

How much can we achieve with simulation?

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The importance of good teamwork in the provision of healthcare is clear and the stakes are highest in the operating room. Although errors are more likely to occur when there is poor communication, the introduction of the surgical checklist has reduced these in both the short and longer term.¹ However, evidence of the benefit of other interventions is lacking.

In this issue of NZMJ, Weller et al have provided the medium term results of a pilot intervention using Multidisciplinary Operating Room Simulation (MORSim) for team training.² The full details of the intervention have been previously described.³ In brief, the study involved a full-day training for operating room teams; consisting of two nurses, an anaesthetist, an anaesthetic technician, a surgeon and a surgical trainee. It was ambitious, utilising a high fidelity simulation operating theatre that included not only a realistic surgical model but also a complete anaesthetic monitoring setup. The simulation functioned with real-time physiological recordings and dynamic clinical and anaesthetic changes in response to management. Twenty courses were run with general surgical operating teams from two District Hospital Boards (DHB).

This particular study was based on qualitative analysis of responses from a selection of the participants six months after the simulation. Of the 120 initial MORSim participants, 48 were interviewed to identify whether any changes in attitudes and behaviours had been retained at six months. It also sought to discover barriers to the implementation of change. This particular study did not extend to assessment of the impact on clinical outcomes.

Almost all the respondents reported that they had learned something new from MORSim and 35 reported at least one positive change in practice, particularly in information sharing and communication.

A quarter of those interviewed considered that patient management had improved through better processes. Most had encountered barriers to the introduction of changes to practice. Difficulty in coordinating time management, a culture of not talking together and hierarchical behaviour all figured strongly in these barriers. Resistance to the introduction of changes by the interviewees' colleagues was also an important impediment. Of some concern was the fact that there were fewer surgeons interviewed and among these there were fewer positive responses. None of the surgeons reported using new communication strategies despite the fact that these formed a major component of the training.

The changes identified in these medium term outcomes for MORSim are encouraging. However, they do not represent a dramatic change in behaviour. The challenge now is to find ways to break down the barriers that have limited this training's effectiveness.

This pilot study was carried out to inform the implementation of a much wider use of the MORSim model at each DHB in New Zealand and has now been funded by the ACC. This represents a unique opportunity to demonstrate whether simulation training can improve not just operating room communication and behaviour but also patient outcomes and safety on a national scale. Such an educational intervention will be resource intensive and if this is to be effective, the lessons identified here will need to be incorporated into the future training. These lessons include the importance of:

- prioritising time together
- reducing resistance to change
- engaging surgeons
- reducing hierarchical behaviour
- measuring appropriate clinical, attitudinal and communication outcomes in the pre- and post-intervention periods.

The barriers noted to spending prioritised time together were both organisational and personal. The three separate groups involved in the operating room (nurses, anaesthetists and surgeons) tend to function in isolated communication silos. Finding a time for everyone to ‘get on the same page’ before starting an operating list was only achieved by a minority of participants. The patient checklist pauses (sign in, time out and sign out) have not translated into an atmosphere of broader information sharing. Identifying practical ways to implement a beginning of day discussion including all parties is important.

Resistance to change by those who had not participated in the training was a recurrent theme in this study. This will be partly addressed when MORSim is introduced more broadly across DHBs. There will still need to be a strategy, however, to bring on board those individuals who do not see any benefit in being part of such an activity. Demonstrating the utility of this intervention in improving clinically important endpoints will go a long way towards achieving this.

In general, we surgeons see ourselves as the leaders of the operating room teams, deciding who needs surgery and putting the patients on the lists. It would be expected that surgeons would therefore have the most to gain by improving communication and teamwork in the operating room. Despite this, none of the interviewed surgeons volunteered that they had implemented the new communication tools that had been presented. Moorthy et al performed a similar simulation training that compared expert and trainee surgeons in difficult operative situations. Interestingly, this study

clearly showed greater technical and operative skills in the experts but struggled to demonstrate that they had better communication skills.⁴ We, as surgeons, need to recognise that we may not be as good at communication as we think we are! If it can be demonstrated that this is a matter of patient safety, one hopes it will stimulate us to be more engaged in the whole process.

This is closely aligned to the hierarchical nature of many OR teams. The days of the powerful, decisive, dominating surgeon functioning independently are over. Modern operating requires the close cooperation of all OR members who are each expert in their own field. The recent initiative by the RACS, ‘Let’s operate with respect’, was introduced in response to the revelation of widespread discrimination, bullying and sexual harassment in surgery. This has recognised that much of what has happened in the OR has not demonstrated the mutual respect that is foundational to teamwork. Addressing this can only improve the communication and culture of work in the OR.

Finally, the countrywide introduction of MORSim requires careful assessment of communication skills, attitudes and clinical outcomes. There are now validated measures of each of these that can be implemented both before and after the roll out of MORSim nationally. We have an opportunity as a country to show that we can change communication and attitudes in OR teams and that these changes translate into better clinical outcomes for patients. If this can be achieved it will provide a model that should be transferrable internationally. Weller et al are to be applauded for taking on this challenge.

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<http://www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2016/vol-129-no-1443-14-october-2016/7028>

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