achieve this paradigm shift. The parallel growth of HFS and nursing education shift resulted in a course on emergency airway management for nurse.

Methods

The Korean Emergency Airway Management Society is a non-profit group dedicated to education and research in airway management. Group of emergency physicians and emergency nurses gathered together to develop the course for nurses. It is a one day course consisting of didactic lectures (Airway Anatomy & Physiology, Rapid Sequence Intubation), skill stations (basic airway maneuvers, rescue airway devices, postintubation management strategies) and simulation training (head trauma, pediatric, asthma, pregnant, shock, using nondepolarizing neuromuscular agent). There were 30 and 23 participants for each two courses, respectively. The pre- and post-course score on whether the simulation improved their confidence and knowledge for airway nursing was also done using the 5-point Likert scale.

Results

The scores for overall satisfaction, interest, and recommendation to others were 4.1 ± 1.1 , 5.0 ± 1.1 , and 5.0 ± 1.1 , respectively. Improvement was observed between the pre- and post-course survey on confidence (1.8 ± 1.2 to 2.6 ± 0.8) and knowledge (1.5 ± 0.9 to 2.6 ± 1) for the simulation cases.

Discussion

High-fidelity patient simulation is becoming an essential component of nursing education. The use of HFS and other forms of simulation provide a valuable adjunct to traditional clinical nursing education. Korea nursing education has yet to utilize simulation in emergency airway nursing education. This course was the first of its kind in Korea. The curriculum was developed with emergency nurses with prior experience in airway simulation training. This helped us develop a program that we think was 'fit for purpose' for the nurses.



P29

The Analysis of Team Performance Factors during Critical Care Scenarios Using Colour Coded, Three Dimensional Graphical Profiling – the H.E.A.T. Profile

Graham Reece

In many medical emergencies, the technically correct procedures can be completed, however the team itself may appear dysfunctional and uncoordinated, leading to an unnecessarily suboptimal patient outcome. The concern in these particular settings is not usually the absence of purely technical skills such as the ability to cannulate or intubate a patient, but rather inadequate expertise with regards "Non Technical skills". These skills are essentially a variety of inter personal skills which are necessary for effective interpersonal relationships - which become more poignant due to the consequences of ineffectual team responses, in most emergency situations. The evaluation of the performance of a multidisciplinary, hierarchical team is important in many acute hospital settings, such as medical emergencies or in the context of a major Trauma. However, the meaningful analysis of human behaviour in these complex emergencies can produce datasets and coding outputs which are so exhaustive that their sheer size precludes their usefulness to either the supervisor, or the candidate. The O.A.S.I.S. Simulation Centre at Blacktown Hospital, Sydney, has been able to develop a colour coded, three dimensional graphical representation of performance called "The H.E.A.T. (Health professional's Education and Assessment Template) Profile", which provides both simple and immediate feedback for the candidate, as well as the potential for the trainer to trend performance of the "Non Technical Skills", over extended periods of time and over a range of Scenarios.

P30

Integration of Simulated Learning Activities to Improve Student Satisfaction

Joanne Gray, Rachel Smith, Caroline Homer and Jane Raymond

Aim

This project aimed to increase midwifery student satisfaction in a compulsory theoretical subject through the use of simulated learning activities. The project also aimed to assist midwifery students to identify professional, legal and ethical issues related to the midwifery practice environment.

Background

Students within the Graduate Diploma in Midwifery program at the University of Technology Sydney poorly evaluated a subject over a three year period, despite a number of changes to both subject delivery and content. Student evaluation identified dissatisfaction with this subject as they viewed it as largely irrelevant to their everyday practice. The midwifery teaching team used the UTS quality cycle 'plan, do, review, improve', in an attempt to better engage students over this three year period, however little improvement in student satisfaction scores was noted. In 2008 we implemented a program of simulated learning activities into this subject in a deliberate attempt to meet student demand for more clinically relevant subject content.

Methods

Through discussions with NSW Health and review of the literature several midwifery quality and safety issues were identified. Scenarios were developed related to a number of these, including shoulder dystocia, maternal collapse and communication. Students participated in these simulated learning activities and debriefing included identification of key legal, professional and ethical issues related to these incidents.

