



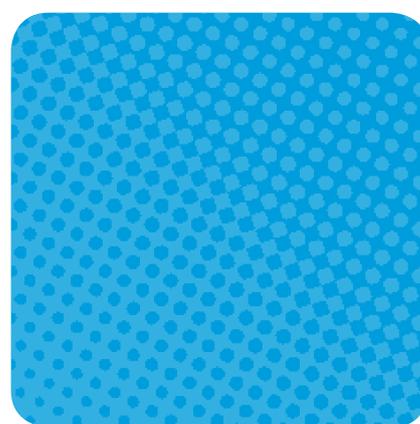
SIMULATION AND PATIENT SAFETY

the benefits for your organisation



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For further information about the Simulation Program please visit: www.health.vic.gov.au/placements/ed-training.htm

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Introduction

The Department of Health and Human Services (the department) has been undertaking work to understand how to continue to support the sustainability of simulation in Victoria.

An investment of \$23.5 million over the last four years has been made by the state and federal governments to build Victoria's capacity to deliver healthcare education via simulation. There are significant resources (in terms of staff, assets and facilities) that now require continued investment by health services and education providers in order to remain sustainable.

The benefits of simulation are obvious to those who deliver and participate in simulation experiences, but because the cost to provide quality simulation is often much more than providing traditional teaching methods, the value it provides to an organisation may not be immediately appreciated by executive teams. The department believes the evidence that links simulation to patient outcomes can help to demonstrate that value.

This Resource has been created as a toolkit to support you to communicate the benefits of simulation to anyone interested in accessing or understanding simulation, and to help demonstrate the value it brings to your organisation. This value extends well beyond just being an education tool.

We have included a quick guide to developing your elevator pitch, so that when you do have an opportunity to promote your simulation program or idea, you are prepared. We have also included some key statements and references to support your messages.

Case studies have been contributed by our simulation community to provide you with ideas and insights into different simulation programs, as well as tips about how to get buy-in for your program.

We have also included commentary from an expert regarding how simulation links to patient safety, and have provided some links to interesting articles, talks and some tools that you will hopefully find helpful.

Please feel free to distribute all or part of the information contained within this resource. If you would like to reproduce any of the information provided please just advise us. Also, if you have your own stories about how simulation has made a difference within your organisation or community we would welcome these for potential future publications.

Please contact us via peopleinhealth@health.vic.gov.au.

The department would like to express it's particular thanks to members of it's Simulation-based Education and Training Expert Advisory Group for their outstanding and generous contribution to this Resource.



“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. “

David Gabba

Above: Expert Advisory Group members at work.

There is strong evidence that simulation in healthcare curricula and continuing education improves clinicians' learning outcomes^{1,2} and clinical practice^{3,4} and enables local transformation⁵ that improves access to care.

Providing opportunities through simulation can improve communication, teamwork and leadership.⁷

Simulation-based education and training improves confidence, competence and clinical decision making among learners.⁶

There is evidence that delivering staff orientation through simulation can improve staff retention.⁸

What are the benefits of simulation?

If done correctly, simulation can provide broad benefits to an organisation including:

- > improved patient safety through risk and error reduction
- > increased clinical competence and confidence
- > deliberate practice and on-demand training
- > standardised settings and assessment platforms

- > evidence of competency
- > training and education mapped to standards
- > quality and process improvements.

We have collected some statements and evidence to support you to communicate the benefits of simulation. A full list of references is available on page 19.

There is strong evidence emerging on the benefits of simulation for improving patient outcomes and reducing the educational burden on clinical delivery.

The use of simulation to deliver training and education can be highly cost-effective and can be associated with significant cost savings.¹²

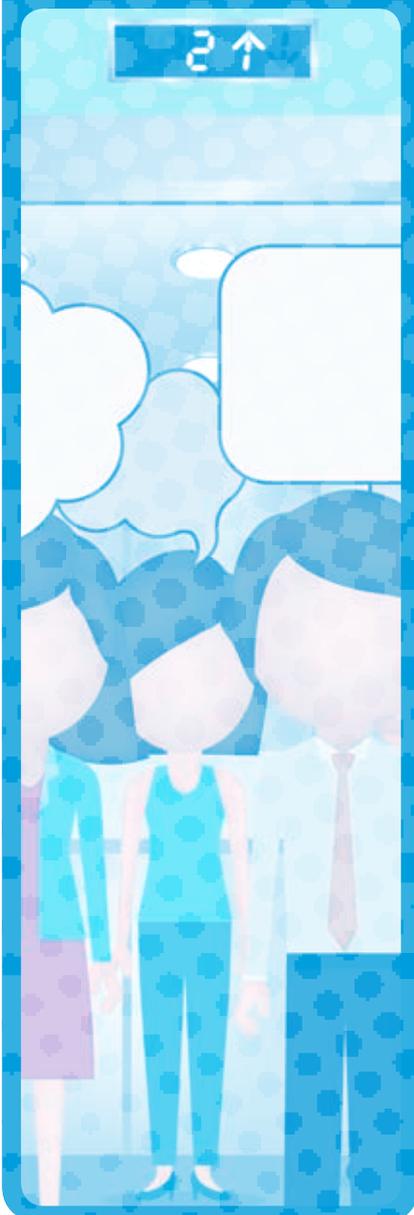
Simulation training as part of a safety improvement approach can contribute to decreased professional liability and organisational legal risk.¹⁴

