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Run Simulation in Your Workplace

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Introduction

In this “How to” guide we show how simulation can be incorporated into everyday clinical practice. Simulation plays an important role in patient safety, by rehearsing the management of uncommon medical emergencies without risk to patients. However, it is often thought that simulation can only be done at great expense in dedicated hi-tech simulation suites. This is not the case: here we describe how effective simulation can be built into routine working life in real clinical environments with minimal extra resources.

Why do simulation in the workplace?

Workplace simulation (or “in-situ” simulation) has a number of potential advantages:

Authenticity

Much effort is spent in dedicated simulation suites to recreate a “real” clinical environment, to bridge the gap between simulator and the workplace. Bringing simulation into the workplace itself reduces this gap. Participants are training with the actual equipment they will use in real emergencies, and have to locate items they may not use frequently. Workplace simulation allows learners to train with their everyday colleagues, which allows development of team behaviour. Furthermore, training in situ may reveal design problems of the work environment itself (e.g. “my swipe card didn’t let me in to a simulated arrest in the endoscopy suite”): it has been used to identify such “latent hazards”, or even to test new facilities.

Frequency

Simulation in dedicated suites is expensive and inconvenient (requiring booking of simulation suite and study leave), and removes facilitator and participants from their normal working environment, impacting service provision. These factors limit the frequency that simulation can be done, with a typical trainee doing simulation only once a year or less. By contrast, workplace simulation can be easily incorporated into normal working life. Simulation can be done either on an ad hoc basis (during quiet times in the working day) or planned into the working schedule to be most convenient to the team. Equipment and staff are all in situ, and so simulation is possible even at short notice. In this way, regular simulation can be incorporated into the monthly or weekly routine. Some air ambulance services even practice “rapid sequence induction” drills on a daily basis.

Affordability

Simulation can be performed using equipment that is readily to hand in the clinical environment, which avoids expensive duplication in a dedicated suite. The role of patient can be played by a volunteer, an inexpensive manikin or even simple props. An expensive “high fidelity” manikin is not compulsory: one anaesthetist runs highly effective simulation drills on the labour ward using an upturned cardboard vomit bowl for a face, and a pillow for the body! Vital signs can be called out by a facilitator, or if available can be displayed using a £5 app for the iPad/iPhone, which can be placed

in front of the normal monitoring screen. Scenarios can even be videoed for feedback using an inexpensive camcorder if desired.

Patient Safety

We are all familiar with the school “fire drill”, a routine rehearsal of group behaviour in anticipation of an unexpected emergency. Likewise, in the airline industry, mandatory demonstration of competence in managing emergencies is embedded in their safety culture. In an analogous way, clinical teams can build in regular practice of drills for the management of uncommon medical emergencies. It also allows clinical risk assessment of the working environment. This could become part of a quality assurance programme for patient safety.

Fun

Simulation should be fun! If done in an informal way, simulation can become a “serious game” that promotes team spirit and morale.

How to get started

Get agreement from all departments involved

Simulation in the workplace will always be in competition with actual patient care, both for time and space, and its value needs to be embraced by senior members of all the departments involved prior to starting. For example, if doctors are called away from clinical activities to attend a mock cardiac arrest call, they may be very disgruntled unless there is full endorsement from their departments, and warning that these will be taking place. The timing and location of simulation activities should be negotiated to have minimal impact on service provision.

Find an enthusiast

For any initiative to succeed there must be enthusiasm. It is helpful to have a named lead in the department to keep promoting in-house simulation. A good facilitator will have a genuine interest in training...clinical experience alone is not enough.

Planned or Ad Hoc?

Every team will have a different working pattern, and simulation should be planned to coincide with times when the members of the team are relaxed and open to learning. An opportunistic approach can be taken: during a quiet period of the day, a facilitator can initiate a quick scenario which may last just 10 minutes. A bank of simple scenarios on laminated card can be kept in a folder to minimise preparation time. One ED consultant used to throw a manikin on an empty trolley in resus, and summon an unwary SHO to “resuscitate this!” Alternatively, a newly set-up Paediatric Medical Emergency Team could undergo a regular programme of simulations in managing the unwell child.