Results

Students were asked to complete the UTS student feedback survey. The results of this indicated an improvement in the evaluation of the subject with students giving increased satisfaction scores. Qualitative responses also identified their enjoyment of participating in the simulation activities.

Conclusions

The use of simulated learning activities has been demonstrated to be a useful means to improve student satisfaction in their learning.



P31

Simulation Beyond Skills to Clinical Reasoning

Chris Huggins

Aim

Simulation is used as a tool to provide training and skills acquisition, and for this purpose, it is powerful and well utilised. However, as an instrument to develop judgment the evidence is not so clear. This study aimed to identify any links between simulation and the development of clinical reasoning.

Background

Simulation has been utilised in the education of Health Care Professions for many years. However, they have mostly focused on the acquisition of technical skills, such as, intubation, CPR, insertion of chest drain tubes etc. While these are important skills to acquire, and it is appropriate that these are rehearsed in the safety of a simulation laboratory where there is no risk to patients. However, these skills do not occur without the appropriate decision making prior to the skill being performed in the authentic workplace. This raises the question: Can we develop clinical reasoning in the pseudo-authentic workplace?

Methods

Eighteen educators were interviewed using semi-structured interviews, also seven hours of video observation was analysed. The data is triangulated through different data sources and professional groups.

Results

When asked to describe the benefits of simulations the educators quickly focused on the technical skills. However, through more focused questions they were able to draw a link between simulation and clinical reasoning. Moreover, they identified clinical reasoning as a skill, which can be developed through a simulation.

Conclusions

Simulation is an important instrument in the development of technical skills and clinical reasoning. This is achieved through a well designed simulation.

P32

Innovative Use of Simulation with Masters' Students – Purpose Built Team Scenarios to Improve Practice

Michelle Kelly

Aim

To provide experienced clinicians and advanced adult learners with appropriate yet challenging experiences related to simulation.

To offer contemporary, authentic and clinically relevant learning experiences.

Background

A Master of Nursing subject was transformed to incorporate simulation strategies. The change enabled the subject to "come alive" and opportunity to model innovative learning strategies.

Methods

Through layered exposure, students became familiar with the applicability of simulation in health care. Individually, students undertook a literature review focussed on simulation in the context of patient safety. Working in small groups, students designed their own scenarios. Groups enacted their scenarios and received feedback from student and academic observers. The final iteration of the scenario was peer reviewed, and the recorded scenario was critiqued by a panel of academics and an external simulation expert. A reflective essay of students' experiences of designing and using simulation scenarios completed subject assessment requirements.

Results

Data from formal feedback indicated students' positive experiences: "subject was structured in a clever way; engaging and interesting; great introduction to simulation and scenario development; a new realistic concept of teaching". Analysis of written reflections revealed that initial anxieties were replaced by powerful learning experiences; previous clinical experiences were able to be relived, shared and debriefed; and the process exposed students to new ways of thinking, learning and engaging.

Conclusions

This innovative use of simulation in a university subject provided powerful, real life learning experiences for advanced clinicians and narrows the gap between practice and theory.



P33

Extending Patient Simulation Capabilities Addition of a Tympanic Thermal Output Simulator for a Low Fidelity Patient Simulator Mannequin

John Forbes and Chris Carpenter

Aim

To develop a functionally simple, reliable and realistic tympanic thermal simulator to allow tympanic ear thermometers to be used on patient simulators for the purpose of health care practitioner education.

Background

The Faculty of Nursing, Midwifery and Health at the University of Technology, Sydney use human patient simulators in a number of subjects across curricula. The inclusion of this simulator function is aimed at enriching the learning experiences of students and extending the teaching capabilities of the equipment already owned by the Faculty.

Methods

Tympanic thermometers function by reading the intensity and/or frequency of black-body radiation emitted from a patient's tympanic membrane. By simulating the radiation emission of the inner ear, temperature readings can be obtained through commonly used thermometers. The simulated radiation is produced by an infra red light emitting diode (IRLED) and controlled by limiting the current flow. Measurements were taken using two thermometers. Data were taken over a range of currents and each data sample was taken over a reasonable period of time. This data was taken in order to determine whether the prototype consistently produced desired temperature readings.