Simulation can support the quality and safety priorities within organisations and help address organisational system failures,⁹ reduce adverse events¹⁰ and reduce infection rates.¹¹

A combined approach to education and training using traditional and simulation-based methods can assist patients in managing their conditions, leading to improved health.¹³

10 step summary

1. Identify your goal.
2. Explain what you do.
3. Make them care.
4. Leave them wanting more.
5. Have a call to action.
6. One sentence is usually enough.
7. Your second word should be a verb.
8. Be natural.
9. Stop talking.
10. Practise.



10 steps to creating an effective elevator pitch

What is an elevator pitch?

An elevator pitch is a conversation, or an ice breaker, that will (hopefully) lead into a second meeting about the service or idea that you want to offer (also known as an elevator speech or elevator statement). A good elevator pitch should last no longer than a short elevator ride of 20 to 30 seconds, hence the name.

When to use an elevator pitch

You can use an elevator pitch for any situation – you can introduce your service, sell a new idea to your CEO or tell people about the change initiative that you're leading.

Creating an elevator pitch

It can take some time to get your pitch right. You'll likely go through several versions before finding one that is compelling, and that sounds natural in conversation.

Follow these steps to create a great pitch, but bear in mind that you'll need to vary your approach depending on who you are pitching to, and what the conversation is about.

1. Identify your goal. Start by thinking about the objective of your pitch.

For instance, do you want to tell an executive about the achievements of your simulation program, or do you have an idea for a new simulation you would like to implement?

2. Explain what you do. Start your pitch by describing what your program or idea does. Focus on the problems that you solve and how you help people. If you can, add information or a statistic that shows the value in what you do (we have included some key messages you might like to use on page 2 of this resource).

Ask yourself this question as you start planning your pitch: What do you want your audience to remember most?

Keep in mind that your pitch should excite you first; after all, if you don't get excited about what you're saying, neither will your audience.

3. Make them care. It really comes down to answering that oh-so-pivotal question: 'What can you do for me?' To get to this point, introduce yourself and address a problem right out of the gate. Explain the benefits of your service/program/idea.

4. Leave them wanting more. Elevator pitches are meant to be short, so don't try to pack in too much. Give just a couple of details. All you're required to do is be able to confidently broadcast that you know exactly what you're doing. A great test of a powerful elevator pitch is if they ask you about what you've just said.

5. Have a call to action. You did this pitch for a reason, right? Let your goals be known. If you're trying to win over an executive, let them know exactly what you want from them.



6. One sentence is usually enough. Think short and sweet. Powerful is not lengthy or full of too many words. When you force yourself into one sentence, it causes you to think about each word more carefully so that each one tends to convey more.

7. Your second word should be a verb. What do you do? This also forces you into thinking about your results and accomplishments. Get a list of powerful verbs; look them up.

8. Be natural. Get comfortable with your pitch. You don't want to sound like a pre-recorded program. Have passion, yet show some restraint. Most of all, relax! If you stumble, that is totally fine; smile and start again. Practise as much as you can; eventually you will find the perfect pitch for you.

9. Stop talking. Once you've delivered your pitch, stop yourself from saying anything else. This is a tough one, but people often blather on, which deflates the impact of your pitch. When you stop talking, it will also prompt the person to ask about you or to introduce themselves. Both results are great.

10. Practise. Read it aloud and use a stopwatch to time how long it takes. It should be no longer than 20–30 seconds, otherwise you risk losing the person's interest. Like anything else, practice makes perfect. Remember, how you say it is just as important as what you say. If you don't practise, it's likely that you'll talk too fast, sound unnatural or forget important elements of your pitch.

Set a goal to practise your pitch regularly. The more you practise, the more natural your pitch will become. You want it to sound like a smooth conversation, not an aggressive sales pitch.

Adapted from:

<http://www.careerealism.com/elevator-speech-tips/#rimgjocRdL7gbMxu.99>

<http://www.mindtools.com/pages/article/elevator-pitch.htm>

A focused review of simulation to improve patient outcomes

Author: Simulation-Based Education and Training Expert Advisory Group Research Subcommittee (Victoria) – work led by Lesley McKarney and Stuart Marshall

This article summarises the preliminary findings of a systematic literature review that is currently underway. The full review is expected to be available in the second half of 2015. For further information please contact peopleinhealth@health.vic.gov.au

1. Introduction

Simulation refers to the replication of all or part of a work setting in order to educate, redesign or investigate the workflow.

