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# SIMZINE

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## SIMulation magaZINE

*I cannot even explain it to myself.*

n.14 - June/Junio/Giugno 2024

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# TECHNOLOGIES FOR DIGITAL HEALTH

## DEVELOPMENT OF WEB APPS AND VIRTUAL ASSISTANTS

# INNOVATIVE HEALTHCARE TRAINING

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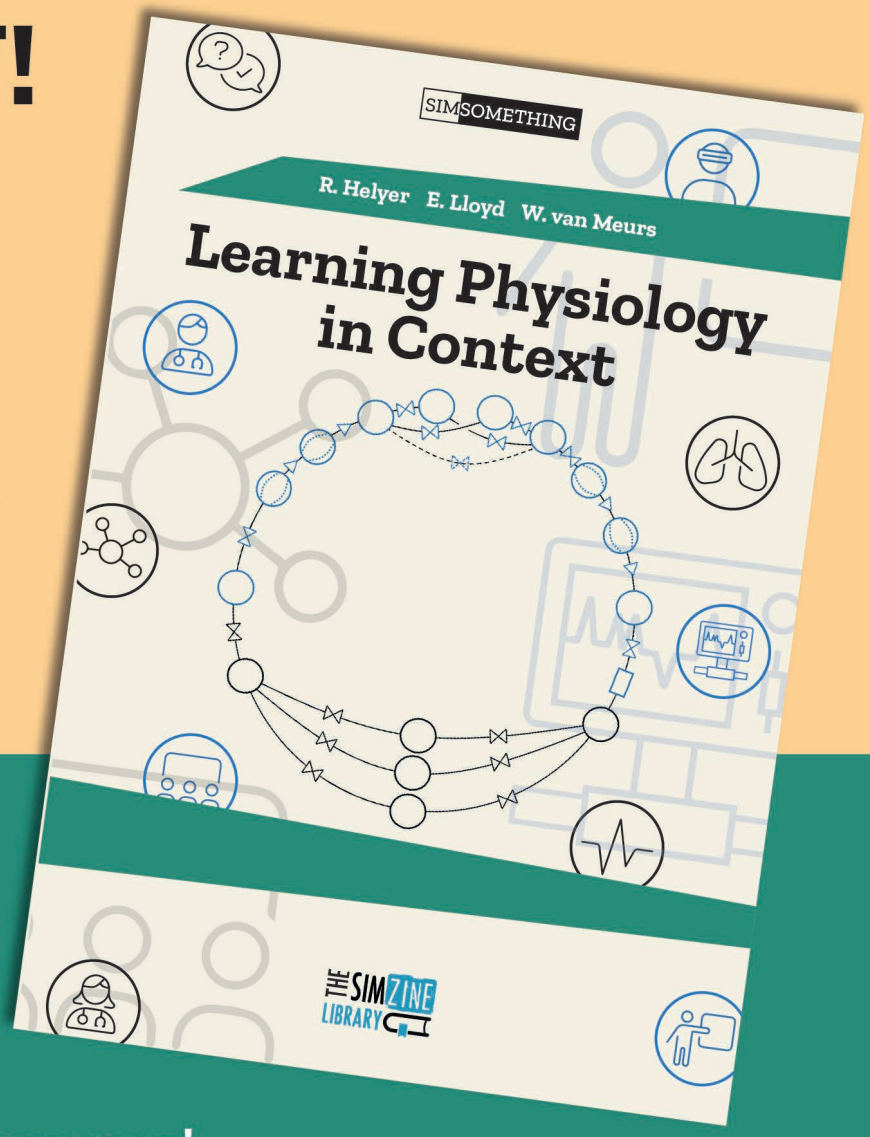
# SUMMARY


| | | | |
|---|---|---|---|
| p.5 | EDITORIAL | Society membership is like a coin | P.L. Ingrassia |
| p.6 | ABOUT SESAM | The new SESAM Technology and Innovation Community of Practice | S. Ricci - W. van Meurs |
| p.7 | ABOUT SESAM | A collaborative ESAIC and SESAM success story | C. Burlacu - M. Lazarovici |
| p.8 | SIM voices | Formación de instrumentadores quirúrgicos: ¿por qué la simulación? | S. Brizuela - R.C. Sanabria |
| p.10 | DID you know... | Veterinary Goes Virtual! | N. De Franco |
| p.12 | SIM corner | TacMed Simulation™: Leading the way in Medical Simulators | Redazione |
| p.14 | SIM experience | Combat paramedics are human, not robots | J. Páleník - M. Soták - T. Tyll |
| p.16 | SIM corner | Lose to Win—Three Ways Simulation Can Help You Achieve Excellence in Healthcare | Redazione |
| p.17 | SIM voices | 7 astuces pour devenir un bon debriefer | F. Marhar |
| p.18 | SIM face | Vimal Chopra: the first SESAM President | Redazione |
| p.20 | SIM corner | Bridging Theory and Practice: MVR-Nursing Simulator Available from Nasco Healthcare | Redazione |
| p.22 | DID you know... | The International Simulation Data Registry: Harnessing the Standardized Data | A. Calhoun et al. |
| p.24 | DID you know... | Nuove opportunità e strumenti innovativi per la formazione medica: l'esperienza del progetto Erasmus "SAFETY" | F. Colantuono |
| p.25 | SIM love | In my career path, "I Love Simulation" stands as my guiding motto | N. M. ElChammas |
| p.26 | SIM talks | Simulation in India? SHS President tells us about it | Redazione |
| p.28 | SIM book | To Err is Human, To Teach VR | V. Perelman |
| p.29 | SIM experience | Becoming Simulation Faculty: The national programme for those who design and deliver simulation and immersive learning | C. Gay et al. |
| p.30 | SIM voices | El SUMMA112 y el proyecto europeo MED1stMR | A. Blanco Lara et al. |
| p.32 | SIM voices | A day in the life of a simulation journal editor: Gabriel Reedy | Redazione |
| p.34 | DID you know... | L'assistenza alle vittime di violenza sessuale: l'esperienza pilota dell'ASL Roma1 | L. Moschettini et al. |
| p.36 | SIM review | SimX: the VR software to innovate simulation | G. Nepi - P. Pinetti |
| p.38 | SIM nurse | The Road to Quality Simulation: Endorsement by INACSL | L. Gonzalez - M. Verkuyl |
| | Cover | Graphics by | P. Cordini |

# Learning Physiology in Context

## Out NOW!

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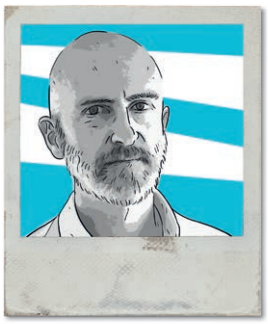

EDITORIAL

# Society membership is like a coin

https://doi.org/10.69079/simzine.H24.n14.00023

Prague takes center stage this month as the Society for Simulation in Europe (SESAM) commemorates its 30th anniversary with its annual conference. In recognition of this pivotal event, we've dedicated our cover to the historic city, honoring SESAM's legacy as the world's oldest society devoted to healthcare simulation. Fittingly, we feature an interview with SESAM's first and founding president, celebrating the visionary who laid the foundation for this remarkable journey. The SESAM Conference will also be an important personal moment because I will take the leadership of the society. And in recent months, more than ever I have been wondering about the role, not only of SESAM, but of scientific societies in the development of simulation.