Results

Initial measurements indicated that the design of the circuit was not producing a sufficiently intense infra-red signal. However, the prototype was a proof of concept and a direct correlation between applied current and temperature measured was observed.

Conclusions

The prototype functioned as designed but further development is required in order to appropriately simulate inner ear thermal radiation and allow the device to be installed in a patient simulator.

P34

An Australian National Health Innovation and Training Network

Mike Rebbechi

Aim

To describe the proposed Network and its objectives.

Background

In 1990 the Australian research and education sector came together to create a high speed networking entity now known as the Australian Academic and Research Network (AARNet).

Through AARNet, members of the Australian Research & Education sector have access to a national broadband network at speeds from 1 Gbps to 10 Gbps.

Many health campuses in Australia already have high speed connectivity to AARNet but even though research, innovation and training in the health sector meet the "acceptable use" policies of AARNet, effective use of cannot be made of them because of firewall constraints.

In an attempt to satisfy the needs for national, high speed connectivity and in particular to alleviate the firewall issues between health and Research & Education campuses, AARNet has proposed the establishment of an Australian National Health Innovation and Training Network as an overlay of the existing AARNet infrastructure. It incorporates an auditable firewall connections agreement system to oversee connections across the network.

This network will enable Australian health innovators and trainers to operate on a national scale beyond their immediate jurisdictions.

Methods

The intention is to:

- establish a small scale pilot network
- demonstrate the potential of such a network
- seek funds for an extended pilot
- build a full scale network over AARNet infrastructure.

Results

At this time a number of sites have been identified for the pilot.



P35

A Good Simulation Spoilt by the Real World

Stewart Montano

This presentation details a situation where previous real world experience negatively affects the value of the simulation. It is the opposite of the common concern that the non-realistic aspect of simulation training could cause problems if acted upon; outside the simulator. This is one of the reasons why we strive for careful debriefing and maximum simulator fidelity.

A consultant radiologist had previously qualified as a gastroenterologist, with considerable endoscopic experience. A new helical CT scanner was installed in her dept which was able to provide a "fly through" virtual colonoscopy. A quirk of the reconstruction algorithm was to render all luminal material, in contact with the bowel wall, as similar in colour to the wall. By referring to the slice images and the different radiologic densities, such masses can be differentiated from each other. However, to an experienced endoscopist, such masses arising from the bowel wall appear to be polyps or other pathology. This will cause a significant difference in the report written about the study.

Here we see prior real world experience interfering with the value of the simulated experience. The naive radiologist is best suited to learn to interact with the simulated world, using the rules of the simulated world.

P36

The Contribution of Simulation-based Training in Paediatric Sedation to the Institutional Quality Improvement Process

Susan M Lord, Cate McIntosh and Kathryn Davies

Aim

To explore the contribution of a simulation-based training course for non-anaesthetist providers of paediatric sedation to the institutional quality improvement process.

Background

Our campus incorporates co-located tertiary adult and paediatric hospitals, sharing emergency, imaging and surgical services. Children are sedated in all these contexts by specialist and non-specialist providers. Hitherto, there existed various ad-hoc models of care with co-existent patient safety concerns. Audit and quality improvement were stymied by organisational fragmentation, deficiencies in documentation relating to sedation, and poor compliance with reporting of sedation-related incidents.

In 2007, we were commissioned to develop a simulation-enhanced curriculum to train non-specialist providers to manage sedation-related adverse events. This curriculum needed revision because many participants lacked pre-requisite skills for managing moderate-deep sedation. Furthermore, participation did not translate to enhanced service because service infrastructure remained inadequate.

Methods

We reviewed paediatric sedation clinical improvement initiatives and achievements between April 2007- April 2009 and examined the contribution of the simulation course.

Results

An evidence-based argument for the need for a paediatric simulation-based course¹ raised management awareness of sedation risks and pro-active risk management. Involvement of clinical leaders from disparate services on simulation faculty facilitated team building and strategic planning. Course progress reports highlighted system issues that continued to contribute to patient safety risk. Consequently, management approved a multidisciplinary / multiservice Paediatric Sedation Committee to coordinate audit, clinical improvement initiatives and advise on guidelines, training and infrastructure issues. Simulation will have an ongoing role in a tiered training and credentialing system, and might be used in future sedation site evaluations.