- > Translational outcomes of interest include the impact of simulation on:
- > educational outcomes (T1)
- > patient care practices (T2)
- > patient outcomes (T3)
- > population level outcomes (T4).

To date, research into the impact of simulation has been focused on educational outcomes, including interpersonal and technical skills (T1). This literature review examines patient (T3) and population-level (T4) outcomes of simulation interventions related to education, redesign and quality improvement.

2. Method

Initial systematic reviews of outcome measures in simulation education were performed using key research databases. Article references were screened to capture historically relevant articles. Twenty-one Victorian simulation academics and practitioners were asked to contribute relevant studies. Inclusion criteria were used to ascertain whether articles were considered in this review, based on outcomes at a patient and population level. Articles were then classified into 10 areas of clinical practice.

3. Results

A total of 52 articles were identified. The majority of papers described studies using simulation for educational purposes. Nearly all of the relevant patient outcome studies using simulation were published in the last 10 years (50/52, 96 per cent) and more than half (31/52, 60 per cent) published in the last five years.

All areas examined, except for mental health, demonstrated evidence of improved **patient health and/or safety** using simulation techniques. The majority of the evidence for simulation in patient safety is in reducing complications through educating healthcare professionals. Fewer examples of simulation reducing **patient mortality** were found. Unsurprisingly these were found in higher risk areas of clinical practice. Only two papers

described improvements of **patient perception** as a result of simulation interventions. These are in rehabilitation and in critical care.

Lengths of surgical operating times were commonly quoted as patient outcome measures in diverse procedures such as endoscopies, ultrasound scans and laparoscopies. **Length of stay** was noted in one surgical study as a possibility if new techniques could be practised before widespread implementation.¹ A recent evaluation of simulation-based education effectiveness lamented that few studies examined the **cost-effectiveness** of the technique. Surprisingly in this review there were several examples of **cost savings** as a result of simulation being employed. Furthermore, additional **population outcomes** (T4 level) were demonstrated, including a reduced **burden of disease** and reduced **litigation rates**. Table 1 includes a summary of the articles mapped across the 10 practice areas.

Table 1: Matrix summarising the translational effects of simulation: cells contents describe where the balance of evidence supports a positive effect of simulation.

	Patient health and safety (T3)	Patient mortality (T3)	Complaints and satisfaction (T3)	Length of stay, recovery time, cost (T3)	Population effects (T4)
Primary care	Y ²	N	N	N	Y ^{2,3}
Pre-hospital care	Y ⁴	N	N	N	N
Critical care	Y ^{5,6,7}	Y ^{8,9}	Y ¹⁰	Y ¹¹	Y ¹²
Surgery	Y ¹³	N	Y ¹⁴	Y ¹⁵	Y ¹⁵
Nursing	Y ¹⁶	N	N	N	N
Obstetric/neonatal	Y ^{17,18,19}	Y ²⁰	N	Y ²¹	Y ²²
Paediatric	Y ⁴	Y ²³	N	N	N
Rehabilitation	Y ²⁴	N	Y ²⁵	N	N
Mental health	N	N	N	N	N
Hospital design	Y ²⁶	N	N	Y ²⁶	N

4. Discussion

This focused literature review demonstrates that the direct benefits of simulation to patients have been established in many areas of healthcare; however, the number of studies in this area is still relatively small. The fact that so few articles were discovered shows how difficult it is to perform this kind of research. One of the problems is that the patient outcomes are often far ‘downstream’ from the simulation intervention and difficult to attribute solely to the simulation intervention,

particularly when education is used alone. In some areas, such as mental health, there is still a great deal of research to be done with as yet no evidence of clear value. Simulation in the form of education and process redesign has the potential to have significant positive effects on patient outcomes and improve the cost-efficiency and effectiveness of the health system.

For a copy of the full literature review please contact peopleinhealth@health.vic.gov.au.

Case study 1: PROMPT – Practical Obstetric Multi Professional Training

PROMPT is an in-situ multidisciplinary teamwork training program based on lifelike simulation. The unique aspect of the program is that the key clinicians who would usually respond to a maternity emergency (midwives, obstetricians and anaesthetists) participate together to improve their skills in responding to obstetrics emergencies. The focus is on reducing the decision time to operative delivery of the deteriorating or at-risk neonate.

The program adopts a 'train-the-trainer' model, with participants who are then able to run PROMPT workshops 'in house' as part of the staff professional development program.

The key objectives of the PROMPT program are to improve perinatal outcomes by:

- › improving teamwork and communication in the delivery suite
- › improving emergency management skills among maternity staff in a simulated environment.

In this case study, the Victorian Managed Insurance Authority (VMIA) answers questions about how it got involved in PROMPT and the benefits it has seen.

Why did the VMIA sponsor the original PROMPT program introduced in Victoria in 2010?