For over 30 years, organizations such as SESAM have been key drivers in transforming simulation from a niche training tool to an integral part of modern medical education and practice. But there is still a long way to go and their influence must extend far beyond organizing conferences and facilitating knowledge exchange. Especially today when accessing information is just an ever-click away and finding colleagues is just a search on Linkedin.

Societies serve as powerful advocates, giving a unified voice to our shared mission of advancing simulation for enhanced patient safety, quality care, and equitable access to training resources globally. The recently published Global Consensus Statement on Simulation-Based Practice, crafted by professionals from 50 societies across 67 countries, exemplifies this collective impact. Through this consensus statement, the simulation community has highlighted universal challenges and several critical areas where simulation can significantly improve healthcare delivery, such as its impact on patient safety and health equity, its role in rapid technological adaptation, and how its use can be cost-effective saving healthcare systems significant resources, by reducing the need for expensive clinical training environments and decreasing the incidence of costly medical errors. But for this collective effort to lead to a concrete result it is imperative that public and private institutions, academia, industries and scientific societies formally express their support to substantiate the simulation community's vision and mark a defining moment in the field.

But in order to achieve a concrete result, it is now more than ever time to professionalize simulation. And to do so requires action at different levels and in a synergistic and collaborative manner. It is necessary to ensure the quality of what we do. Advocacy for accreditation, certification and unified standards is instrumental in ensuring the highest quality simulation practices across institutions. The INACSL Healthcare Simulation Standards Endorsement™ program, which ensures adherence to best practices and standards, and NHS England's Becoming Simulation Faculty (BSF), which supports the professional development of simulation educators, technicians, and managers, are two virtuous examples that address this need.

But in this quality assurance process we cannot only include those who do the simulation and where the simulation is done but also what we use to do simulation, thus the devices themselves. The journey ahead involves collaborative efforts to establish consistent standards akin to those in industries like aviation, where highly codified simulation devices are the norm. Achieving such standardization will elevate simulation's rigor and credibility within the healthcare domain.

The time has come to demand the formal recognition of simulation professionals as distinct careers within healthcare systems worldwide. Simulation educators, technicians, and specialists possess a unique blend of clinical expertise, pedagogical knowledge, and technological skills. Formalizing these roles is vital for the sustainability and growth of the field. As scientific societies, we must intensify our efforts to support this transition from undervalued ancillary roles to recognized professions with commensurate compensation and career paths.

For societies to be influential, they must be representative, they need a strong membership base. We should value the societies not just for the benefits we receive but also for our collective professional responsibility. Thus, membership in scientific societies is an essential component of professional development and growth. Joining scientific societies is our responsibility, our duty, our future. Society membership is like a coin: one side represents opportunity, and the other, responsibility.

**P.L.I**

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ABOUTSESAM

# The new SESAM Technology and Innovation Community of Practice

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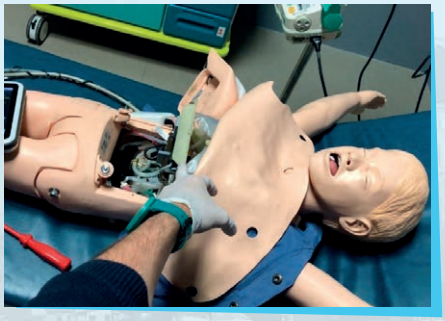
**Explore the new Technology and Innovation Community of Practice (CoP) at the SESAM 2024 conference in Prague. This is a gathering of enthusiastic innovators and technicians in healthcare simulation. Don't miss the first plenary meeting to engage with these experts and expand your network in medical simulation. Allow us to introduce you to the four members of the committee**

Without innovators and technicians, simulation in healthcare could not have achieved the impact it has now. The use of new technologies within the healthcare simulation community is growing, thereby improving medical training. Yet the community does not always have a clear voice and visibility within the society. Therefore, Dr. Serena Ricci recently took the initiative to breathe new life into the SESAM Technology and Innovation Community of Practice (CoP). "When I started working as a biomedical engineer in healthcare simulation I felt a little bit lonely. Conferences were mainly attended by healthcare professionals and I could not find content relevant to my job or professionals to connect with," says Serena. "Later on, I realized that innovators and technicians are often doing their essential work in the background."

Hundreds or maybe even thousands of projects are going on in simulation centers, companies, and universities around the world, yet we never find out about them. This may have more to do with lack of networking and exchange opportunities, than with the quality of the projects." Therefore, the purpose of this CoP is to reach as many innovators and technicians as possible and get them together."

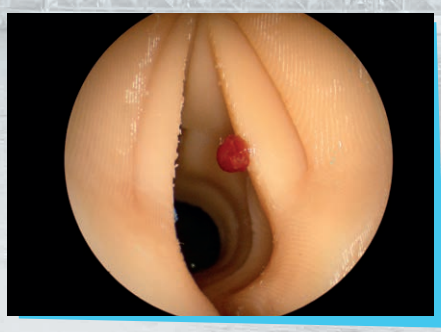
The first plenary meeting of the CoP will take place during the annual SESAM conference in Prague on Thursday, June 20, 2024, from 12:45-13:45.Industrial exhibitors are welcome. The precise location will be communicated. Before meeting up in person in June, we briefly present the four members of the committee ani-



mating it. This will also give you an overview of the breadth of topics that fall under the CoP's umbrella.

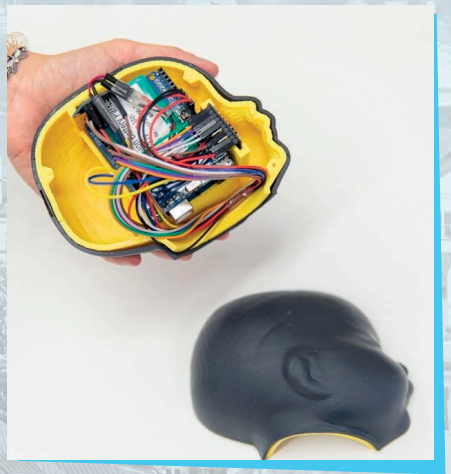
**Antonio Scalogna**, computer and telecommunications engineer, is a simulation technician in SIMNOVA, the simulation center of Università del Piemonte Orientale in Novara, Italy. He is currently in charge of maintenance of all Center simulators and of the planning and management of audio and video systems. He also gives support for the creation of courses and events inside and outside the Center. He coordinates the SIM Review column in SIMZINE.

**Maria Pilar Alzuguren Maza**, pharmacist, is a Research Assistant of the Medical Engineering Laboratory of the School of Medicine of the Universidad de Navarra, Spain. Her present job consists of designing simulators.



