

Spreading the word....

# Streaming in situ Simulation for Knowledge Translation

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## In situ simulation

**Team-based** simulation strategy involving  
**interdisciplinary healthcare team** members  
in their **own environment** on patient care units

Riley W, Davis S, Miller KM, Hansen H, Sweet RM. Detecting breaches in defensive barriers using in situ simulation for obstetric emergencies. Qual Saf Health Care. 2010;19(Suppl 3):i53–56. doi:10.1136/qshc.2010.040311

# Premises

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## Considerations for In Situ Simulation (CISS) framework

Planning	Briefing	Scenario(s)	Debrief	Repetition	Evaluation
<ul style="list-style-type: none"> <li>Staff needs assessment</li> <li>Local needs (e.g. incidents)</li> <li>Professional development &amp; skills guides</li> <li>Multi-site planning</li> <li>Local facilities</li> <li>Mandatory?</li> <li>Announced or unannounced</li> <li>Senior leader buy-in</li> </ul>	<ul style="list-style-type: none"> <li>Manikin orientation</li> <li>Scenario orientation</li> <li>Didactic teaching</li> <li>Pre-training self assessment</li> <li>Psychological safety</li> <li>Patient safety</li> <li>Training aims and objectives</li> </ul>	<ul style="list-style-type: none"> <li>Low, medium or high fidelity</li> <li>10-20 minutes: more flexible and accessible</li> <li>Shift-long: more realistic</li> <li>Individual, interprofessional, interdisciplinary</li> <li>Simultaneous patient contact?</li> </ul>	<ul style="list-style-type: none"> <li>Facilitator skills and abilities</li> <li>Agreed model, framework or tools</li> <li>Agreed focus, e.g. human factors, procedural skill</li> <li>Didactic teaching</li> <li>Handouts and materials</li> <li>Role of 'expert' or team leaders</li> <li>Link to aims</li> </ul>	<ul style="list-style-type: none"> <li>Repeated simulation to improve skills</li> <li>Same vs. increased difficulty</li> <li>Same vs. new scenarios</li> <li>Improvements to scenarios or debriefs</li> <li>Opportunity for evaluation</li> </ul>	<ul style="list-style-type: none"> <li>Patient outcomes</li> <li>Routine clinical data</li> <li>Clinical practice changes</li> <li>Retention post-assessment survey 4, 6 or 12 months later</li> <li>Video analysis, blinded/multiple assessors, checklists</li> </ul>
Evaluation <ul style="list-style-type: none"> <li>Local &amp; staff needs</li> </ul>	Evaluation <ul style="list-style-type: none"> <li>Pre-training</li> </ul>	Evaluation <ul style="list-style-type: none"> <li>Structured observations</li> </ul>	Evaluation <ul style="list-style-type: none"> <li>Post-training</li> </ul>	Evaluation <ul style="list-style-type: none"> <li>Follow-up repeat</li> </ul>	

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Table 1: Summary of the practice development principles (Manley et al., 2008a; McCormack et al., 2013)

Principle 1	Endeavours to facilitate evidence-based, person-centred healthcare delivery that results in human flourishing and an effective workplace culture across settings
Principle 2	Has a focus on the microsystem where care is delivered as the change agent but with support from mezzo and macro levels
Principle 3	Incorporates workbased learning approaches and active learning in the workplace
Principle 4	Integrates the use of both evidence in and evidence from practice
Principle 5	Integrates the blending of creativity with cognition to promote new thinking and to promote human flourishing
Principle 6	Comprises a methodology that is complex and can be applied across boundaries and with all stakeholders
Principle 7	Is enabled by a set of methods and processes contextualised to the work environment
Principle 8	Makes use of processes such as skilled facilitation implemented close to where care is provided
Principle 9	Employs inclusive, participatory and collaborative approaches to evaluation

# What we did.....

1. Responded to stated needs –

## Aims

- Test hospital operational procedures and policy as it relates to:
  - Peri-mortem caesarean section (PC)
  - Obstetric response to obstetric cardiac arrest call from ED
  - Departmental readiness for critical yet rare event
- Assess inter-departmental cooperation and response in time critical incident
- Assess in-situ simulation safety across multiple departments
- Assess teamwork and resource allocation



# Steps

2. Included all relevant clinical units
3. Collaboratively developed a scenario with input from all disciplines
4. Modified existing technology – the manikin
5. Applied new technology – web based streaming of simulation



<https://www.linkedin.com/pulse/collaboration-teamwork-whats-difference-dent-lssbb-dtmx2>

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# The case

A 28-year old G2P1 (39 weeks) who is otherwise medically well becomes acutely short of breath as she is nearing the end of an uneventful pregnancy. ED - cardiac arrest on her arrival.