The VMIA is responsible for risk management, insurance and claims for the public health sector.

Obstetrics-related claims are often very complex and emotional – they can be very expensive and take a long time to resolve.

The PROMPT program had been developed in the UK in 2008 and had gained international recognition with a strong evidence base and a validated tool for training multidisciplinary maternity teams in their own work environment to achieve better outcomes for mothers and babies, and thus an improved claims experience.

The VMIA supported eight hospitals in 2010 to implement the PROMPT program – known as VicPROMPT.



Participants take part in the PROMPT program at Western Health, Melbourne.

In addition to undertaking a train-the-trainer program and running the PROMPT training on site, participating hospitals also completed a safety climate survey before starting the PROMPT program. This was completed 12 months after starting and will be again at the two-year mark.

VicPROMPT provided us with rich data and an understanding of how PROMPT could be rolled out to a wider audience.

In 2013 the VMIA funded further PROMPT programs. Can you explain why more funding was directed to this particular program?

Outcomes from the two-year VicPROMPT program were very promising, with trends showing improved clinical outcomes and improvements in staff responses to the safety climate survey.

The VMIA was interested in expanding the dataset to include a range of hospital sizes, including regional and rural health services, and to get a more statewide view of how PROMPT could be implemented.

In 2013 the VMIA funded an additional six hospitals to implement the PROMPT program and in 2014 a further 10, thus creating a consistent approach to maternity emergency training across Victoria.

What have been the benefits of this program to date?

Feedback about the PROMPT program has been very positive, with reported benefits including: positive clinical outcomes as a direct result of training; changes to the physical environment of birth suites such as moving a phone for better access in an emergency; purchasing or replacing equipment; updating policies and procedures; and, most importantly, a sense of working a team – being more confident about roles and responsibilities.

After one year, we have seen an improvement in safety climate survey results and early indications are that we have fewer insurance claims.

For more information about PROMPT visit www.vmia.vic.gov.au/learn/clinical-risk/prompt.

Any organisations interested in PROMPT should contact the VMIA.



Participants take part in the PROMPT program at Western Health, Melbourne.

Case study 2: Peripheral IV Project – Austin Health

Simulation can support practice change, improving patient safety. Donna Cameron, Austin Health's manager, infection control, describes the successful Peripheral IV Project that used simulation as a part of a strategy to significantly reduce Staphylococcus aureus bacteraemia (SAB) infection rates.

An issue with the number of SAB infections at Austin Health was identified in mid-2011, with figures indicating an increasing problem with this type of infection being caused by peripheral intravenous cannula (IVC).

To understand why this was occurring, Austin Health instigated an observational audit of peripheral IV insertion in the emergency department. This location was selected to ensure observers could see a large number of insertions happening over a short period of time.

This audit identified that although healthcare staff appropriately prepared the skin with 70% alcohol prior to insertion they would re-palpate the vein or place their finger very close to the point of insertion

using non-sterile gloves. The audit resulted in changes to the PIVC insertion protocol. It was decided that sterile gloves should be used in order to prevent PIVC related infections such as SAB.

Austin health implemented a multipronged solution, starting with amalgamating all protocols for peripheral IV insertion to ensure that the process was standardised across all Austin Health sites and staff categories.

Staff training in the use of sterile gloves for peripheral IV insertion was required. A training video was developed for staff, which became part of a program to ensure all staff at Austin Health were credentialled in implementing the new protocol.

The video was rolled out, along with face-to-face training at different sites. A train-the-trainer model was also implemented so that training could continue at a local level after the project was completed. Training was delivered using an imitation arm on which staff were required to demonstrate their aseptic technique as part of the credentialling process.

During the project over 500 nurses and 320 doctors were credentialled across all Austin Health sites.

The credentialling process is now part of the standard induction for interns and medical students when they begin at Austin Health.

Since the completion of the project and the introduction of the new protocol for peripheral IV insertion and maintenance, PIVC related SAB infection rates have been significantly reduced. In the 12 months prior to the project 13 infections were recorded, compared with two infections in the 12 months after the project was implemented. Given that SAB infections have a 30 per cent mortality rate the project has had a significant impact in reducing patient harm.



Andrew Mahony, Infectious Diseases Consultant, and Antonette Altavilla, Project Coordinator of the Peripheral IV Project, Austin Health

Tips for implementing this kind of program in your organisation:

- > Start with a demonstrable problem/issue.
- > Get the quality and safety team involved.
- > Work across different groups to get buy-in from your organisation, from the executives through to directors of nursing etc.
- > Raise the profile of the issue and the solutions to staff in your organisation.
- > Implement policy to ensure any related training is mandated.

Case study 3: Emergency training for high-dose rate brachytherapy – Epworth HealthCare

Simulation is a great way to test systems and procedures within health services. Epworth HealthCare’s Brachytherapy Section Head, Yen Tran, describes how simulation was used to test the procedure to respond to an emergency during high-dose rate brachytherapy treatment.

