



## Combined Statement on Models & Simulation and COVID-19

**MARCH 12, 2020** – The **Society for Simulation in Healthcare** (SSH, [www.ssih.org](http://www.ssih.org)), **International Nursing Association for Clinical Simulation and Learning** (INACSL, [www.inacsl.org](http://www.inacsl.org)), and **Association for Standardized Patient Educators** (ASPE, [www.aspeducators.org](http://www.aspeducators.org) ) organizations promote various modalities of simulation focused primarily, but not exclusively, on educating and training healthcare professionals to be more effective and safe caregivers. Our organizations recognize that models and simulations represent a paradigm shift not just in healthcare education, but in preventive, diagnostic, and curative care as well.

SSH serves the global community of practice enhancing the quality of healthcare.

INACSL serves to advance the science of healthcare simulation.

ASPE serves to promote best practices in the application of standardized/simulated patient methodology for education, assessment, and research.

The current viral outbreak is but one example of the challenges associated with global and public health. Governments around the world, as well as global organizations like the World Health Organization, are monitoring the ‘SARS-VoV-2’ virus and the disease it causes, nicknamed “coronavirus disease 2019” or “COVID-19.”

This outbreak has governments, healthcare providers, and the public interested in ways to prevent and prepare for infection, treat the infected, and understand how a virus spreads throughout the world. Other outbreaks, including Ebola, Dengue Fever, Yellow Fever, Zika, Cholera, Chikungunya, and Severe Acute Respiratory Syndrome (SARS), have posed severe health threats across the globe – all within the recent past. Preparation for dealing with future outbreaks is as important today as it has ever been.

Noteworthy, models and simulations are valuable tools in the prevention, treatment, and understanding of viral outbreaks and health crises, in general.

Models and simulations can help in preparation for and during an outbreak. A few examples include:

### **Training simulations**

- Ensure providers prevent self-infection while treating the ill
- Enable response team training in realistic conditions
- Educate healthcare professionals on preferred patient engagement methods

### **Epidemiological and Population models**

- Demonstrate effectiveness of various interventions
- Predict the macroscopic behavior of disease spread

### **Physiologic models**

- Reduce the time required to study disease impacts on humans
- Speed up testing of different vaccine strains
- Support rapid approval of critical treatment regimens for delivery to the public

Building trustworthy models of human physiological systems and viruses is a complex, multidisciplinary challenge, but it is not impossible. Many government agencies around the world make use of different models and simulations to help in the identification, management, and engagement of diseases.

What is lacking are the foundational models and simulations that can be rapidly adjusted to account for new viral strains and modes of transmission. Having pre-built foundational models “at the ready” would enable rapid development of vaccines, comprehensive understanding of effective prophylactic methods, and insights into social controls that may help stem an outbreak.

As the sayings go, “an ounce of prevention is worth a pound of cure,” and “proper prior planning prevents poor performance.” Models and simulations are vital to preventing and preparing for the next viral outbreak or other global health crisis.

“*Simulation in Healthcare*”, the Journal of the SSH, published a special issue on highly communicable disease management in 2016. Articles address simulation topics aimed at preparing front-line workers, testing hospital preparedness plans, simulating the spread of a contagion within physical environments, deploying distributed training, and cases for understanding disease and its transmission risks.

The **SSH Knowledge Map**<sup>1</sup> provides a searchable, visual demonstration of connections between content areas, research initiatives, different methodologies, and applications that will be of use to the simulation researcher.

A number of **SSH Corporate Roundtable Members**<sup>2</sup> provide training tools that can assist healthcare professionals to prepare for operations in a highly infectious environment.

The **INACSL Standards of Best Practice: Simulation**<sup>SM3</sup> provide guidelines for creating and executing healthcare simulations.

The **ASPE Standards of Best Practice**<sup>4</sup> complement the INACSL Standards of Best Practice, identifying relevant key practices that offer practical guidelines for desired outcomes and safe simulation practices.

Our organizations strongly encourage new and continued public and private investment in efforts to develop foundational models and simulations that can assist healthcare professionals and government leaders to better prepare for large-scale health crises. Our collective practitioner, academic, and industry members possess a wealth of experience creating compelling, effective training and education tools and applying these tools successfully; we welcome collaboration and partnership with the greater community of professionals seeking to minimize the impact of large-scale health crises.

**Bob Armstrong**  
President, SSH



**Dr. Cynthia Foronda**  
President, INACSL



**Robert MacAulay**  
President, ASPE



---

<sup>1</sup> <https://www.ssih.org/SSH-Resources/Knowledge-Map>

<sup>2</sup> <https://www.ssih.org/About-SSH/Corporate-Industry>

<sup>3</sup> <https://www.inacsl.org/inacsl-standards-of-best-practice-simulation/>

<sup>4</sup> <https://www.aspeducators.org/assets/docs/ASPE%20SOBP%20Infographic.pdf>

