



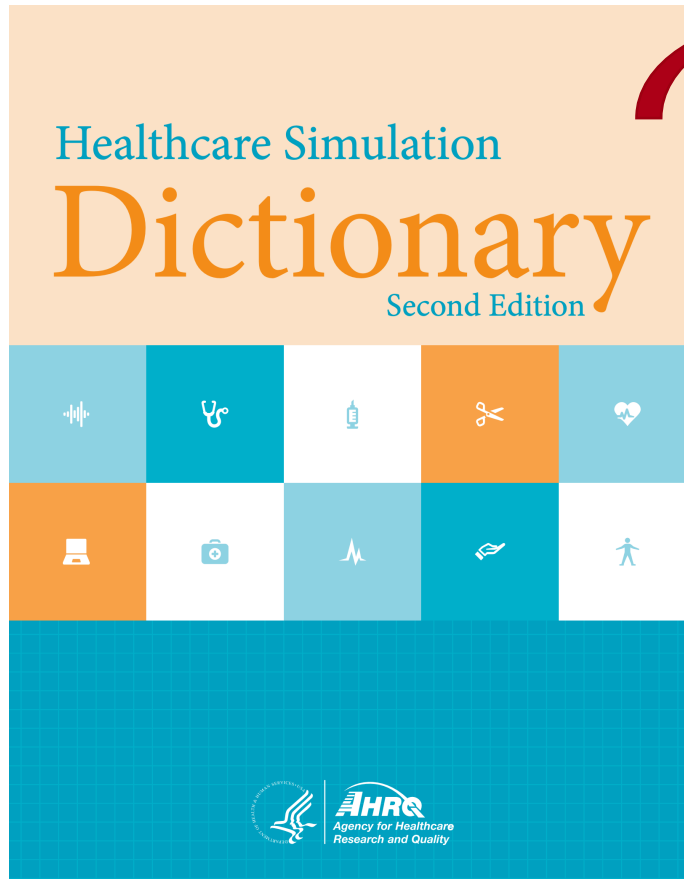
Advancing nursing
education through
simulation

Virtual Simulation in Nursing Education

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Virtual Simulation Defined



- The recreation of reality depicted on a computer screen (McGovern, 1994).
- A simulation involving real people operating simulated systems. Virtual simulations may include surgical simulators that are used for on-screen procedural training and are usually integrated with haptic device(s) (McGovern, 1994; Robles-De La Torre, 2011).
- A type of simulation that injects humans in a central role by exercising motor control skills (*for example, flying an airplane*), decision skills (*committing fire control resources to action*), or communication skills (*as members of an air traffic control team*) (Hancock et al, 2008).

Source: Lioce L. (Ed.), Lopreiato J. (Founding Ed.), Downing D., Chang T.P., Robertson J.M., Anderson M., Diaz D.A., and Spain A.E. (Assoc. Eds.) and the Terminology and Concepts Working Group (2020), Healthcare Simulation Dictionary–Second Edition. Rockville, MD: Agency for Healthcare Research and Quality; January 2020. AHRQ Publication No. 20-0019. DOI: <https://doi.org/10.23970/simulationv2>.

Virtual Simulation in Nursing Education: A Systematic Review Spanning 1996 to 2018

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Summary Statement: As virtual simulation is burgeoning, faculty and administrators are asking for evidence of its effectiveness. The objective of this systematic review was to identify how virtual simulation impacts nursing student learning outcomes. Applying the Preferred Reporting Items for Systematic Reviews and Meta-analyses guidelines, 80 studies were reviewed. Results indicate that most research (n = 69, 86%) supported virtual simulation as an effective pedagogy to support learning outcomes while highlighting gaps and areas of bias. Adding search terms could have expanded the findings. The body of evidence supports virtual simulation as an effective pedagogy. Future studies should use more robust research designs, prioritize curricular integration of virtual simulation, and determine best practices in virtual simulation methodology.

(Sim Healthcare 15:46–54, 2020)

Key Words: Simulation training, nursing, virtual simulation, computer simulation.

“We suggest that virtual simulation should no longer be used as an umbrella term to describe any and every virtual modality; rather, it should be used to refer to **partially immersive, screen-based experiences** as this is the interpretation most reflected in the current literature.” (Foronda et al., 2020, p. 52)

Strengths and Opportunities

- Exposure to 'real' patients without the added potential harm to individuals (i.e. patients) and learners
 - Accessibility
 - Opportunity to master content
- Sustainability (e.g. cost)
 - Faculty development



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Editorial

Simulation Amid the COVID-19 Pandemic

As the world continues to respond to the global pandemic due to COVID-19, the way in which we function in the health care environment is rapidly changing. For those who are able, they are working remotely and doing their part to reduce the spread of the virus. For our colleagues who provide direct care on the front lines, they are working tirelessly with the public and are assessing and treating people's physical and mental health needs. They are working in the community, in clinics, and in hospitals, and anywhere else they are needed. "Thank you" is not nearly a strong enough word to convey our gratitude.