She has two main projects underway: the development of a vocal fold surgery simulator, and of an ultrasound-guided venipuncture simulator.

**Serena Ricci**, biomedical engineer, is an Assistant Professor of biomedical engineering at the Università di Genova, Italy, where she teaches Medical



Simulation to biomedical ...

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# A collaborative ESAIC and SESAM success story

https://doi.org/10.69079/simzine.H24.n14.0002

**A few years after the collaboration between ESAIC and SESAM began, a collaborative simulation curriculum has been developed and will surely improve training quality in Anaesthesiology and patient safety. The aim is to standardize simulation-based education across Europe and support global adoption of these innovative practices. Crina Burlacu and Marc Lazarovici tell us about it**

In September 2021, the European Society of Anaesthesiology and Intensive Care (ESAIC) and Society for Simulation in Europe (SESAM) signed a collaboration agreement "*to establish and grow an anaesthetic simulation community across all of Europe with the aim to ensure the integration of simulation methodologies as a tool to improve healthcare at all levels.*" Both Societies were agreeing to work together to promote simulation-based education (SBE) at national, European and international level. To achieve this, they were pledging to develop a range of joint educational programmes, to collaborate in relation to surveys and research projects, and to jointly publish the outcomes.

## ESAIC and SESAM Collaboration to advance Simulation-Based Education

Less than three years later, two major accomplishments have already materialized under this collaborative framework:

- the publication of a Simulation Curriculum for Anaesthesiologists Training by the Utstein Simulation Study Group[1]; and
- the Development and Implementation of National Anaesthesia Simulation Training (NAST) Programmes

Earlier work by the ESAIC Simulation Committee has shown significant discrepancies in relation to the availability of SBE for anaesthesiology trainees in Europe, as well as a diverse level of accessibility and implementation[2]. In a survey published in 2022, Savoldelli and Østergaard identified only 5 European countries (i.e. Denmark, Iceland, Ireland, Malta and the Netherlands) in which SBE was mandatory for anaesthesiology trainees. There were countries where SBE for anaesthesiologists was available in large centres only whereas in other regions the availability was marginal or very limited. This variation across Europe was further confirmed in another recent survey which was conducted by the ESAIC Trainees Committee (Abramovich et al, 2023). Northern and Western Europe appeared to offer greater access to simulation, whereas access was inconsistent on the rest of the continent.

To attempt and align European SBE in anaesthesiology training as well as support aspirant National Anaesthesia Societies (NAS) with expert advice and educational resources, it became obvious that a curriculum was required for a start [1-4]. We are delighted to direct SIMZINE readers to the January 2024 issue of the European Journal of Anaesthesiology (EJA) where a comprehensive curriculum for SBE training in anaesthesiology can be found[1]. This joint ESAIC and SESAM research and the ensuing publication represent a massive step forward in the united efforts to standardise the use of SBE in anaesthesiology to improve training and ultimately patient safety.

## Enhancing Anaesthesiology Training Through Simulation: A European Perspective

Under the leadership of Professor Doris Østergaard as well as contribution from a core group of ESAIC and SESAM representatives, an Utstein-type meeting took place in September 2022 in Copenhagen, Denmark, with funding from the Laerdal Foundation. The Utstein Simulation Study Group consisted of 23 international simulation experts and 2 anaesthesia residents belonging to 22 countries from Europe, North and South America, and North Africa. The Group identified 10 training domains which should form the basis of an SBE curriculum in anaesthesiology training[1]. These were:

| MAIN DOMAINS OF SBE CURRICULUM IN ANAESTHESIOLOGY TRAINING | |
|---|---|
| 1 | Bootcamp/initial training |
| 2 | Airway management |
| 3 | Regional anaesthesia |
| 4 | Point of care ultrasound |
| 5 | Obstetrics anaesthesia |
| 6 | Paediatric anaesthesia |
| 7 | Trauma |
| 8 | Intensive care |
| 9 | Critical events in our specialty, and |
| 10 | Professionalism and difficult conversations |

And for each domain,...

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SIM VOICES

# Formación de instrumentadores quirúrgicos: ¿por qué la simulación?

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**Como miembros cruciales del equipo interprofesional, los instrumentistas quirúrgicos trabajan en estrecha colaboración con los cirujanos para realizar procedimientos complejos de forma segura y eficiente. ¿Qué papel puede desempeñar la simulación en el desarrollo de las habilidades de estos profesionales? ¿Cómo puede contribuir la simulación a la seguridad del paciente? Dos instrumentistas nos lo explican**

La formación de instrumentadores quirúrgicos es esencial en la atención médica moderna. Como profesionales del equipo interprofesional, desempeñan un papel crucial en el quirófano, colaborando estrechamente con cirujanos para llevar a cabo procedimientos complejos de forma segura y eficiente. Con cirugías cada vez más complejas, la demanda de instrumentadores quirúrgicos es cada vez más exigente, requiriendo un nivel más alto de capacitación. Es por esto que la simulación se ha convertido en un aliado fundamental para la formación de estos profesionales.

La simulación proporciona un entorno controlado y seguro donde los profesionales de la salud pueden practicar y perfeccionar sus habilidades sin riesgo para los pacientes.

La estrategia de aprendizaje con simulación, respaldada por numerosos estudios de investigación, desempeña un papel crucial en mejorar la seguridad y eficacia de los procedimientos médicos, contribuyendo así a un rendimiento óptimo en el quirófano.

**¿Existe capacitación en simulación específica para instrumentadores quirúrgicos, al igual que para otras especialidades del equipo de salud?**

Al revisar diversos artículos sobre simulación en la instrumentación quirúrgica, artículos de habla hispana, se hallan principalmente investigaciones provenientes de Colombia, España y Argentina. Estos, se enfocan principalmente en la simulación destinada a estudiantes de grado, abordando competencias fundamentales como el lavado de manos, la colocación de campos y la preparación de la mesa quirúrgica.

La instrumentación quirúrgica es mucho más que un lavado de manos y el armado de una mesa de instrumental.

**¿Cuál es el papel y cuáles son los retos del instrumentista quirúrgico en su trabajo?**

El instrumentador quirúrgico desempeña un rol fundamental en el equipo de cirugía al encargarse de la preparación de los elementos esenciales para el procedimiento, brindar asistencia a todo el equipo interprofesional que se encuentra en ella, y velar por el bienestar del paciente desde su ingreso al quirófano hasta su salida a la sala de recuperación.

Su capacidad para anticipar las necesidades del cirujano y su destreza en la manipulación de instrumentos quirúrgicos son cruciales para el éxito de cualquier procedimiento.

Uno de los aspectos más notables de los instrumentadores quirúrgicos es su capacidad para mantener la calma bajo presión. En el quirófano, las situaciones pueden volverse intensas, y por lo tanto deben ser capaces de mantener la concentración y la templanza en todo momento, esto es fundamental para garantizar la seguridad del paciente y la eficiencia en los procedimientos.