Keep it simple

It is important to ask “what do we want to get out of this?” and to focus the simulation around this question. Choosing a scenario involving a pregnant 13 year old with Cushing’s disease and meningitis involved in a road traffic accident will generate far too

many learning points (as well as being totally unrealistic!) Instead, have in mind a local guideline or algorithm, and design a simple case that will allow the team to explore this. About 10 minutes should be ample time for most scenarios.

Keep it fun!

People learn best when they are having fun, so it is important to maintain a light-hearted atmosphere in simulation. Some team members may be terrified of having to perform in front of colleagues. For others, the idea of role play is very alien, especially more senior members of the team who may not have encountered it during their training. Aim for a non-threatening environment. Emphasise helping each other as a team ("we're all in this together"), rather than putting a single individual on the spot.

Prioritise time for feedback

The scenario itself is actually just the appetiser for learning: it re-creates a clinical experience that should stimulate questions in the participant's minds: "Should I have done that?", "Why did that take so long?", "How could we improve our communication?" It is in exploring these questions

that the real learning takes place, so allow at least as much time for feedback as for the scenario itself. Precision is important: by all means bring out good points, but make them real good points. Vague flattery just feels fake. Likewise, make points for improvement specific, giving examples if possible. Try to identify one key technical point for improvement, one team behaviour issue, and one problem in the work environment. If available, video can be helpful for feedback especially with behavioural issues: it can be fascinating to replay a moment of confusion, and reflect on how it could have been managed better.

Think about impact

In the longer term, in situ simulation will be more likely to succeed if you can demonstrate impact on actual clinical care. How will you assess this? Confidence scores from trainees before and after simulation are a good start. Can you demonstrate improved adherence to algorithms? Can you identify system hazards to correct? Can you show that care quality improves? Best of all, can you demonstrate real improvements in patient outcomes?

Why not have a go?

The GP Surgery (20 minutes)

Theme: Acute MI

Scenario: 80 year old patient presents to surgery with symptoms of acute MI, and a confirmatory ECG done by practice nurse.

Scenario aims:

- 1) Identify STEMI and initiate emergency treatment;
- 2) fax ECG and negotiate with 'difficult' cardiology registrar for urgent PCI.

Participants: GP registrar and practice nurse/receptionist

'Patient': GP trainer initially plays 'patient' and then becomes the 'cardiology registrar' for telephone conversation

Props: ECG showing STEMI, GP system history printout of a 'cardiac patient'.

Rooms required: 2 rooms with telephones

Could this be done during a cancelled appointment?

The Labour War (30 minutes)

Theme: Ante-partum Haemorrhage

Scenario: Switchboard fast-bleeps on-call members with 'peri-arrest in labour ward room three'

Scenario aims:

- 1) Team rehearses implementation of obstetric major haemorrhage protocol
- 2) to explore principles of effective team behaviour

Participants: All available on-call members of anaesthetic, obstetric and midwifery teams

'Patient': Simple resuscitation dummy

Props: standard labour ward monitoring

Rooms required: 1 labour room

Why not spring this on your colleagues during a quiet moment on the labour ward?

ED Resus Room (30 minutes)

Theme: Respiratory sepsis

Scenario: Call for a named doctor and nurse to resus to attend an elderly patient who has three or more signs of sepsis with SOB and purulent productive sputum.

Scenario aims:

- 1) to highlight the signs of sepsis
- 2) to rehearse implementation of the 'sepsis six' of management

3) to explore principles of effective team behaviour

Participants: An SHO, nurse, second nurse as patient

'Patient': volunteer e.g. medical student

Props: Simulated monitor (iPad app)

Rooms required: 1 resuscitation bay

Why not build this into a 'regular' morning slot when the department is quiet(er)?

Summary

Effective simulation does not require a high tech simulation suite. Bringing simulation into the workplace allows learners to practice with their own colleagues using local equipment, at low cost and on a more regular basis.

Further Information

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