

Establishing a clinical simulation centre: Recommendations from an expert panel from the International Conference on Advanced Clinical Simulation, Dhahran, Saudi Arabia

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ABSTRACT

Establishing a simulation centre remains a real challenge for many experts in the field of clinical simulation. A panel of experts presented some guidelines during the International Conference on Advanced Clinical Simulation that was held in Prince Sultan Military College of Health Sciences, Dhahran, Kingdom of Saudi Arabia, in October 2014. The round table discussion addressed eight themes: The planning stage, stakeholders' involvement, strategic planning, centre design, partnership development, faculty development, curriculum development and establishing a research strategy. The conclusions are presented in this paper.

Keywords: Centre design, curriculum development, simulation-based education, simulation centre

INTRODUCTION

Simulation training in healthcare has gained great momentum in the last decade worldwide.^[1] As the need for training is growing, more and more universities, colleges, hospitals and even stand-alone simulation centres have been established around the world. Simulation-Based Education (SBE) in the Kingdom of Saudi Arabia (KSA) is developing rapidly due to the expanding healthcare workforce, increased training needs and the availability of resources. The International Conference on Advanced Clinical

Simulation was held in Prince Sultan Military College of Health Sciences, Dhahran, KSA, in October 2014. The conference provided a forum for academicians, administrators and healthcare professionals to discuss the current and projected SBE practices. It also provided an opportunity to network and learn from leaders in clinical simulation from the Kingdom and around the world. An expert panel discussion was held to identify considerations for establishing a state-of-art simulation centre. The panel included all the authors of this paper. The considerations were to: (1) Review key elements in the planning stage, (2) involve all stakeholders early on, (3) develop a strategic operational plan, (4) review key elements in the design phase, (5) develop partnerships, (6) assess means for faculty

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development, (7) review methods for curriculum development and (8) establish a research strategy. These conclusions are by no means complete; however, they offer valuable insights for those who want to establish a clinical simulation centre.

PLANNING STAGE

The planning stage is the most important step and is intended to provide data and information about the whole project. The panel discussed three crucial elements. First, an educational needs assessment must be performed in order to address the various needs or gaps between the institution's current and desired conditions or wants. The scope of a simulation centre varies depending on the types of healthcare providers to be trained and the currently available tools for training. For example, the needs for a hospital-based simulation centre are more focussed towards postgraduate training,^[2] while the needs for allied health college are more focussed on undergraduate students. Even in a hospital setting, the needs can vary, depending on whether the hospital is tertiary care, teaching or promotes one speciality over another. Second, there must be made a 'wish list'. Envision how you will put up your clinical simulation centre, try to dream and write down your 'wish list' as extensively as possible. It is true that not all your wishes can be accomplished; however, these wishes can be contrasted afterwards with the resources available and a more realistic plan can then be constructed. Third, develop a feasibility study for the future clinical simulation centre. Consult experts in the field, locally and internationally to help form the 'road map' and 'business plan' during project execution.

INVOLVING STAKEHOLDERS

The breadth of stakeholders in a healthcare simulation centre is as diverse as those in any healthcare service facility. It is crucial to identify and involve the potential stakeholders of the clinical simulation centre (i.e., core faculty, technology, maintenance providers and suppliers) as early as possible. It includes the organization of meetings to discuss the mission and vision and the responsibilities of different stakeholders. Clinical simulation is a relatively new field in medical education, thus increasing awareness among stakeholders is sometimes needed. Stakeholders will include, as well patients and their relatives, and other service users. Although patients are increasingly included in the development, operational and evaluation activities of healthcare services, there may be some tokenism with their involvement, a sense of not being quite sure what they might contribute and sometimes as an afterthought. Placing them front

and centre reinforces their centrality in planning activities that ultimately are intended to improve their care. Of course, qualified medical and health professionals, students, educators and representatives from a range of hospital departments (including medical administration, environmental services, etc.) can be included. Usually, the overarching purpose and intent has been conceived in the initial planning but should avoid limiting the impact by excluding potential users of the centre. Instead, build a team spirit among future participants and make them feel that they are part of the clinical simulation centre.

STRATEGIC PLANNING

It is prudent to establish a strategic plan for the centre with targets at different time points. 1, 5 and 10-year milestones help provide direction for activities and enable the centre staff to work towards an articulated vision. The strategic planning should be based on available resources, a feasibility study, future projections and the vision. Reviewing the plan is important to ensure continued relevance, as clinical simulation is an evolving science, art and business. Critical thinking is imperative and avoids fixation, as it can be detrimental to the whole project. Accept criticism and be willing to change accordingly. Strategic planning secures not only the initial budget but also the operating budget for the simulation centre.