**¿Cuál puede ser el Impacto de la Simulación en el Entrenamiento Quirúrgico?**

Todas estas competencias requieren entrenamiento, y la simulación surge como una metodología educativa óptima para este propósito, siguiendo la práctica común como lo realizan médicos y enfermeras.

Las competencias no técnicas, aunque a menudo pasan desapercibidas, son esenciales para cualquier instrumentador quirúrgico y desempeñan un papel crucial en su performance.

Sería adecuado empezar a trabajar en capacitaciones con simulación en algunas de estas competencias:

- Comunicación efectiva: Un instrumentador quirúrgico debe ser un comunicador hábil. Las deficiencias en la comunicación pueden surgir debido a las jerarquías profesionales y la falta de asertividad, y su complejidad aumenta con factores como la fatiga e interrupciones.
- Trabajo en equipo: trabajar en esta habilidad no técnica, desde el pre grado, va a asegurar una

mejor integración con el resto del equipo quirúrgico, y si lo hacemos de una forma interdisciplinaria, disminuimos la brecha de diferencias en la capacitación en comunicación entre los miembros del equipo.

- Resolución de conflictos: en ocasiones, pueden surgir desacuerdos y deben ser capaces de manejar estas situaciones de manera diplomática y efectiva, priorizando siempre el bienestar del paciente.
- Conciencia situacional: estar al tanto de todos los aspectos relevantes, como el paciente, el tiempo y organización del instrumental y suministros y el equipo de trabajo, se logra observando y escuchando atentamente, interpretando señales y anticipando posibles eventos durante la cirugía.

**Entonces, ¿qué hay que hacer?**

Sin lugar a dudas, el papel de los instrumentadores quirúrgicos en el equipo quirúrgico es decisivo. Su papel garantiza que el equipo interprofesional tenga acceso a todos lo necesario para que la cirugía sea un éxito.

Por lo tanto, es primordial que estos profesionales estén debidamente capacitados y entrenados con simulación, para desempeñar su función de la manera más efectiva, por el bienestar y seguridad del paciente y de su equipo quirúrgico.

Es por esto que resulta fundamental que dichos programas de formación sean debidamente documentados. Esto con el fin no solamente que los instrumentadores quirúrgicos puedan integrarse en las sociedades científicas de simulación, sino también con el fin de evidenciar y respaldar el trabajo que se lleva a cabo en este campo.

De esta manera, se propicia la consolidación de una comunidad de instrumentadores quirúrgicos comprometida con el avance y la excelencia en la práctica de la simulación.

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DID YOU KNOW...

# Veterinary Goes Virtual!

https://doi.org/10.69079/simzine.H24.n14.0004

**Virtual reality is also transforming veterinary simulation. Through immersive and repetitive training, simulation-based learning prepares students for success in clinical practice. This innovative approach not only deepens understanding but also fosters emotional connections, setting new standards in veterinary training. Drawing on her experience in veterinary nursing education, Nina De Franco, Regional Head of Veterinary Studies, at The College of Animal Welfare in the United Kingdom, gives us a comprehensive overview of theoretical foundations and practical applications of VR in the training of new veterinarians**

## Introduction to Veterinary Simulation in Education

Virtual Reality (VR) within the veterinary industry is a relatively recent development, despite VR headsets being first released in the 1990's. The first virtual system in medicine was, however, only introduced in 1965 by Robert Mann, to facilitate a new training environment for orthopedic surgeons allowing them to virtually try out different operations for specific patients.

VRs use in medical education has escalated only in recent years. The College of Animal Welfare is the first Veterinary Nursing training institution to develop and use VR within their courses. The organisation is committed to enriching the learning experience for our students by providing them with immersive opportunities alongside traditional teaching methods. VR has indeed opened a plethora of possibilities for us.

## The Role of VR in Veterinary Simulation for Clinical Skills Development

One of the remarkable benefits of VR is its ability to create realistic simulations and scenarios that would be challenging, costly, or even dangerous to replicate in the real world. VR in Veterinary Nursing allows a safe environment whereby students can gain confidence in the day one skills associated with the job role and practise these skills without any adverse impact relating to the animals and clients, or other external factors. VR allows a safe environment for students to develop clinical skills, safe for both patients and the students! They can make the mistakes they need to make to get things wrong and learn from it. The motor skills and kinesthetic learning that is needed to develop memory and retention of these skills can be undertaken and accessed at the student's convenience.

To provide some context, our veterinary nursing students undertake 'on the job' training, completing their course alongside working in a veterinary nursing training practice, either in small animal general veterinary practice or a referral hospital. They receive theory and practical skills training on campus and online and their practical experience is gained within their placements.

As well as their qualification in Veterinary Nursing, our students also gain entry onto the professional register with the Royal College of Veterinary Surgeons (RVCS). In order to enter the register our qualification must include the teaching and assessing of day one skills (RCVS, 2022). The Day One Skills list is a regulatory benchmark of essential clinical skills, developed and reviewed by the RCVS, based on the RCVS Day One Competences for Veterinary Nursing.

Methology ✔ box as evidenced

| Step | Methodology | Achievied | Not Achievied |
|---|---|---|---|
| 1 | Selected required materials | | |
| 2 | Selected and prepare (unwrap) materials and equipment prior to starting the bandandage | | |
| 3 | Place patient in correct lateral recumbency with affected limb uppermost | | |
| 4 | Ask assistant to rstrain patient to facilitate | | |
| 5 | Wear gloves and apron | | |
| 6 | Apply wound dressing with correct side facing wound | | |
| 7 | Dressing is applied in an aseptic manner | | |
| 8 | Apply appropriate amount of padding between the toes (as far as is possible on the model) | | |
| 9 | Apply padding layer over the limb | | |
| 10 | Padding applied to include the foot | | |
| 11 | Padding applied to include the carpal joint | | |
| 12 | Apply conforming bandage in same manner | | |
| 13 | Apply outer protective layer in same manner | | |
| 14 | Bandage from distal to proximal limb | | |
| 15 | Bandage material applied in correct order ensuring each rotation cover 1/2 - 3/4 of previous rotation | | |
| 16 | Check suitable tension of bandage (i.e.not too lose or too tight) | | |
| 17 | Check bandage is neat (e.g. no pieces of padding showing) | | |
| 18 | Limb handled gently throughout | | |
| 19 | Bandage apllied to correct foot | | |
| 20 | Finished bandage correct tension (examiner check) | | |
| 21 | Complete task safely maintaining safe practice throughout | | |
| Total number of steps achieved | | | |

*Fig. 2*

## Veterinary Simulation and the Path to Competence: Understanding OSCEs

The Objective Structured Clinical Examination (OSCE) was first described by Harden in 1975 as an alternative to the existing methods of assessing clinical performance (Harden et al. 1975).

The OSCE was designed to improve the validity and reliability of assessment of performance, which was previously assessed using the long case and short case examinations. Since then the use of the OSCE has become widespread within both undergraduate and postgraduate clinical education in the likes of medical, nursing, veterinary, dentistry and social work to name but a few.