When administering high-dose radiation (HDR) therapies, every second counts. This is because, unlike other therapies, the radiation is administered internally. Training staff on emergency procedures in this environment can be a dangerous undertaking, due to possible radiation exposure.

AAPM TG 59 recommends that all departments providing HDR brachytherapy should have emergency procedures in place and routinely test and practise the procedures.

‘The challenge was coming up with a way to do the training without actually using the equipment. We couldn’t re-enact the situation because staff would then be exposed to radiation. Although an emergency situation has never happened, it’s about giving staff the training in case it ever does,’ Yen Tran said.

Treatments are of very short duration (approximately five minutes), and should an emergency situation occur, clinicians have a maximum of two minutes to remove the device to avoid lasting damage to their own health as well as the patient’s.

The team had a paper-based radiation plan, but it had never been tested. Simulating the plan meant we could test the process and make improvements. Ultimately, no one knows how people will react in an emergency until it happens.

‘Initially in the simulation we thought we’d use a simulation manikin, but Epworth HealthCare’s director of clinical education and simulation, Tess Vawser suggested it would be more realistic for her to play the role as a simulated patient. We ran through four simulations, with Tess providing feedback from the patient’s perspective to let us know what worked, with suggestions about other things that we could do differently.’

A hybrid simulation methodology was used, with a part-task training model attached to a simulated patient. The simulation was recorded on five

cameras, with four members of the brachytherapy team performing the documented emergency procedure. Critical review of the simulation was undertaken against the documented procedure and fed back to staff.

‘Having the video of the simulation was amazing; being able to watch yourself and how you react. It’s one thing to run through and do it but it’s another to watch that back and see what you didn’t do well,’ Yen said. ‘We improved straight away. The process was then streamlined and we updated some of our current emergency procedures because it actually works better for us.’

Gaps within the emergency procedures were identified and processes were put in place to improve the existing plan. Reviewing the simulations, it was clear that staff movement throughout the emergency situation needed improvement as well as highlighting the importance of communication. We were able to improve on our total emergency response time by 18 per cent.

‘Emergency training for HDR treatments at Epworth has been an integral part in the delivery of care to cancer patients. The simulations have provided an insight into the importance of working within the team, managing an increased level of stress, and at the same time allaying the anxieties of the patient.

‘To have the simulations available to staff has enabled us to practise this emergency in a safe environment, providing the confidence and professionalism required for a radiation emergency,’ Yen said.



Preparing for simulated high-dose rate brachytherapy treatment at Epworth HealthCare.

Commentary from an expert – Dr Stuart Marshall



Stuart Marshall is a specialist anaesthetist and simulation instructor in Melbourne.

He has co-written several simulation-based undergraduate units on patient safety, and teaches postgraduate courses in anaesthesia, human factors and simulation education. He is also the director of the Monash Injury Research Institute (MIRI) Patient Safety Unit, a research unit utilising several simulation centres across south-eastern Melbourne.

'Primum non nocere' (First do no harm).

Patient safety is the overriding goal of every provider in our health system. Despite recent improvements and a greater focus on quality and safety in the last few years, unintentional harm from health delivery is still thought to rate among the top 10 causes of death in Australia. Healthcare-related mortality is estimated to be seven times the national road toll. The morbidity burden is likely even greater, with additional non-fatal harm from causes such as falls, hospital-acquired infections and medication-related injuries.

Simulation has been used almost solely for education in health; however, there are many broader potential benefits for patient safety from prevention of errors and minimisation of harm. These benefits have been shown to flow from process, environment and equipment redesign, commonly referred to as 'human factors' or

'human factors engineering'. Human factors describe a multidisciplinary domain that seeks to improve safety and efficiency by using the 'human component' of the system to its greatest effect. By applying principles of design, the physical environment that the user works in can be modified, decision-making can be enhanced and organisational efficiency and safety can be improved. The disciplines involved in human factors are diverse, from psychology and software design to engineering, physical ergonomics and architecture.

Simulation can help guide patient safety interventions at the micro-, meso- and macro levels (Table 1). At each level simulation can help test the potential failure points or actions where errors could occur. A method of design using an iterative process of testing, change and re-testing can direct incremental improvements, making it easier for the user to do the 'right thing' and more difficult to make errors.

Table 1: Levels of the health system that may be simulated to improve patient safety

Micro-level	Meso-level	Macro-level
Basic routine interactions	Team or workgroup-level effects	Organisation- or government-level effects
Examples: patient-provider communication, provider-device programming or information systems	Examples: team communication, emergency department patient flow, management of specific conditions by workgroups	Examples: staffing levels and job design, broad safety protocols and procedures, equipment requisition and supply

Different types of simulation tailored to the circumstances can be used to identify specific problems or error-prone conditions and rectify them. Improvements to patient safety can be conceptualised to fall into three distinct areas: changes to devices or the environment; changes to the processes or operating procedures;

and education of staff members to avoid specific hazards. Effective changes that influence patient safety typically use more than one of these methods in a coordinated program. Table 2 describes a matrix of investigation and testing of these three methods of improvement using simulation.

