

SHORT REPORTS ON SIMULATION INNOVATIONS
SUPPLEMENT (SRSIS)

SimBegin: an evidence-based entry-level facilitator program

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Introduction

Simulation faculty development is important, but evidence of best practice is limited [1]. During the COVID-19 pandemic, the SAFER simulation centre experienced faculty development and facilitator training problematic due to social distancing and a request for online solutions was raised. Additionally, training cascades, enabling institutions to train their own facilitators, is appropriate for sustainability value. There were to the best of our knowledge no available facilitator courses that answered these challenges of faculty development. Therefore, an international team from SAFER and Laerdal Medical, comprising experienced educators and facilitators, gathered to develop an innovative solution to meet the identified needs and created the SimBegin™ Program (2020–2023).

Innovation

The aim of the innovation was (i) to provide a simplified course compared to available facilitator courses, in order to reduce the threshold to initiate simulation activities, (ii) to provide a blended learning approach and (iii) to create a comprehensive and scalable program supporting competency development with the aim of the attendees, to themselves educate new facilitators (Figure 1).

We selected a cascade training structure to disseminate simulation training to a high volume of healthcare workers and students. A cascade training structure for simulation facilitators involves a hierarchical approach where the first cohort of facilitators is trained to a faculty level who then disseminate knowledge to subsequent tiers, enabling the education of many facilitators per faculty. This method ensures scalability and consistency in facilitator development across various levels of expertise. The result of the innovation process was a novel and simplified simulation facilitator training program, combining online learning and on-site training consisting of several modules in a three-level program: SimBegin™ Level 1, 2 and 3 (Figures 1 and 2). Level 1 educates facilitators to run pre-written scenarios, Level 2 trains mentors to support both facilitators and organizations on simulation quality and implementation and Level 3 educates faculty to train new facilitators and mentors in their organization.

Regarding content, Level 1 encompasses scenario preparation, briefing, execution and reflection-based debriefing. Level 2 is characterized by simulation fidelity, training methodologies, facilitator mentoring and utilization of simulation for healthcare quality improvement. Finally, Level 3 demands an advanced facilitator course covering scenario design and non-technical skills. Additionally, guidance on

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Figure 1: The SimBegin™ Program cascade. At the bottom level we find the healthcare workers intended to join simulation training on regular basis. Above (SimBegin™ Level 1) are the SimBegin™ Program participants who are trained as facilitators. At the next level (Level 2) the facilitators are further trained to become mentors. The top level (Level 3) educates SimBegin™ Faculty, enabling them to train new facilitators and mentors.



the broader aims, values and assessment of the program is also covered (Figure 2).

The SimBegin™ Program was one component of the Safer Births Bundle of Care project (SBBC) in Tanzania [2]. SBBC implemented clinical and training tools for improved maternal and newborn outcomes, where SimBegin™ was the facilitator course enabling the implementation of simulation-based training. Sixteen novices were trained to become faculty by completing SimBegin™ levels 1, 2 and 3 over a period of 12 months. Independent of SBBC, the

SimBegin™ Program was also provided for the midwifery education at the University of Stavanger, Norway. The educators have conducted SimBegin™ Level 1 course for their students, training them to be facilitators and thus enabling students to conduct simulation-based training without the need for teacher involvement. The use of peer-to-peer learning might be a solution to support higher volume of simulation training and meet the challenge of lack of time and resources as barriers for implementation of simulation in healthcare education [3].

All over, SimBegin™ courses have now been conducted in 13 countries worldwide with a total of 821 trained facilitators in low-, mid- and high-income countries.

Evaluation

The evaluation of the innovation is ongoing as part of the SBBC project, including 240 000 deliveries, with primary outcome being maternal and newborn mortality and secondary outcomes being training frequency and training performance [2].

Outcomes

The implementation of SimBegin™ has shifted the culture in certain settings from blame-oriented to non-blame, fostering a safe learning environment in educational and clinical settings [4].

Furthermore, the halfway report of the SBBC project shows a reduction of maternal mortality by 10–20% for four of five Tanzanian regions [2]. Bleeding after birth is one of the main reasons for maternal mortality [2] and the mortality reduction is likely impacted by the great focus on implementation of simulation training for improved clinical care for mothers bleeding heavily after birth, enabled by the SimBegin™ Program [2]. This is consistent with a study finding skill training and equipment insufficient, and facilitator-led team simulations necessary for improving clinical practice and patient outcomes [5].

What's next?

The SimBegin™ Program is set to achieve further global implementation in 2024, being translated into 12 different languages. The overall count of facilitators trained in the SimBegin™ Program is expected to reach 1400 by the end of 2024.

Future key research questions

- Facilitators' utilization of competency in their workplace
- Manager perceptions of program value
- Barriers and facilitators in implementing the training cascade
- Program impact on patient outcomes and teacher workload

Declarations

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Figure 2: The SimBegin™ Program overview. The figure illustrates the SimBegin™ Program content for each level. Level 1 provides the learners to (i) prepare, (ii) brief, (iii) run a pre-written scenario and (iv) perform a reflection-based debriefing. Level 1 is a two full day work including one full day of on-site training. Level 2 provides the learners with more knowledge about the value and effects of simulation fidelity, simulation modalities, knowledge about how to be a mentor for Level 1 practitioners and about using simulation for quality improvement. The four online workshops of Level 2 are two full days but are spread over at least 4 weeks. Level 3 includes an advanced facilitator course, e.g. the EuSim Level 1 course, covering (i) the topics of human factors and patient safety and how to address these in debriefing, and (ii) scenario design to create relevant and realistic scenarios. Level 3 also includes a dedicated Guidance of SimBegin™ which covers a more in-depth session of the aim and value of the SimBegin™ Program and of debriefing. The Guidance of SimBegin™ consists of two webinars, each lasting 3 hours. The advanced course depends on what course one follows but is normally 2–3 full days.



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Authors' contributions

Design: MSV, BF, KT. Acquisition: MSV, BF, KT. Analysis: MSV, KT. Interpretation of data: MSV, KT. Drafting the manuscript: MSV, BF, KT. Reviewing the manuscript: MSV, BF, KT. All authors have approved the final version of the manuscript.

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Availability of data and materials

None declared.

Ethics approval and consent to participate

The SBBC project was approved by the Institutional Review Board National Institute for Medical Research (Ref. NIMR/HQ/R.8a/Vol.IX/3458) in Tanzania (30 June 2020), and the Regional Ethical Committee RecWest (Ref. 229725) in Norway (6 August 2021). Patient consent was waived since the study is a quality improvement project [3].

Competing interests

The SimBegin™ Program is a commercial product developed by SAFER and Laerdal Medical. MSV and KT are employees at SAFER, and BF is an employee of Laerdal Medical. No one has any personal financial interest in the SimBegin™ Program.

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