In an OSCE assessment, students rotate round a series of stations and usually have a set time period to undertake a task which will vary from station to station. These could be communication skills, theatre practice, anaesthesia, radiography, nursing care or lab as examples.

To help visualise an OSCE (fig 2) then you will note the very 'tick box' style assessment whereby the student's work through the task, covering the key steps within a set time frame. The relevance and quality of approach of an OSCE is a tangential research point, however, for now, these are the assessments our regulatory body supports and encourages.

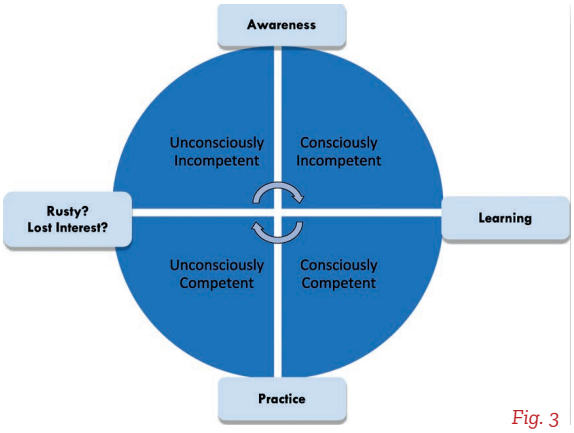


*Fig. 3*

In order to perform well in OSCEs then learners must become competent in a skill. And learners need to move through a series of stages before becoming competent at a skill. There are four levels in skill acquisition (see Fig. 3)...

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SIM CORNER

# TacMed Simulation™: Leading the way in Medical Simulators

https://doi.org/10.69079/simzine.H24.n14.0005

**TacMed Simulation™ creates high-fidelity medical training systems for medics, clinicians, and first responders, utilizing expertise from Lucasfilm's special effects division. Their products include the Modular Anatomical Tactical Trauma Instructor (MATTi™), a female simulator with interchangeable limbs and a 2-liter blood reservoir, canine simulators, and various task trainers. Keep on reading to find out more**

TacMed Simulation™ (A Division of TacMed Solutions™) leads the way in high-fidelity medical simulation with innovative and rugged training systems designed to meet the needs of medics, first responders, clinicians, veterinarians, and other medical professionals. With a focus on developing life-like scenarios and experiences, TacMed Simulation™ leverages the expertise of artists and technicians who have honed their skills over 25 years working in Lucasfilm's motion picture special effects division. This unique background allows them to create lifelike simulators that are not only anatomically accurate but also highly durable and reliable, ensuring optimal training experiences in any environment or weather condition.

At the core of TacMed Simulation's™ portfolio is a range of whole-body simulators (WBS), including their newest product, the Modular Anatomical Tactical Trauma Instructor (MATTi™). **MATTi™** is a female simulator designed specifically for casualty and critical care training on female patients. Available in light, medium, and dark skin tones, **MATTi™** features a 2-liter blood reservoir and interchangeable limbs to accommodate various injury simulations. Its rugged design and water-resistant construction make it suitable for use in any weather condition or environment, providing realistic and immersive training for medical professionals.

In addition to **MATTi™**, TacMed Simulation™ offers other advanced whole-body simulators that deliver autonomous responses to medical interventions, allowing trainees to experience real-time feedback on their performance. These untethered, battery-operated manikins provide an unparalleled training experience with durable urethane cores and lifelike silicone skin, enabling medics and first responders to practice in tough outdoor scenarios and austere conditions. The simulators are equipped with real-time telemetry to monitor medical interventions and patient status, which are displayed instantly on the long-range remote control for trainers to evaluate student performance as it happens.

TacMed Simulation™ also offers a line of high-fidelity canine (K-9) simulators, including the acclaimed **K-9 Diesel**. This state-of-the-art skills trainer has become the gold standard for veterinary schools and faculties, as well as for Operational Canine First Responders, Military Working Dog (MWD) handlers, veterinarians, and veterinary technicians. **K-9 Diesel** boasts active breathing, audio cues, and over 28 distinctive features and medical intervention sites, providing an immersive training experience that prepares trainees for real-life scenarios with operational canines.

In addition to whole-body simulators, TacMed Simulation™ presents a range of task trainers that are perfect for classroom-style training. These Training Simulators, such as Airway

*MATTi™*

*Whole body Simulator*

*K-9 Diesel*

Breathing, Hemorrhage Control and wound packing, plus many others, focus on teaching fundamental medical skills for critical interventions related to traumatic injuries. With anatomical fidelity and lifelike skin, the task trainers offer a powerful haptic experience that helps develop familiarity and muscle memory for various procedures.

The company's commitment to quality, innovation, and realism has made TacMed Simulation™ a trusted partner for medical training across diverse fields. By constantly pushing the boundaries of medical simulation, TacMed Simulation™ ensures that trainees receive the most comprehensive and immersive experience possible, ultimately leading to better preparedness and improved outcomes in critical situations.

To explore TacMed Simulation™'s complete line of simulators, including the new **MATTi™**, **K-9 Diesel**, and other whole-body and task trainers, visit their website: *tacmedsolutions.com*

There, you can also access the full catalog and request more information about setting up virtual meetings or on-site demonstrations to gain firsthand experience with these cutting-edge training systems. Trust TacMed Simulation™ to deliver the highest standard of medical simulation and enhance your training programs for the future.

**Download the Catalog**

*Wide range of task trainers*

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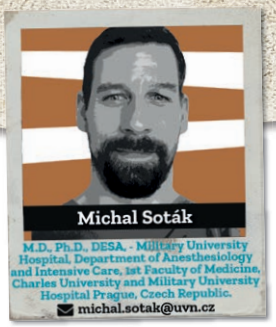
SIM EXPERIENCE



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# Combat paramedics are human, not robots

https://doi.org/10.69079/simzine.H24.n14.0006

**Medical simulation is vital in both civilian and military training. The Department of Anaesthesiology and Intensive Care at Charles University and the Military University Hospital in Prague created a specialized combat medicine course, bridging civilian and combat medicine. Established in 2012, the center trains various medical professionals using high-fidelity simulations. Keep on reading to learn more**

Medical simulation plays a crucial role not only in civilian medicine, but also in military medical training. The Department of Anaesthesiology and Intensive Care 1st Faculty of Medicine of Charles University and Military University Hospital in Prague established the first specialized course in simulation medicine with a focus on pre-hospital care under combat conditions at its simulation center three years ago. In doing so, we have created an entirely new teaching concept and bridged the gap between civilian and combat medicine.

Our simulation center was established in 2012. We are dedicated to educating undergraduate and graduate medical students, as well as biomedical engineers, nurses and paramedics. The program emphasizes hands-on training through high-fidelity simulations in a modern instructional format. We regularly provide education and emergency management training to all hospital staff. Our close cooperation with the Army of the Czech Republic has significantly improved the concept of teaching in battlefield pre-hospital care.