CPR and the foetus delivered within 5 minutes to the waiting paediatric response team.

Collateral history and intra-arrest ECHO would indicate a high probability of pulmonary embolism.





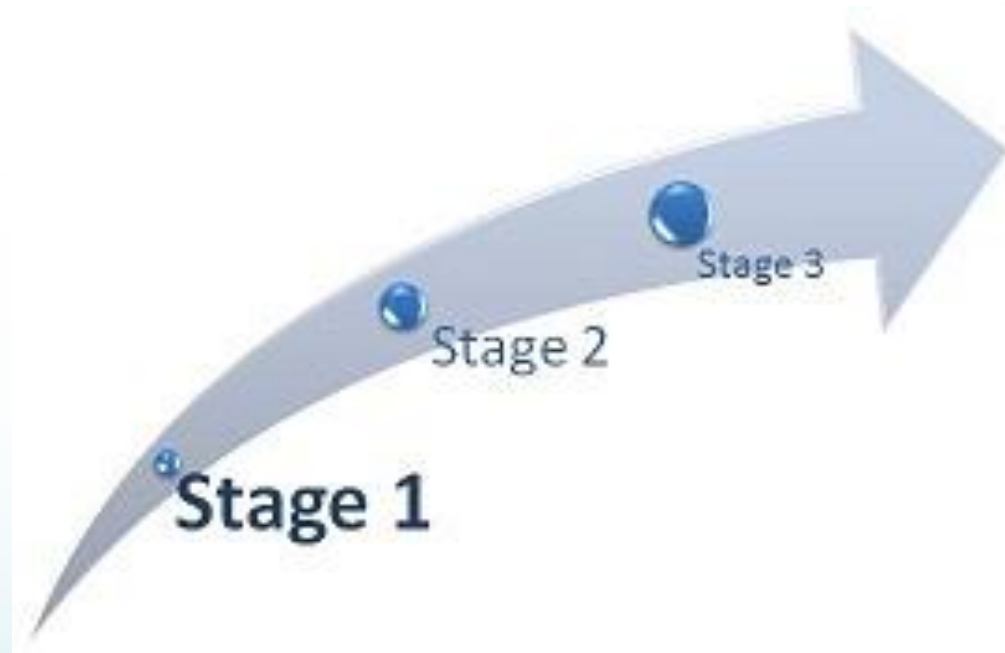
# Scenario – structured 3 phases

In situ in all venues

Phase 1 – ED

Phase 2 – Operating Theatre

Phase 3 – post op ICU



# Modified Technology

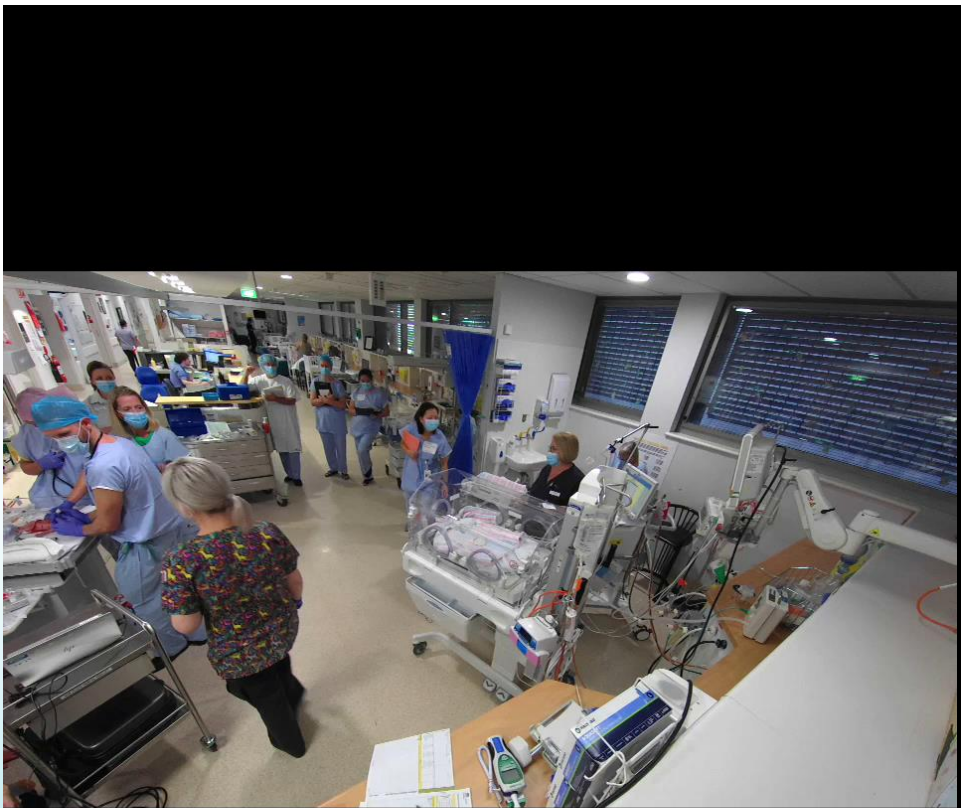


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# New Technology



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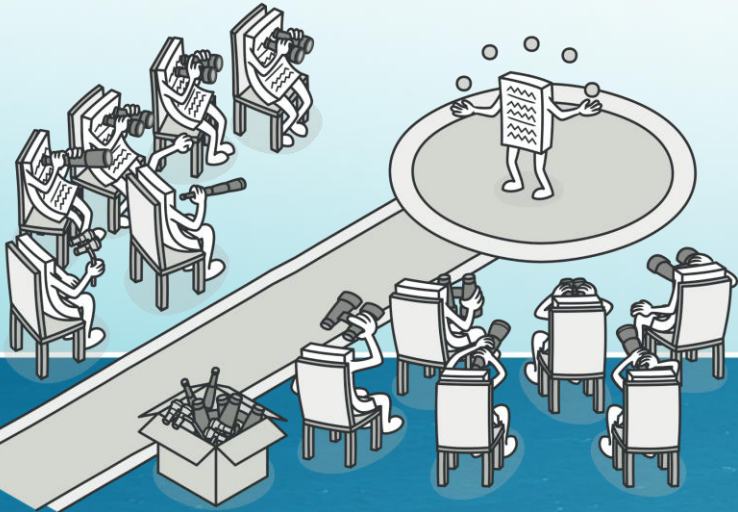


# Debriefing

- Structured to allow hot debriefing for each team in each segment followed by joint multi-team multidisciplinary debrief to address system issues.
- Involved the audience as well as participants – **ACTIVE OBSERVERS**

## REFLECT

## RETHINK



## REVISE



# Outcomes

- Broad audience - External audience to the simulation - 28 staff in auditorium plus others on line
- System diagnostic issues identified
- Interdisciplinary and intra-disciplinary opportunities for improvement identified
- Qualitative assessment of the simulation process via post debriefing survey.

# Participants surveyed for feedback post event

**The training today has assisted me with understanding inter-departmental co-operation and communication.**

Yes 100%

**This type of exercise assisted me to understand the priorities in Obstetric Emergencies and specifically in peri-mortem cardiac arrest.**

Not at all 1.....6%.2.....6%..3.....29%...4.....59%....5      Very helpful

**Would you consider this exercise valuable?**

Yes: 88%

Did not respond: 12%

# Identified changes

**What changes would you make to processes at Wollongong Hospital based on today's exercise?**

- Ensuring accurate arrest calls;
- A “Resuscitaire” checked by Nursing team in ED.
- Universal transfer packs;
- Requirements for surgeon to OT communication (not via ED/Anaesthetics)
- Identifying stickers;
- Hands off handover;
- Minimising number of unnecessary staff in resus situations.
- Clear outline of which teams we respond to with various 2222 calls;

# Progress

1. Methodology applied again at “macro” multidepartment level –
  - 2020 repeat with paediatric focus increased
  - 2021 Cardiac Diagnostic Unit arrest protocols tested – recorded version
2. Applied at single department level - Multiple simulation events in single unit (ED) allowing COVID precautions and minimising staff exposure to staff.



<https://www.teachertoolkit.co.uk/2018/10/29/new-progress/>

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# Acknowledgements

Ms Helen Cousins –	Technical Officer
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