Conclusions

The simulation-based training course has been a catalyst for quality improvement and institutional change.

References

1. Lord SM, McIntosh C, Davies K. NAPS: Simulation enhanced curriculum redesign for non-anaesthetist administration of paediatric sedation (poster). SimTect 2007



P37

Introducing Clinical Safety Early in the Undergraduate Curriculum: A Pilot of a Simulation-Based Course

Stuart Marshall and Helen Kolawole

Introduction

Medical students starting in the clinical environment are frequently tasked to see patients by themselves or in pairs and report back to their tutor. If the patient rapidly becomes unwell, the students are often unsure about how and when and how to call for help.

We developed, delivered and evaluated a pilot course for medical students starting out on their clinical placements to help them maintain the safety of their patients by simple actions.

Methods

Sixteen post-graduate entry, third-year medical students attended a half-day session at the simulation centre. The learning objectives were to be able to:

- identify an unwell patient
- know how to call for help
- perform basic resuscitation actions until help arrived.

These pilot sessions were evaluated by free text questionnaires at the end of the session.

Results

All sixteen students completed the session and completed the questionnaire. All rated the session as worthwhile and well structured, and were keen for further similar sessions. The majority reported feeling more confident and prepared to see patients on the ward, and to know when and how to call for help. More detailed data will be available at the time of the presentation.

Conclusions

A short, half-day session introducing students to safety in the clinical environment improves confidence of the students to call for help and perform basic measures until experienced assistance arrives. This course could be used for other junior health professionals.

P38

A Private Healthcare Service Best Practice Patient Safety Strategy Using Simulation

Irwyn Shepherd, Lyn Taylor, Sam Ho and Louise O'Connor

Aim

To prepare the nursing workforce to identify and respond effectively to the deteriorating patient.

Background

Our client identified needs to improve on patient safety as part of their Quality Improvement (QI) activities. While the organisation is proactive in clinical risk management there was a view that more could be done educationally to 'close the gap' between the perceived service delivery and the reality. While there is a Medical Emergency Team (MET) policy in place and MET calls occur regularly, it was considered a simulation intervention would be of QI benefit.

The cohort was the Associate Nurse Unit Managers (ANUM), identified as the pivotally strategic group in a clinical management role across most shifts in the hospital. It was also deemed that ANUM's would demonstrate a high level of engagement within the simulation program. The program was designed using the Box Hill Institute Simulation Education Framework.

Methods

The program incorporated:

- a pre-simulation MET tutorial
- orientation
- two groups: one observing, one undertaking intervention (then rotated)
- two different scenarios where the MET becomes necessary
- a varied scenario focus: one medical simulation, one surgical simulation
- two reflective practice debriefing sessions –one after each scenario
- pre and post-test questionnaires based on the MET policy
- a post-scenario evaluation of the simulation session by participants
- a post-program review of the BHI framework for program validity.

Results

All relevant data from this pilot program and recommendations for future simulation programs will be presented.

Conclusions

Simulation to support QI activity is strategically effective.



P39

Take a Step to the Left: The Benefits of Cross-training in the Simulation Environment

Melinda (Min) Berry

Introduction

Good team work can reduce error due to human factors and thereby improve patient safety (1). Cross monitoring actions of other team members is a powerful tool for avoiding serious errors (2). This educational exercise uses cross training within the safety of the simulation environment to give team players a broader experience of team roles and increase reliance on other team members. It is hoped this will improve real life team performance by increasing mutual respect and creating a climate where cross monitoring is accepted practice.

Methods

Emergency registrars and nursing staff with previous simulation participated in an uncomplicated cardiac arrest scenario in their usual roles. The scenario was paused part way through and roles reallocated by getting all the participants to "step to the left" and take up the role of the person to their immediate left, regardless of discipline or familiarity with that role. The scenario recommenced in this way until the end.

Results

Most participants reported feelings of anxiety about their new role but all had positive comments about the experience immediately afterwards. Participants felt there was an improvement in team function and situational awareness and that it was useful to experience a scenario from a different perspective.

Conclusions

The safety of the simulation environment allows educators to be creative with the experiences provided to learners. This was a productive team training exercise that will continue to be used at the Don Harrison Patient Safety Simulation Centre.