## Combat medicine

Combat medicine differs significantly. The differences are not limited to the range of injuries or specialized equipment, but also include the frequent occurrence of mass disabilities. The impact of battle stressors on the quality of care and the chances of a positive outcome for the wounded is significant. Combat stressors are categorized into four types: environmental, physical, cognitive, and emotional.

Teaching prehospital care under combat conditions requires a perfect mastery of theoretical knowledge and practical skills, as well as the ability to manage and consciously control combat stress. These differences in training must be recognized and addressed.

Medical errors can occur in inconvenient situations, resulting in decrease in the quality of care and negative patient outcomes. Debriefing is a proven method for identifying and correcting these errors, as well as training teamwork and communication skills. Prioritizing these skills, even in a combat environment, is crucial to ensuring the best possible outcomes for patients.

## Course rhythm

The military paramedic courses last four days. Theoretical knowledge and practical skills in combat medicine as well as mastery of basic treatment algorithms are required to qualify for this program. Four-person teams are the ideal format, and treatment initially focuses on the most common traumatic life-threatening conditions, gradually including less common or rare nontraumatic complications. Care is provided at all stages - from the scene, through transport and initial treatment in the simulation room, to transferring the patient to a higher level of care.

Expert workshops are conducted on selected topics in combat medicine, including securing the airway, surgical decompression of the chest, damage control resuscitation, basics of analgesia and sedation, and care of traumatic brain injury. Our team is confident in our ability to provide comprehensive and effective training in these critical areas.

On the final day of the course, trainees treat patients in a Mass Casualty Acute Care (MASCAL) situation us-

ing tents or improvised treatment rooms. Practicing medical care in challenging environments, such as using tents or improvised treatment rooms in basements or containers, instead of comfortable simulation rooms, prepares participants to be confident in their ability to provide effective care in any situation.

## Modus operandi

Our courses simulate a realistic combat environment using advanced full-body simulators, skilled actors and professional make-up artists. Smoke, loud music, explosions, confined spaces, and full battle gear, including personal weapons, are used to realistically illustrate the great acting skills of our „wounded patients".

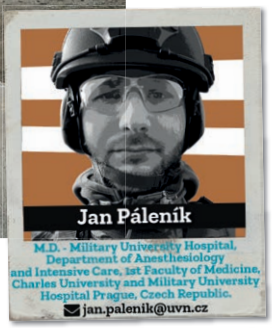
During treatment, which typically lasts several hours, participants may experience fatigue, hunger, thirst, and extreme heat fluctuations. Getting minimal rest or not sleeping can have significant effects. Inadequate or misleading information about changing circumstances may cause participants to struggle. Soldiers must plan and prepare their personal materials, manage limited medical supplies, and decide on a minute by minute basis which casualties will receive medical care and the extent of that care. Military medics must maintain a tactical mindset due to the constantly evolving treatment environment.

## Justification

Treating critically ill patients in a combat environment after the end of the Czech Army's foreign operations in Iraq or Afghanistan is a challenging task that requires a high level of expertise. Internships in foreign facilities with a high incidence of combat-related injuries are very expensive. Simulation medicine is the appropriate method to significantly improve the learning curve of our military medics and prepare them for upcoming tasks in a short amount of time. This is especially important in the context of the ongoing symmetric high-intensity conflict in Ukraine. Simulation medicine fully prepares medics to handle any situation that may arise with confidence and expertise. It is our belief that this approach will lead to the best possible outcomes for our military professionals.

## Future plans

In addition to our pre-hospital care courses, we are pleased to announce the expansion of our course offerings to include field surgical teams and other areas. In order to modernize and improve our courses, we have initiated cooperation with the Czech Technical University, which has allowed us to use 3D printing methods (a real 3D model of the bronchial tree or limb amputations, which can be connected to whole-body simulators), but we are also participating in the development of an auscultation simulator or a diagnostic simulator for long bone fractures. Our goal is to develop cost-effective and practical full-body simulators that can be widely utilized by the Czech Armed Forces.



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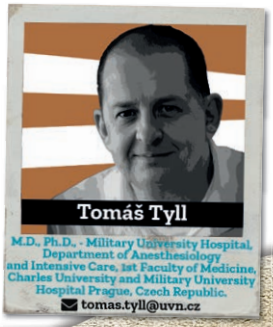

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# Lose to Win—Three Ways Simulation Can Help You Achieve Excellence in Healthcare

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**Simulation allows for safe failure, promoting learning without patient harm. Laerdal Medical highlights three priorities: competency-based education, effective debriefing, and continuous quality improvement, all enhanced by their SimCapture system and advanced simulators, fostering a resilient and competent healthcare workforce. Read the article to learn more**

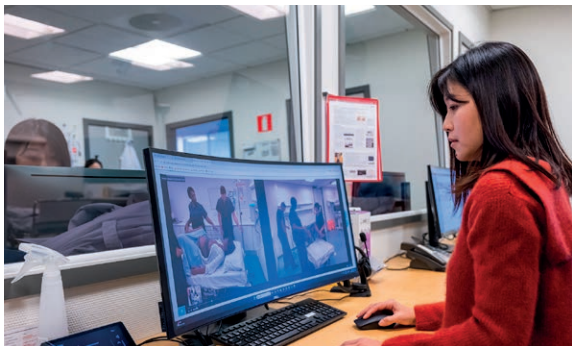
*"Practice like you've never won. Perform like you've never lost."*

That winning axiom is credited to world-renowned basketball icon Michael Jordan. And it is as applicable to achieving excellence in healthcare as it is to achieving distinction in professional sports. Universally, achieving excellence requires a unique balance between humility (practice like you have never won) and confidence (perform like you never lost). That balance between humility and confidence is what feeds the continuous learning cycle and leads to superior performance.

But why lose to win? That seems harsh, no?

Not at all! The advantage of simulation is that it allows for failure in a safe supportive environment. Under the guidance of skilled faculty, failure gives learners the opportunity to deconstruct their actions and learn from them. No patient is harmed. And from their understanding, learners can build their confidence when they enter practice.

Among the many areas that Laerdal Medical is focused on, three are uniquely relevant for this year's meeting of the Society for Simulation in Europe. Each offers an opportunity for you to distinguish your organization in its pursuit of this year's theme, healthcare excellence.

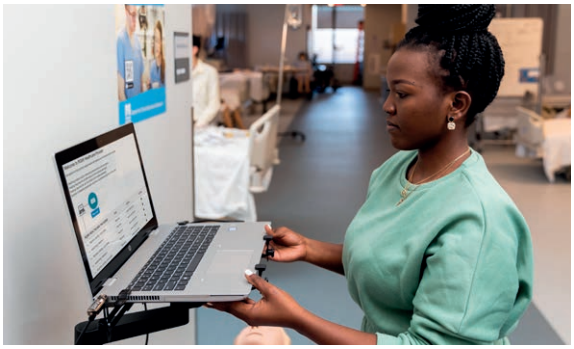


## Excellence Priority 1: Competency-Based Education

Globally, healthcare is experiencing a competency crisis. Yes, there is a shortage of providers. But there is also agreement that too many learners are entering the workforce (or entering new roles) unready to exhibit the "knowledge, attitudes, motivations, self-perceptions, and skills" that equal competency.

