

## ESSAY

# The Canadian Alliance of Nurse Educators using Simulation: supporting excellence in simulation education and research

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## ABSTRACT

The Canadian Alliance of Nurse Educators using Simulation (CAN-Sim) aims to connect nurse educators and allied health partners from across Canada and internationally to share knowledge, resources and expertise in areas of simulation research and education. This paper will describe the creation, evolution and core values of CAN-Sim. Our success is founded on a shared vision for improving simulation-based education. CAN-Sim values and promotes collaboration, mentorship, innovation and scholarship as it advances excellence in simulation education and research through networking. Sharing our experience and processes can encourage nurse educators and allied health partners within other geographical locations to develop their own collaborations or join us in impacting the future of simulation.

## What this essay adds

- Simulation educational strategies have been increasing in popularity around the world, yet opportunities for faculty development for educators have been limited by a lack of institutional support and resources.
- Canadian Alliance of Nurse Educators using Simulation (CAN-Sim) is an innovative collaboration connecting nurse educators and allied health partners across Canada and internationally to advance simulation education and research.
- We describe our experiences and processes involved in creating and advancing CAN-Sim.
- Our experience can be used to support academic and hospital-based nurse educators and allied health partners to develop their own collaborations or join us in impacting the future of simulation.

## Introduction

Simulation has been used in teaching and learning in a variety of disciplines, including nursing, for centuries [1]. The use of simulation can benefit nursing students by improving skills, reducing anxiety and enhancing self-confidence [2]. Additionally, although low-fidelity task trainers and mannequins have been used since the early 1900s [3], advances in technology brought about increasingly sophisticated computerized mannequins that improved the realism of the nursing

simulation and increased the use of simulation. Simulation can be defined in nursing as a realistic replication of a clinical situation for practice, learning or evaluation [4].

Globally, within healthcare education, there has been significant growth in the application of simulation-based experiences in terms of curricular integration, infrastructure support and research activities [5]. Despite the complexity involved in the delivery of simulation-based experiences, including design, facilitation, debriefing and evaluation components, faculty development opportunities have been limited. There is a knowledge and skill gap between the growing demand for simulation-based experiences and educator competence in developing and facilitating high-quality simulation learning experiences [6]. This can have a significant detrimental impact on student learning.

To help fill the needs of health professions educators, simulation organizations were created to support the advancement of the science of healthcare simulation, including the Society for Simulation in Healthcare (SSH) and the International Nursing Association for Clinical Simulation in Nursing (INACSL). These organizations promoted strategies and actions (e.g. INACSL Healthcare Simulation Standards of Best Practice) [7] that improved and standardized the delivery of nursing simulation; however, these large simulation organizations did not meet the needs of Canadian educators for faculty development and did not provide open-access simulations to meet the needs of learners. Therefore, the Canadian Alliance of Nurse Educators using Simulation (CAN-Sim) evolved to bridge this gap by creating a place for academic and hospital-based nurse educators to connect and support each other through collaboration and mentorship in simulation development and research. This paper will describe the creation, structure, evolution, core values and impact of CAN-Sim.

## Creation process

In 2013, a team of nurse educators from Ontario, Canada, was awarded funding (\$5.8 million) from the Ontario Government Productivity and Innovation Fund to enhance nursing student transition to practice through simulation-based education. This project represented an unprecedented collaboration of 13 university schools of nursing, four colleges and Ontario's Simulation Network for purchasing new simulation equipment, faculty development in simulation design and creating a shared scenario repository [8]. The remaining project funding supported advanced faculty development for 22 nursing faculty from across Ontario. This training generated a new enthusiasm and consolidated a shared desire for the project's impact to be sustainable, ongoing, and the foundation for future collaboration and research.

Under visionary leadership, the Ontario Simulation Alliance (OSA), an unanticipated but invaluable outcome of the project, was realized. The vision of the OSA was 'educators collaborating for excellence in simulation'. The alliance quickly established an executive, terms of reference, an education committee and a research committee to support proposed initiatives. The OSA initiative was a success and included various simulation design workshops delivered across universities in Ontario to disseminate faculty development and provide revenue to support a website and other OSA activities. Those workshops attracted nursing and allied health educators from academia and hospital settings across Ontario and other Canadian provinces. Due to growing interest from educators outside of Ontario in collaboration, a new national organization was required.

