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Designing a faculty development programme for systems-focused translational simulation

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Introduction

Translational simulation (TS) for systems and process integration is used to identify and reduce latent and active hazards that place our patients and service delivery at risk of inefficiencies and errors that impact patient care [1,2]. Examples include informing facility design, prototype testing, and the trialling of new and high-risk procedures [3]. While various publications have established best practice principles in relation to design and delivery of TS activities, there is a paucity of evidence describing how to train faculty to deliver and debrief this unique form of simulation [1].

'OptiSim' is a systems-focused translational simulation service that supports projects in a large and diverse State-wide health service in Queensland, Australia. In response to increased demand for TS services, clinical educators were required to develop confidence in designing, delivering and reporting on activities. This required a standardized approach to faculty development for this subspecialty of simulation. This paper describes the development and evaluation of a course specifically designed to provide clinical educators with confidence and skills to develop and deliver TS activities.

Innovation

Traditional faculty development programmes for healthcare simulation educators have a strong emphasis on learning outcomes, conversational strategies and techniques for building psychological safety but did not adequately prepare faculty for the procedural, strategic and more operational requirements of TS.

The development of the course progressed through three initial phases with the involvement of the core team.

- Personal and group reflections and discussion regarding their professional transition from educators to local experts in TS.
- Collated 'tips and tricks' gathered from the experience of the group during large and small TS interventions.
- Selection of an appropriate framework to provide a foundation for curriculum design.

We identified the 'Input/Process/Output' (IPO) framework described by Nickson et al. in 2021 as an accessible but sophisticated 'on ramp' for new translational simulationists. By aligning the course curriculum with the IPO framework two goals were achieved. First, the framework acts as a step-by-step guide for participants, taking them through the design, delivery, debriefing and reporting of a TS activity (see Figure 1). Second, participants are introduced to a 'systems thinking' framework, commonly utilized in healthcare research and improvement. Facilitators were able to provide examples of how a focus on systems, rather than training benefits the complex environment of healthcare.

The course design applied evidence based educational methodologies providing theory, practice, discussion and feedback [4]. During the course candidates are tasked with testing an inpatient room to ensure safe facilitation of patient cares and pathology testing under COVID-19-related respiratory precautions. Participants work consecutively through each step of the framework in small groups with theory moments interspersed using lectures, discussions, group work and hands-on activities. In addition to theory the participants are gradually introduced to tools, templates and resources to assist them in the course and support their TS activities in the future. By working through the 'whole task' from stakeholder engagement to report synthesis, participants are provided the opportunity to understand the entire TS process (including data analysis and report writing) rather than emphasising debriefing or simulation delivery.

A mixed-methods approach was adopted to evaluate the pilot programme with the collection of quantitative and qualitative data via self-administered Microsoft forms ™ anonymous survey pre- and post-workshop.

Surveys utilizing a Likert type 6-point scale were collected, a focus group was also held post-pilot by an impartial team member using semi-structured open questions, and the focus group was audio-recorded to allow analysis of qualitative responses.

Figure 1: IPO framework with course objectives and activities to support content delivery. Tools and resources are provided Adapted from the original framework in Nickson et al. 2021 [1].