References

1. Rall M, Dieckmann P Crisis Resource Management to Improve Patient Safety. Society in Europe for Simulation Applied to Medicine (SESAM) 2005, May 28.
2. Risser DT, Rice MM, Salisbury ML, Simon R, Jay GD, Berns SD (1999) The potential for improved teamwork to reduce medical errors in the emergency department. The MedTeams Research Consortium. *Ann Emerg Med* 34:373-383.

P40

Exercising Surge Management with Simulated Scenarios

Nick Howden, Julie Trpkovski, Dan Zikovitz and Richard Hodge

Aim

Development of a simulation environment to exercise the surge management plans across Ontario's hospitals and Local Hospital Integrated Networks.

Background

Canada's battle with SARS revealed significant weaknesses in the Ontario healthcare system, including a limited ability to manage critical care resources across hospitals in response to a sudden spike in demand. In response to this, Ontario is running a new surge management program to help hospitals better manage spikes in demand for critical care services without affecting day to day hospital services. As part of this program, Ontario has engaged CAE to build a simulation capability to exercise surge management plans within and between hospitals.

The project begins with simple categorization of responses into a framework that classifies surges as minor if they can be managed by a single hospital, moderate if they require the cooperation of several hospitals across a Local Hospital Integrated Network (LHIN) and major if the response requires the combined critical care resources of several LHINs or the entire province of Ontario.

The main objective of this project is to test and exercise implementation of a principled approach to manage surge capacity and leverage critical care resources across the LHIN to ensure patients have access to care. Through participation in this program, each participating hospital will strengthen communication, improve partnerships and ensure access to critical care resources in a timely manner.

Methods

In order to effectively exercise surge management plans within hospitals and LHINs, CAE is building a simulation environment that will provide the capability to run through a range of surge scenarios at the minor, moderate and major levels. In the longer term, the simulation capability will be able to create exercise scenarios based around a wide range of surge events, from disease outbreaks to mass casualty events and natural disasters. This paper describes the approach for the development of the simulation system, and provides an update on the current progress.

Results and Conclusions

No results as yet – this paper is reporting on the development of the simulation system and its goals rather than its utilization.



P41

'The Drugs Don't Work': Or Maybe They Do

Lisa McCoy and Dylan Campher

Aim

To go beyond technical skills and explore the indications for and implications of using real, expired or simulated drugs to address drug errors in anaesthetic practice through scenario based learning.

Background

In anaesthetic practice, medication errors occur at the rate of approximately 1 per 133 anaesthetics (1). for varying reasons (2). While very few of these errors cause permanent damage to patients, the physical, psychological and economical cost to patients, staff or institutions can be high.

Within our centre, we have considered the debate of fake vs expired vs real drugs in simulation. Real drugs provide maximum fidelity, but can be expensive and controlled/restricted drugs present inherent risks. Expired drugs promote fidelity and are free, but supply is random. Commercially produced simulated drugs can be expensive, come in a limited range and, like expired drugs, pose significant patient risk in the event that they enter a real clinical setting.

Methods

A literature review of drug errors, simulation and human factors in anaesthesia was conducted. Web-based research was undertaken to ascertain approximate prices for commercially produced simulated drugs.

Results

We have decided that, as an offsite training facility, it is appropriate to utilise expired drugs wherever possible. A specific policy regarding the sorting and storage of donated expired drugs was created to minimise the risks that these drugs may pose to staff or participants.

Conclusions

By highlighting the human factors involved in medication errors in anaesthesia, we hope to increase anaesthetist awareness and consequently patient safety. Using expired stock where appropriate increases the fidelity of our scenarios and reduces costs.

References

- 1 C S Webster and others, "The Frequency and Nature of Drug Administration Error During Anaesthesia." *Anaesthesia and Intensive Care*, 2001; 29:494.
- 2 Webster and others, "The Frequency and Nature of Drug Administration Error", 496; A. Abeysekera and others, "Drug Error in anaesthetic practice: a review of 896 reports from the Australian Incident Monitoring Study database", *Anaesthesia*, 2005, 60:222; SJ Wheeler and DW Wheeler, "Medication errors in anaesthesia", *Anaesthesia*, 2005, 60:264-5.



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