Table 3: Examples of patient safety interventions using different types of simulation testing tailored to the circumstances

Properties	Micro-level	Meso-level	Macro-level
Physical or cognitive design characteristics	Laboratory based usability testing. Example: reducing the risk of programming errors by nurses by redesigning infusion device interfaces	Immersive simulation testing. Example: introducing a large display screen visible to all staff members to improve trauma team performance in the emergency department	Immersive in-situ based scenarios. Example: testing of clinical areas for emergency equipment prior to commissioning of a new building
Process characteristics	Standardised patient methodology. Example: designing a communication tool to help break bad news to patients and relatives	In-situ simulation scenarios Example: designing and testing a procedure to manage major haemorrhage in the operating theatre	Computer generated simulation modelling. Example: determining effects on patient flow and bed usage if subacute care was unavailable
Education	Hybrid simulation (educator as patient) Example: educating health workers how to deal with a patient with suicidal ideation.	Role playing/cross training exercises Example: educating team members about each other's roles during a clinical emergency	Paper-based simulation exercises Example: preparing a disaster management plan for a terrorist attack

The following example will illustrate how simulation can help at each level and with each method. The events portrayed are real; however, the narrative is not strictly chronological and is based on work that has been, or is currently being, undertaken by multiple simulation centres and health facilities around the world that the author is in contact with.

An example of a simulation-led patient safety intervention

Background

Failure to adequately manage the airway of patients under anaesthesia or in emergencies leads to brain injury and death within minutes. In this emergency setting a surgical airway (emergency cricothyrotomy or tracheostomy) must be undertaken. Thankfully this is a rare event, but recent research has shown it is poorly managed when it does occur.

Phase 1: Using simulation to understand the process

Laboratory-based simulation using live animal models showed that decision making is often flawed under these stressful circumstances. In more than 2,000 observations participants were unsure of what to ask for and how to proceed. Furthermore, the traditional surgical airway approach using standard equipment frequently failed. A modified technique was trialled that appeared to be more effective.

Phase 2: Using simulation to redesign the equipment

Using the new approach the type of equipment was tested using plastic models in workshop settings. Modifications were made and a 'grab bag' of essential equipment was created. The contents of this bag were modified iteratively to match the requirements of the process using a task-analysis approach.

Phase 3: Using simulation to redesign the processes

Along with the equipment redesign it was realised that failures occurred with every method. It was important that a standardised strategy was developed along with a cognitive aid to help the health professional during the stressful event. An algorithm was developed and tested in an immersive, mannequin-based simulation setting.

Phase 4: Using simulation for education

The skills required for managing the airway emergency were trained in workshop settings and immersive simulation scenarios. It was recognised from observing these simulation scenarios and from case studies that the role of the assistant (usually a nurse) was essential in preventing fixation errors. Interprofessional education was designed and implemented using workshops, immersive simulation and team exercises using trigger videos to stimulate discussion about common communication difficulties during these crises.

Phase 5: Implementation

Many of the events occurred outside of the operating theatre and emergency departments – on the wards and intensive care units. In-situ simulation in each of the areas using the standardised equipment grab bags was undertaken to ensure the position and use of the equipment during emergencies was appropriate to the clinical areas. The organisation agreed to make training mandatory and to provide equipment based on the evidence produced from the simulation, which showed reduced clinical risk should such an emergency occur.

Summary

Simulation can be used to investigate existing safety problems in the clinical setting and to redesign physical objects and clinical processes and to provide supporting education for the clinical staff. Multiple types of simulation can be used and tailored to the circumstances depending on the requirements.

Why simulation is essential to safety in healthcare

- > Simulation has the potential to improve efficient and safe care using approaches other than education.
- > All levels of the health system can be represented using simulation.
- > Investigation and redesign of processes, equipment and supporting education can be examined prior to implementation without the potential to harm patients.
- > Simulation takes many forms and can be tailored to the requirements of each activity.

Case study 4: Virtual Dementia Experience – Alzheimer’s Australia

Changing practice, increasing quality of care – looking at health from a consumer’s perspective

The Virtual Dementia Experience™ takes the participant through a multi-sensory simulation using light, sound, colour and visual content while incorporating ‘serious games’ technology to create a virtual reality experience – aged and healthcare workers are taken into the world of dementia.

The training gives aged care workers and families the experience of what it might be like to live with dementia and how to create a dementia-friendly environment.

Alzheimer’s Australia Victoria business development manager Dr Tanya Petrovich says the software is the first step in showing carers how to change their care practice, teaching them problem solving and strategic thinking. ‘We need to know how to make our environments responsive to those changes and supportive so that people throughout their stages of dementia are

supported in the community and can be socially included and engaged in community life,’ she said.