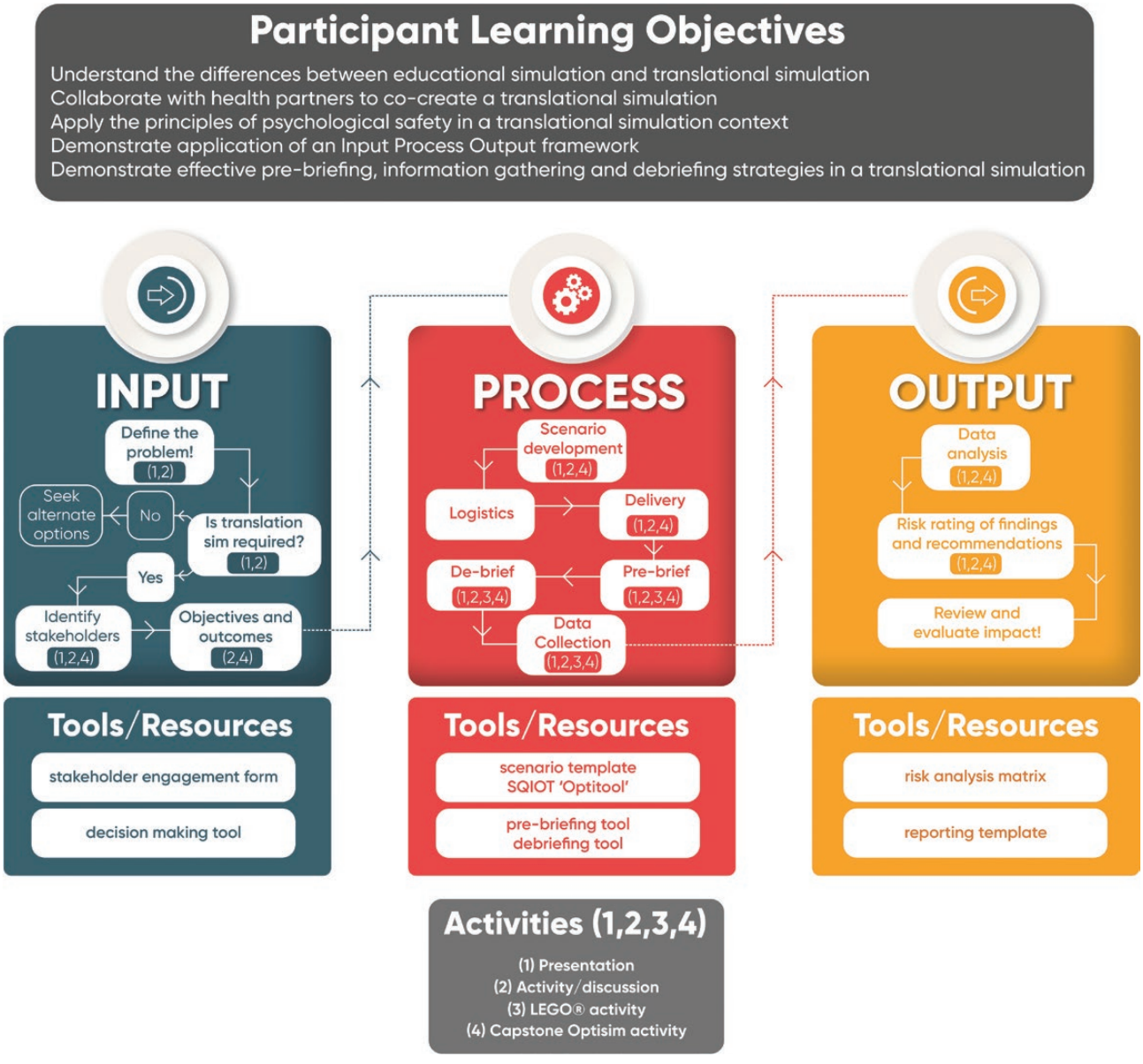
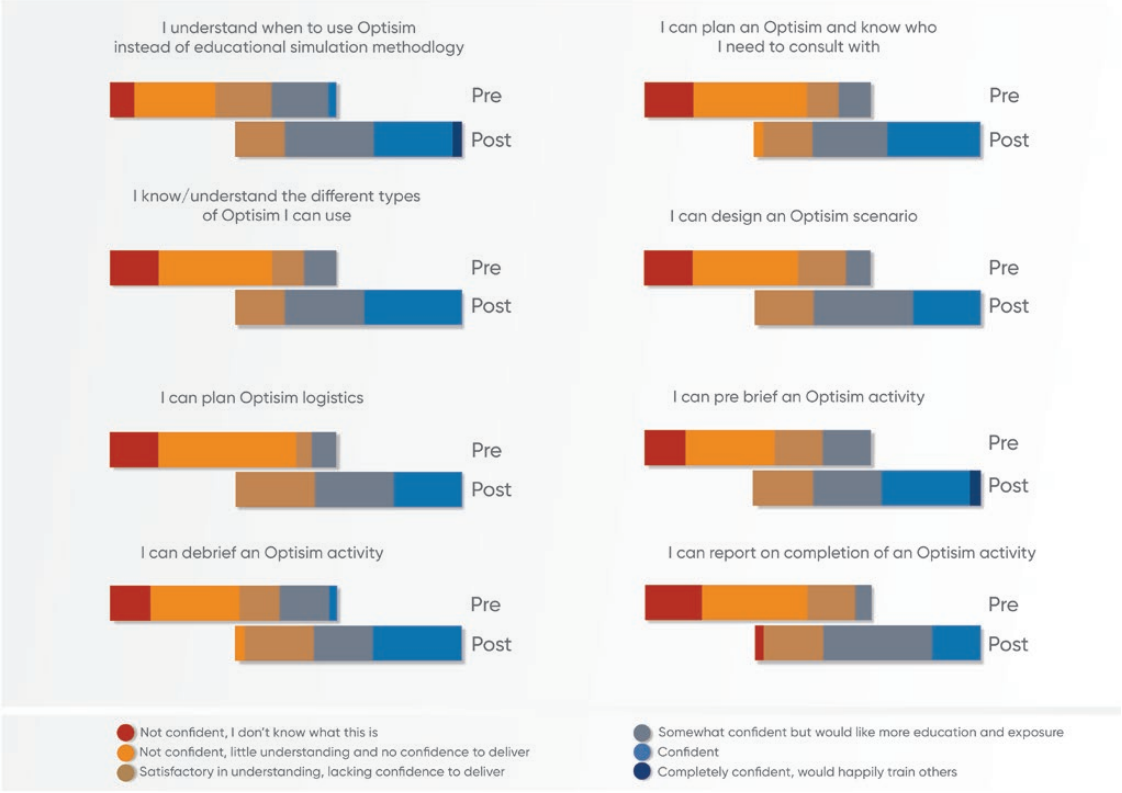