In 2018, CAN-Sim ([www.can-sim.ca](http://www.can-sim.ca)) was founded with a similar vision and mission to the OSA, which focuses on 'Excellence in simulation education and research through networking' (Table 1). In 2019, CAN-Sim counted 137 members

**Table 1:** CAN-Sim vision, mission, and core values

Item	Description
<b>Vision</b>	Excellence in simulation education and research through networking
<b>Mission</b>	To connect nurse educators and allied health partners from across Canada and beyond to share knowledge, resources, and expertise in areas of simulation research and education
<b>Core values</b>	
<b>Collaboration</b>	We believe collaboration strengthens our reach and impact
<b>Mentorship</b>	We believe mentorship strengthens our membership
<b>Innovation</b>	We believe innovation moves the art and science of simulation forward
<b>Scholarship</b>	We believe scholarship activities support educators and inspire new research
<b>Strategic priorities</b>	<ul style="list-style-type: none"> <li>• To support collaboration between nurse educators in simulation design and integration in the context of nursing and interdisciplinary teams.</li> <li>• To enhance expertise in evidence-based simulation teaching and learning through professional development and mentorship.</li> <li>• To enhance simulation-based learning through the sharing of scenarios and resources between members.</li> <li>• To implement strategies that promote the development, application, and dissemination of simulation research.</li> <li>• To support a continuum of research activities to assist and sustain research among nursing and related healthcare educators.</li> </ul>

**Table 2:** Responding to global issues in healthcare and education through virtual simulations

Responding to global issues in healthcare	
<b>COVID-19 pandemic</b>	<ul style="list-style-type: none"> <li>- Provided access to all online virtual simulations during the pandemic</li> <li>- Created simulations to teach nurses how to assess and manage the care of persons with COVID (<a href="https://can-sim.ca/hc/">https://can-sim.ca/hc/</a>)</li> </ul>
<b>Other current global issues in healthcare</b>	<ul style="list-style-type: none"> <li>- Sexual orientation and gender identity (SOGI) nursing (<a href="https://can-sim.ca/">https://can-sim.ca/</a>)</li> <li>- Vaccine hesitancy (<a href="https://can-sim.ca/vaccine-hesitancy/">https://can-sim.ca/vaccine-hesitancy/</a>)</li> <li>- Public health nursing (<a href="https://can-sim.ca/phn/">https://can-sim.ca/phn/</a>)</li> <li>- Wound assessment and management (<a href="https://woundnursing.ca/">https://woundnursing.ca/</a>)</li> </ul>

from Canada, 21 from the USA and five other international members. With strategic dissemination strategies, CAN-Sim reached 2,100 members, including over 800 international members, in 2023. These strategies included a monthly newsletter, social media posts, a strong presence at simulation and nursing education conferences, and a growing repository of standardized patient, manikin-based simulations and virtual simulations. Additionally, as a response to global issues (Table 2), CAN-Sim granted temporary access to all virtual simulations to all Schools of Nursing globally during the first year of the COVID-19 pandemic to support education across Canada and beyond, which significantly increased exposure to the organization and its offerings.

Planning for sustainability is an essential component of a successful simulation alliance to ensure there is a reliable source of funding to support operations [9]. Although grant funding can be used to initiate an organization, there is limited grant funding that can support sustainability. Thus, it was imperative to develop multiple alternative sources of revenue. Although general CAN-Sim membership remains free to Canadian and international members to ensure equitable access, there are added benefits for contributing and paid members.

Our website and faculty development activities are currently sustained through revenue brought in by workshop fees (e.g. on how to create virtual simulations), speaker honorariums and industry sponsorship. Webinars and open-access resources are freely available on the website; however, to access the scenario or repository of Virtual Simulation Games (VSGs), members must contribute an educational resource for sharing or pay a modest annual membership fee. This encourages both the growth of the repository and the spirit of collaboration. There is no cost to students when educators use simulations from the repository. Mechanisms for peer review are in place to ensure the quality of the contributed resources. Peer review occurs through having content experts review virtual simulations prior to posting. In-person simulations have a peer-review form for peer-review. Additionally, CAN-Sim continuously works to promote the core values of innovation, collaboration, mentorship and scholarship, and in the following sections, we outline how each of these values is enacted and sustained.

## Innovation

CAN-Sim began and continues to be driven by innovation. We work together to identify and fill gaps in nursing education

through simulation-based strategies. CAN-Sim members with various expertise across different clinical specialties and institutions propose collaborative and innovative projects. CAN-Sim innovation focuses largely on improving the creation and delivery of simulation to learners and professional development for educators using simulation.

For example, we recently focused on VSGs to help improve learners' preparedness for simulation activities. VSGs are an innovative and engaging pre-simulation preparation activity for nursing students. We had developed, partly through trial and error, a user-friendly method of creating VSGs that could be replicated by other nurse educators, partially with funding received from e-Campus Ontario. Our method of VSG creation is unique and includes a comprehensive outline and a tailored standardized software program template to facilitate the process. Our first VSGs were created for pre-simulation preparation, having only five decision points. The subsequent VSGs were designed as stand-alone virtual simulations that could be used as adjuncts or in place of live simulations and contained 10–20 decision points. Over the past 2 years, we have expanded our resources to include a new repository of VSGs and related resources within a dedicated learning management platform. CAN-Sim leaders crossed the country, delivering the workshops and supporting educators to create their own VSGs. Over 180 new VSGs have been created and added to the repository hosted on the CAN-Sim website.