The intention is to lead our course participants into thinking differently in their approach to dementia care and to develop empathy for the person living with dementia. Dementia education is typically delivered in a workshop experience with PowerPoint presentations, facilitator and group discussion, group work and some role-play or possible case studies. The result of this workshop-style education is an academic understanding of dementia; through the simulation in the Virtual Dementia Experience participants develop an empathic understanding of living with dementia. They gain a deeper understanding of the impact dementia has on the person’s life. The experience is impactful and has led to participants reflecting on their practice and inducing practice change.

Sandy Barnes, a Virtual Dementia Experience participant, said: ‘The Virtual Dementia Experience was a real eye opener and had a huge impact on me – it is amazing

Tips for developing a successful program:

- > Put more time into planning and research than into development.
- > Plan and consult with consumers.



Participants describe how the Virtual Dementia Experience has impacted on their practice.

<https://www.youtube.com/watch?v=Vez2jZ1RiWg&list=UUkoC3cZOPXN3ISf9p3JcoPQ>

technology and has really helped improve my practice.' Sandy experienced the benefits of having a client perspective and was able to reduce risks straightaway.

When implementing a program like this, it is essential to have buy-in from the whole organisation. Tanya said, 'Getting organisational support for the program first involved getting the board's support, then we worked with the whole team to ensure everyone was aware of what we were trying to achieve – we had to bring the whole team along with us.'

There are also plans for the Virtual Dementia Experience to go mobile. The program will be moved to Oculus, allowing Alzheimer's Australia to deliver off-site.

Evaluation of the Virtual Dementia Experience is planned in collaboration with Swinburne University, which will provide information around which direction the program will take next.

Since the Virtual Dementia Experience was launched at the opening of the Perc Walkley

Dementia Learning Centre in Parkville in October 2013 more than 1,000 people have been exposed to the intense, moving experience. The majority of participants work in the aged care industry and are

personal care workers, nurses, endorsed nurses, allied health practitioners, managers or CEOs. In addition the Virtual Dementia Experience has drawn the attention of decision-makers, such as former health minister David Davis and Senator Helen Polley. In March 2014 the Senate Standing Committee on Community Affairs acknowledged the groundbreaking work of the Virtual Dementia Experience and recommended that all states develop installations similar to that at the Perc Walkley Dementia Learning Centre.

For more information about the Virtual Dementia Experience, or to organise training, call the National Dementia Helpline on 1800 100 500 or visit www.fightdementia.org.au/vic.



Learn more about the Virtual Dementia Experience. <https://www.youtube.com/watch?v=SWHlqbMzYy8&list=UUkoC3cZOPXN3ISf9p3JcoPQ>

Case study 5: Indigenous Cultural Safety Coaching Program

Monash University School of Rural Health – Moe and Ramahyuck District Aboriginal Corporation

Cultural safety competence of non-Indigenous people working with people from Indigenous communities has been found to be varied. Many people attend cultural safety training in orientation programs but often this is couched in a more general induction and delivered by non-Indigenous staff. Unless there are opportunities for this knowledge to be reinforced, most workers adopt the dominant culture of the workplace and have little opportunity to question their stereotypes and assumptions or to grow their understanding in a safe environment.

Indigenous people report lack of access to services and decreased continuity of care due to cultural barriers with health service staff. This case study showcases a Commonwealth funded initiative, led and developed by Indigenous facilitators to increase cultural safety through an interview and debriefing strategy with audio-visual (AV) support.

The Indigenous Cultural Safety Coaching (ICSC) program, part of the Extending Gippsland Regional Interprofessional Partnership in Simulation (EGRIPS) project, ran throughout 2014 with the aim to develop non-Indigenous people's understanding and practice of cultural safety in community and health services. Indigenous facilitators met with non-Indigenous people to have a discussion about cultural safety principles at Ramahyuck District Aboriginal Corporation (RDAC) in Morwell. RDAC has a dedicated AV set up to facilitate the recording and debriefing dimension of the simulation experience.

Forty staff from Latrobe Community Health Service engaged in interviews and staff reported a transformative learning experience that would lead to positive behavioural change and improved service engagement with people from the Indigenous community.

One participant said it was 'a powerful learning experience, hearing stories of inequity that were personal and still influence workplace interactions today. It has really made me question my assumptions and approach with Aboriginal persons. I was able to ask things that I have always felt uncertain about.'

As part of the original Gippsland Regional interprofessional Partnership in Simulation (GRIPS) project that began in 2012, Monash University's Department of Rural Health at Moe partnered with Ramahyuck to design and implement a cultural safety coaching program. The program was developed by an Indigenous educator in collaboration with the Gunai/Kurnai Elders from the local community. Ramahyuck supported staff to train as Indigenous facilitators. The organic growth of the program was evident in the authentic and rich learning experience reflected in the overwhelmingly positive feedback in the evaluations and the oversubscription of the program.