When it became apparent that we were dealing with something of global proportions, I heard from many individuals how they were using simulation to prepare for the potential of an outbreak. As cases began to appear in various cities and communities, many hospitals were either providing or asking for in situ simulation to be available to assist the front-line providers prepare for potential outbreaks. In my home city, hospitals that may not have the physical or human capacity to provide simulation were reaching out to simulationists from the academic institutions to provide this education. I have heard similar stories from colleagues across the country. In situ simulations were taking place in many hospitals across the city, across the country, and around the world as we all began to see the magnitude of what was happening and the need to be prepared. Many hospitals see the value of simulation; however, many may not have the resources to conduct simulation. In reaching out to local simulationists, simulation activities specifically related to COVID-19 preparedness were taking place.

In education institutions, the pandemic initially created issues with clinical placements, and ultimately, led to the closure of entire universities and colleges. Clinical practice was being shifted to the simulation environment, and when that no longer was an option, virtual simulations began to take place. Organizations and academic institutions that had previously created their own

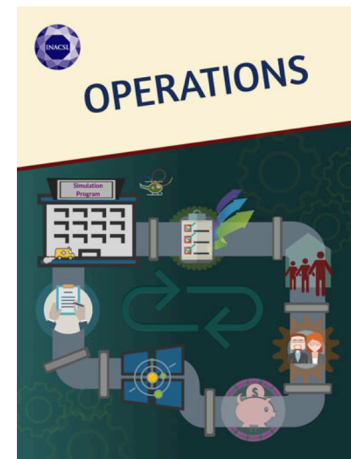
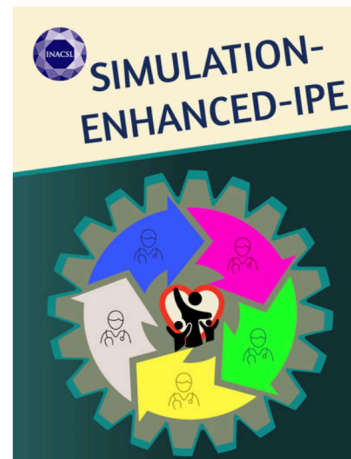
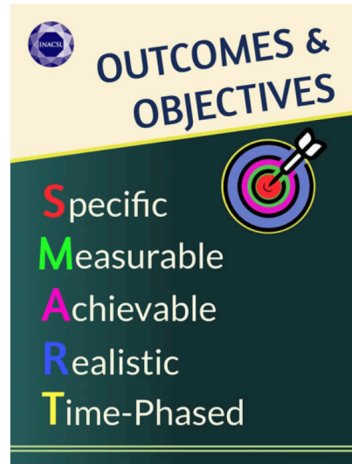
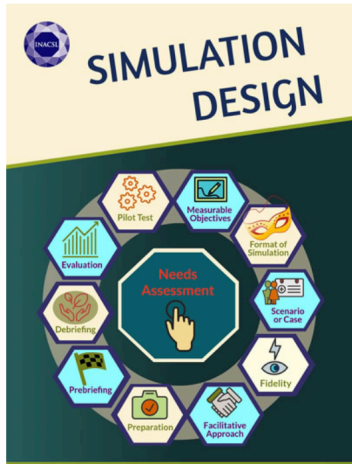
computer-based simulations started to freely share their resources. As I'm sure many of you can attest, the inundation of emails from vendors and producers of virtual simulations started, initially as a trickle, and then a torrent as they attempted to assist education programs work through providing class, laboratories, simulation, and clinical in alternative formats. Although some educators have been working with virtual or computer-based simulation for years, it was surreal to see how many were interested in this format in such a short period. And in this time of crisis, the sharing of resources was welcomed.

Frankly, everything that we have seen in education and the clinical environment is surreal. In mere weeks, we have changed the way we teach and practice, and I would like to believe that simulationists around the globe have been instrumental in assisting in coping and adapting to these changes. Simulationists in the clinical environment are preparing front-line practitioners, and in the education setting, they are doing what they can to continue to provide practical education. We are sharing resources, time, equipment, and ideas to assist educators and clinicians. We are using simulation to its potential to prepare students and practitioners for the clinical environment, which is the primary purpose of simulation.

We will see an end to this. And when we do, education and clinical institutions will debrief and look back to determine how prepared they were, what they were missing, what they could have done differently, and what they need to be better prepared should another pandemic occur. Just as simulation was instrumental in the short-term during the pandemic, I anticipate that we will see more hospitals including simulation as part of their pandemic preparedness. I anticipate that we will see more virtual simulations being part of curricula in the health professions. As a simulationist, you have a desirable skill set and can assist institutions in being prepared. If you are a simulationist who is currently self-isolating and working from home, now is the time to think about

"What does the future hold?"

INACSL Standards of Best Practice: SimulationSM



Essential resource to consider