Especially among new nurses, this has led to discouragement and record first year attrition rates. A common theme is that during their education, their competency was rarely assessed. They were given minimal chance "to lose" so that they could learn what it takes to win.

Laerdal's SimCapture system affords educators and institutions the structure and ability to ensure competency through formative and summative assessments. SimCapture is a digitally based system that combines software, course structure, and video playback in a way that ensures objectivity, accuracy and learning impact from assessments. If you wish to instill competency in your learners, SimCapture can help ensure results.



produce the patient's condition. You can then use simulation to analyze your staff's expertise and protocols, and learn how care can be improved for the future.

## Excellence Priority 2. The Art and Science of Debriefing

"Debrief like your next patient's life depends on it." That's how a cardiothoracic surgeon expressed it to us. Experts generally agree, debriefing is where the learning occurs. And it is where the journey to excellence is made straight. Debriefing gives learners the opportunity to analyze and understand their performance, to identify areas for improvement, and to sharpen their critical thinking skills.

Just as Laerdal's **SimCapture** system is well suited for assessments, it is ideal for facilitating debriefing. **SimCapture** allows learners to deconstruct details of their performance to a precise degree. And it allows educators to focus learners on the performance factors they need to improve and which to sustain.

Your choice of simulator for debriefing is critical. Have you ever had difficulty choosing the right simulator? Consider basing your choice on the performance factors you want to debrief—and which simulator will allow your learners to potentially fail so they can win later.

If you wish to debrief to a high stakes or complex scenario, for example, simulators like Laerdal's new **SimMan Critical Care** (advanced respiratory care), MamaAnne (coming soon for maternal care) and **SimMan 3G PLUS** (complex emergency care) are among the many Laerdal simulators that will lead to rich debriefing discussions based on realistic clinical challenge. If you are more interested in lower stakes scenarios, Laerdal offers simulators and skills trainers for those situations, too.

## Excellence Priority 3. Continuous Quality Improvement

Continuous Quality Improvement (CQI) is the new frontier for simulation. And in the pursuit of healthcare excellence, CQI is where simulation can impact not only patient outcomes but system-wide care efficiencies and cost.

The goal of CQI is to achieve excellence by continually refining processes and systems that drive organizational outcomes. By its very nature, CQI is a structured approach to "Practice like you've never won. Perform like you've never lost." The most successful hospitals in the world have a culture of CQI.

In healthcare, CQI uses simulation to reproduce events and test improvements in a safe environment. This is where the right simulator is critical. Consider an adverse critical care event where a patient contracted hospital-acquired pneumonia (HAP). You will want a simulator like **SimMan Critical Care** that can reproduce the patient's condition. You can then use simulation to analyze your staff's expertise and protocols, and learn how care can be improved for the future.

This works for foundational skills, too. Cardiopulmonary Resuscitation (CPR) training represents a vast quality challenge for healthcare. Laerdal's **Resuscitation Quality Improvement (RQI) Program** allows institutions to implement a cross-organization self-directed training effort that minimizes cost, maximizes outcomes, and supports a true culture of CQI.

## Our Wish for You

Laerdal's focus on competency-based education, effective debriefing, and continuous quality improvement, underscores the potential of simulation to profoundly impact excellence in healthcare. By allowing healthcare professionals to fail safely, learn critically, and apply knowledge confidently, simulation acts as a catalyst for cultivating a resilient and competent healthcare workforce.

Our wish for you? That your organization is afforded the chance to practice like you've never won...and perform like you've never lost!

**Laerdal** can help. Contact your local Laerdal representative and see our many resources on social media and at **www.laerdal.com.**

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SIM VOICES

# 7 astuces pour devenir un bon debriefer

https://doi.org/10.69079/simzine.H24.n14.0008

**7 conseils d'experts pour un débriefing efficace des simulations de soins de santé. De l'établissement de la sécurité psychologique à l'utilisation de questions ouvertes, apprends à maximiser les résultats d'apprentissage et à créer un environnement propice à la croissance et à la collaboration dans les simulations de formation en soins de santé. Ces stratégies d'experts permettent aux débriefeurs de guider les participants à travers des discussions réfléchies, en s'assurant que chaque session de simulation n'est pas seulement une expérience, mais une occasion précieuse d'amélioration des compétences et de développement professionnel**

On dit depuis plus de 20 ans que le débriefing peut "faire ou défaire une séance de simulation" et qu'il est "le cœur et l'âme de la simulation" (Marcus Rall). Dans ce contexte nous vous proposons sept éléments considérés comme essentiels à un débriefing efficace. C'est important de les garder en tête car ils expliquent la structuration du débriefing et l'utilité de chaque étape du débriefing et des phases qui le précèdent. Alors, allons voir de plus prêt de quoi est fait un débriefing efficace.

## 1 Assurer la sécurité psychologique

L'établissement d'une sécurité psychologique est essentiel pour optimiser l'apprentissage pendant la simulation et le débriefing. La sécurité psychologique a été définie comme la capacité de *"se comporter ou d'agir sans craindre de conséquences négatives sur l'image de soi, le statut social ou sa propre carrière"*. Pour que les individus soient psychologiquement en sécurité, ils doivent pouvoir parler sans avoir l'impression que leurs paroles entraîneront un préjudice personnel ou un rejet. Pour ce faire, la simulation et le débriefing doivent être menés dans un environnement d'apprentissage sûr. Pour établir un environnement d'apprentissage sûr, un briefing explicatif préalable à la simulation peut être mené par le(s) facilitateur(s) du débriefing.backgrounds and nationalities if applicable.

## 2 Avoir un postulat de départ propice à l'apprentissage des apprenants

En tant que facilitateur ou apprenant du débriefing, il est essentiel d'avoir un à priori de départ concernant l'intérêt et les capacités de l'équipe impliquée dans la simulation et le débriefing. Un exemple d'à priori de départ emprunté à l'équipe du CMS de Boston est le suivant : "Nous pensons que toutes les personnes participant à cette simulation sont intelligentes, capables, soucieuses de faire de leur mieux et désireuses de s'améliorer." Garder cet à priori à l'esprit encourage le facilitateur et les apprenants à faire preuve de curiosité dans les cas où l'équipe n'obtient pas les résultats escomptés. Cette curiosité pousse le facilitateur à examiner les "schémas mentaux" qui conduisent aux actions observées. Identifier ces cadres dans le processus d'évaluation formative peut contribuer à faciliter l'apprentissage. Le formateur n'est pas en position de supposition mais plutôt d'exploration du pourquoi des actions de l'apprenant. En l'aidant à modifier ses schémas mentaux erronés, il y a un levier plus important sur les actions futures de l'étudiant. L'advocacy and inquiry, technique de questionnement lors du débriefing trouve ici sa place dans l'exploration des schémas mentaux de l'apprenant.