An Indigenous facilitator commented that it 'allowed us to meet workers from other agencies – it opened up doors to enable us to work together'.

There has been a proposal by the local management of Ramahyuck to use the interviewing technique to enable a more efficient job candidate process. Those applying for vacancies with the RDAC would be asked to take part in the cultural safety interview as part of the recruitment process, allowing exploration of alignment with the company's values.



Indigenous cultural safety coaching

Sustainability of the program remains a challenge, however the School of Rural Health are working towards expanding the reach of this valuable and innovative program to engage local businesses, which will support the costs to train educators and maintain the AV system. There is also potential for the program to be developed in other Victorian regions. The ICSC program has enriched lives for both facilitators and participants. Having drawn non-Indigenous people into RDAC, the program has built alliances in Latrobe City and will hopefully lead to ongoing improved service outcomes and culturally sensitive engagement in the community.

Case study 6: Critical bleeding/massive transfusion simulation – Albury Wodonga Health

As well as identifying areas for practice improvement, simulation can improve communication in teams. Debbie Stockton shares Albury Wodonga Health's (AWH) experience of simulating the implementation of massive transfusion scenarios.

A critical bleeding / massive transfusion protocol informed by evidence-based practice was implemented within the health service in 2012. Implementation included numerous education sessions conducted by the clinical nurse consultant (CNC) of patient blood management and written resource information to enable staff to effectively manage critically bleeding patients.

In 2014, massive transfusion simulation scenarios were developed and conducted. The aims of the scenarios were to help translate learning into practice and to enable a practice review, particularly as such incidents are not frequent occurrences with a regional health service yet require immediate response consistent with best practice when encountered. The aims of the protocol were to:

- › identify critically bleeding patients who may require massive transfusion early
- › activate the protocol
- › provide clarity in the processes required to treat critically bleeding patients
- › enhance staff knowledge, skills and confidence in implementing the protocol
- › enhance communication skills required to work effectively as a team to implement the protocol and address the healthcare needs of patients
- › use blood products judiciously
- › prevent the lethal triad of acidosis, hypothermia and coagulopathy.

The massive transfusion scenarios were coordinated and facilitated in a number of clinical contexts by an interprofessional team including the CNC of patient blood management, an anaesthetist, a perioperative educator (perioperative staff), maternity services educators (for maternity service staff) and a

simulation coordinator (this position was funded by the Commonwealth through the Hume Simulation Alliance – a collaboration between AWH, Charles Sturt University and La Trobe University). A clear pre-scenario briefing and a facilitated debriefing enabled the creation of a safe simulated learning environment (SLE) in which clinicians were able to reflect and consider practice changes at both an individual and a team level.

The feedback and evaluation, including observations of participants and facilitators, identified a number of actions to enhance response and implementation of the protocol. As a direct result of the simulation, practice improvements have been implemented including: the strategic placement of ready-reference flow charts for ease of access in critical areas; a review of processes for access to particular blood products in the event of an emergency; and the development of critical bleeding / massive transfusion kits for immediate access in the event of an emergency. In addition, further education topics were identified to support continuing professional development.

Of particular note was the effectiveness of the simulation in highlighting the importance of team communication and the impact on patient treatment and potential outcomes. Anecdotal feedback from participants and education staff identified that conversations reflecting on the experience continued following the simulation. The simulation provided not only the opportunity to build on clinical skills, knowledge and confidence, but provided a forum for practice review leading to patient safety and process improvements while building teamwork and communication.



Jane Howell, Clinical Nurse Consultant – Patient Blood Management (Left), and Helen Georgiou, Clinical Nurse Specialist, Wodonga Campus Theatres (Right).

Patient safety and simulation – links of interest



The science of improving patient safety

Dr. Pronovost discusses core scientific and practical principles that every clinician should know regarding patient safety (12:37–15:37 highlights some areas where simulation would be useful in creating cultural change https://www.youtube.com/watch?v=jxxkz-WeV_w



The future is now

Dr Peter Pronovost speaks to the need to be working collaboratively to determine and implement effective solutions to ensure behaviour change and prevent harm. <https://www.youtube.com/watch?v=LOP2oxGigFQ>



Patient safety is everyone's business

This animation is a message about patient safety and the use of ISBAR that can be communicated to all staff. This would be a useful resource to distribute to learners involved in simulations using ISBAR <http://vimeo.com/111371408>.



The future vision for simulation in healthcare

This article by David Gabba explains the various dimensions of simulation and how it contributes to improving patient safety. http://qualitysafety.bmj.com/content/13/suppl_1/i2.full



How simulation can benefit patient safety and quality education

This short video featuring Professor Amitai Ziv discusses how simulation can be used to address deficiencies and 'nightmare situations' to improve patient safety. <https://www.youtube.com/watch?v=bXQUmDEDwXk>

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