

The Power of Innovation

A health care system to meet our needs
NSW Health
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In Situ Simulation Training in the Emergency Department and Operating Theatre

Health Education & Training Institute (HETI) Award for Excellence in Health Education & Training

Introduction

- Life threatening paediatric emergencies are relatively uncommon events
- When they do occur staff caring for these children must have the ability to:
 - recognise the deterioration
 - evaluate
 - immediately treat
 - obtain help for these patients
- Standardised simulations recreate the emergencies in situ within the working environment emergency department or operating theatre / recovery room
- Situations to be recreated
 - realistically
 - on demand
 - without any risk to a patient
 - safe environment for participants
- What happens in simulations happens in 'real life'



Aim

To design, implement and evaluate an interdepartmental, interdisciplinary in situ simulation program for doctors and nurses in ED and OT during 2011



Method

- Participants**
- Doctors, nurses and students from ED and OT at CHW.
- Scenarios reflected real cases where possible
- Incidents of sub optimal care were identified during scenarios and analysed by thematic qualitative assessment methods
 - Potential causation factors were elicited both during the scenarios and immediately after in the facilitated debriefs
 - Senior clinicians identified the sub optimal incidents and were trained in debriefing to elicit causation factors

Causation factors were attributed to any of seven pre-defined categories.

- Knowledge deficit
- Clinical skill deficit
- Leadership
- Communication
- Resource utilisation
- Anticipation and planning
- Situational awareness



- Immediate education was delivered to participants by senior clinicians (medical and nursing) addressing the incident(s) of suboptimal care and the causations factor(s)
- Follow up immediately after and at 3 months with nursing staff



Results

55 simulations January to December 2011

- 35 in ED
- 20 in OT / Recovery

Participated: 200 doctors
181 nurses

Observed: 139 doctors
53 nurses

151 incidents of suboptimal care

Attributed to 259 causation factors



A separate detailed nursing evaluation was performed over seven consecutive ED scenarios. Twenty three (32%) ED nurses were involved in these seven scenarios and identified 20 new episodes of immediate learning

- New role – 3
- New clinical skill – 11
- New knowledge – 6

Three month nursing follow up:

- 65% response rate
- 10% had encountered the same clinical scenario
- 24% responded that they had been in critical clinical situations with patients where they were able to use the new knowledge or skills obtained from the scenario
- 94% reported an increase in confidence in being able to manage an event similar to their scenario

"I'm a hands on person. I had to do an adrenaline infusion last night and I knew what to do because I learnt it in the mock the other week"

-Emergency RN, CHW

The table below outlines some of the system issues that were identified as part of the in situ program. If the training had been held outside of the environment where care takes place it is less likely that these specific systems issues would have been identified and addressed

ISSUE IDENTIFIED	ACTION	OUTCOME
Monitor connector doesn't fit mask	Raised at department management meeting	Appropriate equipment obtained and assembled correctly same day
No filters in resuscitation bay for Phenyton	Raised at department management meeting with Pharmacist	Pharmacist added filters in drug room where Phenyton kept
Unclear location of resuscitation bay	Raised at department management meeting	Move NIV to resuscitation bay
2% saline - No dose guidelines and administration guidelines	Raised at department management meeting with Pharmacist	Pharmacist will add dosing and administration instructions to sticker on 2% saline bag
No stickers available for resuscitation team designation	Discussed with Administrative Assistant	More stickers printed and placed in resuscitation bay
CPR chart out of date for new policy guidelines	Raised with CRIS committee	Revision of hospital CPR policy
Ventilator not charged	Raised at department management meeting	Importance of keeping equipment charged emphasised to staff

Conclusion

In situ simulations provide a means of delivering immediate, patient focused education in a safe environment for patients and staff alike, while identifying sub optimal events and system issues.



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