Additionally, to help fulfil new gaps as highlighted by literature evidence or members of the organization, we have developed other innovative strategies to enhance nursing simulation. Our latest innovation includes the development of virtual interactive puzzle escape rooms, and we plan to further expand our simulation to other technologies (e.g. 3D simulation and the use of avatars). Also, part of our innovation is focused on supporting faculty development to promote excellence in the delivery of simulation. Some examples of our innovative strategies in this area include developing and testing a virtual debriefing professional development module using a multi-site design and various VSGs to improve the competency of nurse educators.

## Collaboration and mentorship

A key aspect of CAN-Sim is to promote collaboration and mentorship among academic and clinical nurse educators across Canada and beyond with an interest in simulation. Collaboration is essential to the development of quality of simulation and dissemination of existing resources and

promotes mentorship where people more experienced can help guide novice educators or researchers. A review of high-fidelity simulation highlighted the need for prioritization of simulation research to meet educational outcomes for undergraduate nursing education [10]. There is evidence of many innovative simulation projects undertaken by nurse educators.

In keeping with the CAN-Sim pillars, CAN-Sim leadership formed a Research Interest Group to provide mentorship and collaboration opportunities among members. The group meets every month or two to share updates and provide feedback. During the meetings, members have the opportunity to provide updates, seek advice, and partner to develop and implement research activities. Our group has people with various expertise, and we promote collaboration and mentorship in the different stages of research projects, such as study design, ethics application, funding proposal, implementation, data analysis and dissemination. The partnership in this research interest group has led to various collaborations that resulted in numerous publications and presentations, and many ongoing projects. New members including graduate students are joining the group and embarking on collaborative research journeys that will contribute to the advancement of the science of simulation.

## Scholarship

There are few funding opportunities for simulation research, specifically for nursing, which is a barrier for simulation nurse educators who do not typically hold tenure-track or tenured faculty positions. One of the strategic priorities of CAN-Sim (Table 1) is to support a continuum of research activities to assist and sustain research among nursing and related healthcare educators. We believe research activities support educators and inspire new research. As a result, in 2022, CAN-Sim launched the first competition for research and innovation grants to provide funding to support collaborative projects that address simulation research priorities. Those grants were made possible by the sustainability activities mentioned above.

Although there are other grants available, we intended to be unique in facilitating the conduct of research by nurse members and provide opportunities to nurses out of academic settings (e.g. clinical nurses) to receive funding to support their work. The grants were established for nurse educators and graduate nursing students to help build capacity for nursing simulation research across Canada and internationally and included different categories: master students, PhD students, new investigators, clinical nurse educators and multi-site research collaborations. In the first call for submissions, CAN-Sim was able to fund 10 research projects for a total of \$43,000; and we plan to continue the competition in upcoming years.

## Implications

The success of CAN-Sim exemplifies that a dedicated team of nurse educators and researchers, through collaboration, can advance the science and innovation of simulation and research to become a globally recognized leader.

As a non-profit, we have developed a diverse repository of simulation resources that reflect issues faced within the current clinical environment. By creating a user-friendly simulation design process, nurse educators can create evidence-based simulations that are contextually relevant to their clinical needs. As commercially available simulation resources are often expensive, through the sharing of resources, we offer an extensive repository of simulation resources that are either open access or with a minimal cost. Educators can use our simulation design process to develop high-quality, evidence-based, peer-reviewed simulations and virtual create VSGs. Our simulations are available at no cost to students, which has enabled us to respond to emergent needs (Table 2). Through mentorship, we are contributing to the development of the next generation of simulation leaders. Our international partnerships inspire innovation.

## Conclusion

The discussion presented in this paper highlights the experience of a small group of nurse educators from Ontario, which, in a relatively short time, evolved into a national simulation alliance with an international impact. CAN-Sim will remain relevant through transformational leadership: direct collaboration, sharing resources and mentorship of nurse educators to meet their simulation education needs and by supporting innovation and scholarship that advances the art and science of simulation as an engaging and effective pedagogy for nursing education. Sharing our experience and processes can support nurse educators and allied health partners within other geographical locations or disciplines to develop their own collaborations or join us in making an impact on the future of simulation. Overall, creating and sustaining a non-profit organization requires a significant amount of dedication, hard work and perseverance. However, with careful planning and commitment to our mission and values, we have been able to overcome these challenges.

## Declarations

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## Ethics approval and consent to participate

None declared.

## Competing interests

None declared.

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