CENTRE DESIGN

This step is very demanding early on and continues throughout the project. The engineers will ask for discrete ideas and models. The clinical simulation centre is neither a college laboratory nor a set of academic lecture rooms. It integrates three different types of space: Clinical and non-clinical simulation, educational, and supporting services.^[3] It is important to dream, be visionary and have an inspirational wish list, but practicality is needed when the design of the building is shaping up. Being practical in designing and setting up clinical simulation is imperative; 'perfection is the enemy of good'. A good design should observe the flow of trainees in the clinical simulation centre. Trainees from different backgrounds, specialities and ages would be present in the centre at any 1-time. The flow or 'traffic' should be smooth. During planning, whatever storage space you think you might need in your centre, double it! Creating a culture of safety and orderliness is more likely to be achieved in a setting, which enables all equipment and consumables to be stored securely and systematically. Given that most simulation centres need flexibility in the clinical environments they recreate, the range of clinical skills and tasks they support, and always more storage space

is required than would be necessary in a real clinical setting. Ensuring that storage space is located and thoughtfully fitted out to facilitate ease of access is also important. There are no fixed published engineering design standards for clinical simulation; however, at least 10% of the total area of the simulation centre should be allocated to storage. In certain situations, developing an animal laboratory needs to be considered if training in a wet lab is needed. However, this will add a lot to the logistics, budget and design of the building. Finally, it is wise to leave an empty space open. As simulation is evolving, you may need to add another function in this empty space.

DEVELOP PARTNERSHIP

It is vital to start where others have reached. Linking with other simulation centres will allow sharing resources and experiences. Consider forming relationships with centres that complement your own focus of activity. In this way, you can draw on expertise when required rather than having to be experts at everything, probably not possible in the development phase and beyond the proposed scale of many centres. Leverage the offerings and contribute to professional associations at local, national and international meetings. Seek opportunities to bring simulation educators and technicians together to advance their practices. Liaise with key experienced clinical simulation facilities to understand their practice and whether their practices meet your local needs. Pursue membership to national and international professional simulation groups/societies. It will increase network and collaboration among clinical simulation enthusiasts.

FACULTY DEVELOPMENT

Faculty development should start early in the project. Do not wait until the building is done to start faculty development. Build the culture of SBE as a paradigm shift in training. Map the functions of your centre and determine the faculty development programmes you will need. Build faculty development by starting early on programmes such as scenario design, facilitation and debriefing.^[4] Qualified staff are essential for effective simulation.^[5] Simulation technicians are really difficult to find. In the KSA, most of the training is on-job-training. Sending instructors and technical staff to courses abroad enriches faculty development and maintenance. At the same time, build your own capacity of technical personnel. Simulated patients (SPs) play a major role as co-teachers in education. In this sense, SPs are the faculty for the simulation centre as well. Later on, establish faculty maintenance programme to keep your faculty up-to-date.

CURRICULUM DEVELOPMENT

What makes the clinical simulation centre is its curricula and not the simulators. The curriculum comes first and then technology follows. Determine which parts of the curriculum SBE will enhance and then develop the curriculum accordingly.^[6] Consulting others who are expert in the clinical simulation is not enough; have a core curriculum based on your needs and ensure proper utilization of resources. Create opportunities to provide simulation curricula to many healthcare providers. Manage the implementation of clinically-based educational activities in your chosen speciality but pay attention to cultural differences.

ESTABLISH RESEARCH STRATEGY

Healthcare simulation has an emerging evidence base in relation to all the facets of practice. Simulation is a complex socio-technical process, and a better understanding of the active ingredients in simulation-related research is needed.^[7] Early development of processes to systematically collect data relating to usage is valuable. Usually, this is evaluative and may relate to user experience. It is important to feed this information back into the operations' centre. This type of data collection may precede a programme of research that seeks to answer questions relevant to local practices. Locating the strategy within broader healthcare research priorities can connect local simulation centres with important issues for the community and tap into research expertise. For the effectiveness of implementation, evidence-based and outcome driven research on clinical simulation activities should be conducted.

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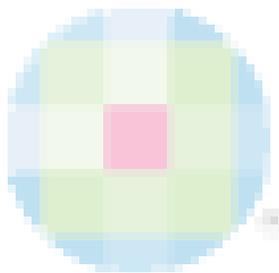
Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Qayumi K, Pachev G, Zheng B, Ziv A, Koval V, Badieli S, *et al.* Status of simulation in health care education: An international survey. *Adv Med Educ Pract* 2014;5:457-67.
2. Lababidi H, Munshi F. Development of simulation curriculum in postgraduate programs. *J Health Spec* 2015;3:17-21.
3. Seropian M, Lavey R. Design considerations for healthcare simulation facilities. *Simul Healthc* 2010;5:338-45.
4. Paige JT, Arora S, Fernandez G, Seymour N. Debriefing 101: Training faculty to promote learning in simulation-based training. *Am J Surg* 2015;209:126-31.
5. McGaghie WC, Issenberg SB, Petrusa ER, Scalese RJ. A critical

- review of simulation-based medical education research: 2003-2009. *Med Educ* 2010;44:50-63.
6. Motola I, Devine LA, Chung HS, Sullivan JE, Issenberg SB. Simulation in healthcare education: A best evidence practical guide. *AMEE Guide No 82. Med Teach* 2013;35:e1511-30.
 7. Dieckmann P, Phero JC, Issenberg SB, Kardong-Edgren S, Ostergaard D, Ringsted C. The first Research Consensus Summit of the Society for Simulation in Healthcare: Conduction and a synthesis of the results. *Simul Healthc* 2011;6 Suppl: S1-9.



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