Figure 2: Pre- and post-course evaluation confidence.



Outcomes

The pilot was a half-day workshop with five clinical educators who had previously attended a 2-day foundational simulation instructor course with experience delivering simulation-based education. Evaluation and feedback resulted in reordering content and increased time to a full day to counter content feeling rushed with insufficient time for the capstone activity.

A further five workshops were delivered with a total of 28 participants attending from nursing, education, medicine and allied health backgrounds.

Overall, an increase in confidence across all areas of TS was consistently reported (Figure 2).
Throughout the delivery of the workshops the authors reflected on feedback from and discussions with participants and identified two major improvements to the current TS service resources and logistics. First, standardized tools and templates were made available on an accessible, central platform. Second, a decision-making tool to triage suitability and prioritization of TS requests was developed and implemented.

What's next?

The course will be offered twice-yearly, along with longitudinal support and mentorship especially for safety and quality personnel who are key in the testing of our systems, process and equipment. For participants without the pre-requisite simulation training an abridged version of the foundational simulation instructor training will be available. This will ensure that participants are familiar with the underpinning principles of psychological safety and debriefing structure prior to the TS course.

The next steps for the TS service is to evaluate the impact of increased numbers of trained faculty on the delivery of quality improvement activities within the organization. Furthermore, an evaluation of how these activities contribute to improvements in service provision and patient care will be valued by hospital leadership and project teams.

In summary, as organizations increasingly realize the value of TS, more faculty will be required to have skills specific to this form of simulation activity. The TS faculty development described here is key in enabling the wider success of the service in achieving the goals of improving patient care, increasing service efficiency and staff satisfaction. The development and delivery of the course also led to improvements in the TS service through both the reflection required to design the course, and the feedback from participants.

Declarations

Authors' contributions

None declared.

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Availability of data and materials

None declared.

Ethics approval and consent to participate

Project approved by Mater Misericordiae Ltd Human Research Ethics Committee HREC/MML/81095 (V3).

Competing interests

None declared.

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