

Appendix 1 Simulation exercise program

Key element	Description		
Orientation to the exercise	<ul style="list-style-type: none"> Simulation: purpose of the exercise, rules and programme for the day, simulation safety Processes: oriented to entirely new work processes such as the composition and functioning of the resuscitation and MET teams and to the staffing model for the department Environment: Brief tour of the workplace 		
Simulator: make and model	Seven mannequins - Laerdal Resusci Anne (multiple), Rescuci kid, megacode Kid (multiple), Nursing Baby, Simbaby plus 3 Patient "Gubers" for Fast Track (FT) patients. All simulators used with low fidelity functionality.		
Simulation environment	In situ in the new children's service utilising the various actual treatment bays, children's ward, radiology service, triage areas plus outside of department areas for the MET call.		
Equipment	<ul style="list-style-type: none"> Actual equipment used in the clinical areas e.g. monitors, MET packs, resus trolleys, IV trolleys and nasogastric trolleys, eye equipment, imaging cassettes, patient transport equipment and wheelchairs, electronic records with mock entries and mock charts. All documentation on actual documentation including admission forms. Monitoring systems used actual systems but dummy observations written on laminates. Pagers and phones as per normal functioning. 		
External stimuli	As per normal emergency and children's service functioning; the mixed ED was operational and the children's ED and ward staffing was as planned for a normal working day once paediatric services opened.		
Simulation scenarios	Scenario	Learning objectives	Facilitation/Confederates
	Minor complaints and injuries (minor burn, feeding problems in an infant).	<ul style="list-style-type: none"> Acute management of burns, neonatal feeding in children Knowledge of referral pathways and access to OPD appointments for children Access to discharge advice and documentation 	<ul style="list-style-type: none"> Nurse educator (confederate as parent) Facilitate the scenario, provide clinical information and participate in debrief

		<ul style="list-style-type: none"> • Effective orientation to space and resources 	
	Children requiring short or longer term admission (dehydration, asthma, head injury, dislocated elbow)	<ul style="list-style-type: none"> • Acute management of dehydration, asthma and head injury in children • Knowledge of referral pathways for inpatient admissions • Access to admission paperwork for SSU and ward and clinical documentation • Effective orientation to space and resources including radiology 	<ul style="list-style-type: none"> • One paediatrician, one emergency physician and two senior nurses (confederates acting as parents) • Facilitate the scenario, provide clinical information and participate in debrief
	Major resuscitation and organisation of retrieval (septic baby)	<ul style="list-style-type: none"> • Acute management of sepsis in an infant • Knowledge of composition and functioning of the paediatric resus team • Knowledge of retrieval processes for new children's service • Effective orientation to resus equipment and bays 	<ul style="list-style-type: none"> • One emergency physician acting as a parent • Facilitate the scenario, provide clinical information and participate in debrief
	MET call that required the patient to be retrieved by the MET team and then managed in the acute area	<ul style="list-style-type: none"> • Acute management of trauma in children • Knowledge of the composition and functioning of the Paediatric MET team • Knowledge of referral pathways for trauma in new service • Effective orientation to MET equipment, trauma equipment and trauma bays and 	<ul style="list-style-type: none"> • One emergency physician acting as a parent • Facilitate the scenario, provide clinical information and participate in debrief

		radiology																					
Additional features of exercise planning	<ul style="list-style-type: none"> Facilitators were briefed on their scenario script, backstory and key debrief points in two meetings prior to the simulation. All had opportunity for feedback and modification prior to exercise. Department directors (who had also been intimately involved in the planning of the new service) were available (in role) during the exercise for advice and were involved in the debrief to help clarify procedures Two further senior clinicians (authors of the exercise) were facilitators of the exercise in a trouble shooting role and performed timekeeping and ensured the flow of patients was true to the exercise timeline Observers stood in a unobtrusive manner within the clinical space and were instructed to stay silent (with a further facilitator looking after them) 																						
Instructional Design	<ul style="list-style-type: none"> Duration : 3 hour exercise with an additional 45 minutes for surveys Frequency: 2 exercises, one week apart Standardisation: same scenarios each week Adaptability: standard scenario script followed regardless of performance. Debrief adaptable to the themes of the adult learners within a desired range of topics Clinical variation: one further week of orientation between sessions for staff new to the service Integration: with the remainder of a 4 week orientation program for new staff but this was the only session for existing staff 																						
Timetable	<table border="0"> <tr> <td>08.00-08.30</td> <td>Pre-exercise Survey</td> </tr> <tr> <td>08.30-08.40</td> <td>Introductions – purpose and basic premise</td> </tr> <tr> <td>08.40</td> <td>Tour of new facility, interrupted by MET call</td> </tr> <tr> <td>08.45</td> <td>Patients arriving at triage (5 patients in first five minutes)</td> </tr> <tr> <td>08.45-09.15</td> <td>All active participants into teams, working on scenarios, treating and transferring patients out Remainder of patients arriving at this time including child requiring resuscitation call then preparation for retrieval</td> </tr> <tr> <td>09.30</td> <td>End scenario</td> </tr> <tr> <td>09.30-09.45</td> <td>General debrief</td> </tr> <tr> <td>09.45-10.00</td> <td>Break</td> </tr> <tr> <td>10.00-11.30</td> <td>Detailed debriefs and patient flow information given</td> </tr> <tr> <td>11.30-11.45</td> <td>Wrap up and fill out post-exercise survey</td> </tr> </table>			08.00-08.30	Pre-exercise Survey	08.30-08.40	Introductions – purpose and basic premise	08.40	Tour of new facility, interrupted by MET call	08.45	Patients arriving at triage (5 patients in first five minutes)	08.45-09.15	All active participants into teams, working on scenarios, treating and transferring patients out Remainder of patients arriving at this time including child requiring resuscitation call then preparation for retrieval	09.30	End scenario	09.30-09.45	General debrief	09.45-10.00	Break	10.00-11.30	Detailed debriefs and patient flow information given	11.30-11.45	Wrap up and fill out post-exercise survey
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Feedback/debriefing	<ul style="list-style-type: none"> Facilitator experience: main facilitator had attended post graduate training in debrief using advocacy inquiry and also had many years' experience in simulation debrief through hospital-based teaching and national teaching courses. Each co-facilitator had experience in simulation debrief through a range of educational qualifications and participation in hospital based training programmes. They also received training and instruction 																						

on the particular learning objectives and possible debrief points of their particular scenario by the key facilitator prior to the exercise. Group facilitation using Advocacy/Inquiry by a trained facilitator. Fifteen minutes allocated.

- Group feedback
- Themes of new team, new department, new processes and how do we use CRM skills to adapt
- Summary and suggestions for follow up learning
- Individual scenario debrief of team involved in each of the 8 cases facilitated by main facilitator and co-facilitated by each of the scenario confederates using advocacy enquiry. Done in front of the larger group. 12 minutes per scenario allocated to debrief.
 - Group feedback
 - Themes according to those exposed in the group vent and also meeting the learning objectives for each scenario
 - Summary and take home points

