

## Study: Crew Resource Management Training in Simulation



Evaluation of a simulation team-based crew resource management training programme that included emergency department and ICU staff showed that healthcare professionals who took part rated it highly, and found that the key learning points were identified as closed-loop communication skills, assertiveness, decision making and situational awareness.

Simulation-based training programmes that focus on crew resource management (CRM) criteria have been found to effectively improve non-technical interprofessional teamwork skills, including communication, leadership, assertiveness and situational awareness. The Hospital Authority in Hong Kong has run crew resource management as a risk reduction programme since 2009. This study, published in the [Hong Kong Medical Journal](#) evaluated the simulation team-based CRM training programme conducted by the [Multidisciplinary Simulation and Skills Centre \(MDSSC\)](#) at Queen Elizabeth Hospital in Hong Kong.

The specialty-based training programme was made up of an introductory lecture, games and scenarios. The scenarios were customised for each specialty and based on input from that department in relation to training needs. In addition to ED and ICU staff, the training programme was conducted with staff from Obstetrics and Gynaecology, Anaesthetics and Operating Theatre Services. The scenario sessions included CRM principles

CRM principle	Skill
Leadership	Conflict management
	Decision making
Communication	SBAR
	Closed-loop decision making
Assertiveness	Speaking up
Situational awareness	Recognising events around us

Two scenarios were conducted, followed by a debriefing session. Each scenario was performed by a group of four to five health care frontline staff. At the debriefing session the trainer led a discussion about team strengths and areas for improvement. Participants could reflect their experience related to CRM skills and clinical knowledge in the scenarios.

See Also: [Moving from "Learning by Doing" to Simulation](#)

### Results

The evaluation was completed by 319 participants at the end of the training programme. The mean satisfaction rating on a scale of 1 to 10 for overall level of teamwork and collaboration, the current level of communication between physicians and nurses, and patient safety on their unit was 6.5, 6.2, and 7.1, respectively. Barriers to achieving excellent communication and teamwork included:

- different types of personality among colleagues (n=92, 29%)
  - too many things to attend to
  - at the same time (n=85, 27%)
  - a culture that prevented an individual from speaking out (n=73, 23%)
  - lack of a standard communication format (n=39, 12%), and
  - fear of being wrong (n=30, 9%)
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- The obstacles and challenges that prevented them from focusing on patient safety included: inadequate manpower (n=85, 27%)
  - heavy workload (n=80, 25%)
  - time pressure (n=77, 24%)
  - poor team communication (n=51, 16%), and
  - insufficient equipment (n=26, 8%)

The top 5 areas mentioned by staff wanting further training were:

- handling a difficult patient (n=118, 37%)
- handover of critical cases (n=85, 27%)
- briefing and debriefing (n=48, 15%)
- collapse in the operating theatre/ward (n=42, 13%), and
- difficult airway (n=26, 8%)

Good leadership and decision making was considered by 86 (27%) of staff to be the top priority in patient care, followed by good clinical skill and knowledge (n=78, 24%), good team communication (n=69, 22%), more manpower (n=57, 18%), and better clinical environment (n=29, 9%) [Fig 2].

The authors conclude that the advantages of a simulation approach compared to a didactic teaching approach are to motivate participants to learn about teamwork skills and alter their behaviour thus reducing the risk of adverse events. "This type of training will help health care professionals incorporate the CRM principles into their daily practice", they conclude.

Source: [Hong Kong Medical Journal](#)

Image credit: [Multidisciplinary Simulation and Skills Centre, Queen Elizabeth Hospital](#)

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