## 3 Établir des règles de débriefing

Fournir aux participants un ensemble de règles de base pour le débriefing peut améliorer la sécurité psychologique et prévenir les difficultés potentielles. Les règles du débriefing incluent la nécessité pour tous les membres de participer activement à la discussion, l'assurance que la discussion est confidentielle, et l'affirmation que le débriefing est axé sur l'amélioration des performances (et non sur la critique individuelle). Cette introduction des règles du débriefing crée l'atmosphère du débriefing, elle peut avoir lieu lors du pré-briefing ou juste en introduction du premier débriefing de la journée de formation par exemple. Ses règles seront répétées autant de fois que nécessaire par les facilitateurs afin de conserver une ambiance propice à l'apprentissage pour tous les apprenants tout au long de la formation par simulation.

## 4 Établir un modèle mental partagé

...

## 5 Aborder les objectifs d'apprentissage

...

## 6 Utiliser des questions ouvertes

...

## 7 Laisser le silence opérer

...

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SIMFACE

# Vimal Chopra: the first SESAM President

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https://doi.org/10.69079/simzine.H24.n14.0009

As SESAM celebrates its 30th anniversary, we are honored to feature Dr. Vimal Chopra, the pioneering first president of SESAM. An esteemed Anesthesiologist at Leiden University Medical Center, Dr. Chopra's visionary work laid the foundation for modern healthcare simulation. From the creation of one of the first anesthesia simulators to the formation of SESAM, his contributions have been instrumental in advancing patient safety and training. Dr. Chopra shared his remarkable journey and his insights into the future of simulation in healthcare. And we even found out that SESAM was born on a paper napkin in a cozy restaurant in Copenhagen

Understanding the history of how simulation in healthcare developed is crucial for appreciating its current significance and future potential. As SESAM marks its 30th anniversary, SIM Face column is delighted to spotlight Dr. Vimal Chopra, whose pioneering efforts have, in a way, shaped the landscape of medical simulation. Vimal was in fact a visionary: in the early 1990s he invented a simulator in anesthesia by collaborating with an airline; and then he founded SESAM when no one was yet talking about simulation in healthcare, much less thinking of a society with a scientific vocation. In short, we feel we should have a chat with Vimal

**Read our interview with him to find out more on simzine.news**

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# Bridging Theory and Practice: MVR-Nursing Simulator Available from Nasco Healthcare

https://doi.org/10.69079/simzine.H24.n14.00010

**Nasco Healthcare introduces the MVR-Nursing simulator by MVR Technologies, a virtual reality system designed to enhance nursing education. This state-of-the-art tool offers immersive, realistic training experiences, real-time feedback, and customizable scenarios, covering a wide range of clinical situations. Read the article to learn more**

In the rapidly advancing field of healthcare, continuous learning and practical skill enhancement are crucial. Recognizing this need, Nasco Healthcare is offering a groundbreaking product: MVR-Nursing. Developed by MVR Technologies, this virtual reality simulator is poised to transform nursing education by offering immersive, realistic training experiences that bridge the gap between theoretical knowledge and practical application.

## What is MVR-Nursing?

**MVR-Nursing** is a state-of-the-art virtual reality simulator designed to train nurses in a risk-free environment. This innovative product enables nursing students and professionals to practice and perfect their skills in a simulated clinical setting, thereby enhancing their readiness for real-world challenges.

## Key Features and Benefits

One of the standout features of **MVR-Nursing** is its highly realistic graphics and immersive environment. The system uses cutting-edge technology to simulate a lifelike clinical setting, providing users with a deep sense of presence and engagement. This high level of realism helps learners gain confidence and competence in their skills.

Real-Time Feedback and Assessment: **MVR-Nursing** includes an automated assessment system that tracks learner performance in real-time. This feature provides detailed feedback, enabling users to identify strengths and areas for improvement. The system evaluates actions against standard assessment systems and protocols, offering detailed insights into areas of strength and those needing improvement. Such objective assessments are crucial for refining skills and building confidence among nursing professionals.

Flexibility and Customization: The system comes with a case manager customization tool that allows educators to tailor the training scenarios to meet specific learning objectives. From modifying patient conditions to customizing medications, **MVR-Nursing** offers a high degree of flexibility to accommodate diverse training needs.

Wide Range of Clinical Scenarios: **MVR-Nursing** includes a comprehensive clinical case library that covers various domains such as emergency care, ICU management, pediatric care, and general medical care. This extensive library ensures that learners are exposed to a wide array of clinical situations, enhancing their preparedness for real-world practice. Each module is designed to provide hands-on experience and enhance proficiency in different areas of nursing. For instance, the pediatric module offers a comprehensive over-

view of common childhood illnesses and treatments, preparing nurses for child-focused care. The system also allows for customization of scenarios and medications, enabling educators to tailor the training to specific needs. This flexibility ensures that learners are well-prepared for the diverse and dynamic nature of healthcare environments.

Interactive Learning Tools: The simulator features over 50 interactive items, including medical instruments and equipment, which learners can use to perform various procedures. The haptic feedback system adds another layer of realism, allowing users to feel the tactile sensations of their actions.

## Impact on Nursing Education

Traditional nursing education often relies heavily on lectures and limited hands-on practice, which can leave gaps in practical skills. MVR-Nursing addresses these gaps by providing an interactive and engaging learning experience that closely mimics real-life clinical settings. This approach not only enhances skill acquisition but also helps reduce the anxiety associated with real-world practice.

Emergency Preparedness: One of the key strengths of MVR-Nursing is its ability to simulate emergency scenarios. Learners can practice life-saving skills such as CPR, airway management, and defibrillation in a controlled environment. This experience is invaluable in preparing nurses to respond effectively in critical situations.

Pediatric and Chronic Care Training: MVR-Nursing offers specialized modules for pediatric care and chronic disease management, areas that are often underrepresented in traditional training programs. By providing comprehensive training in these areas, the system ensures that nurses are well-equipped to handle a wide range of patient needs.

## Conclusion

MVR-Nursing represents a significant advancement in medical training technology. By leveraging the power of VR, it provides an immersive, flexible, and effective training solution for nursing professionals. As the healthcare field continues to evolve, innovative tools like MVR-Nursing will play an essential role in preparing the next generation of nurses to meet the challenges of tomorrow's healthcare landscape.

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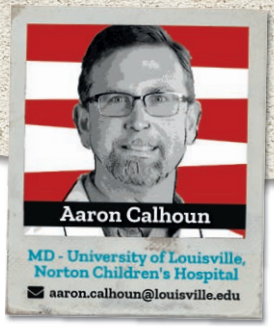
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# The International Simulation Data Registry: Harnessing the Standardized Data

https://doi.org/10.69079/simzine.H24.n14.00011

**The International Simulation Data Registry (ISDR) was established in 2014 and is inspired by the increasingly numerous and widely used clinical registries. It aims to enhance simulation-based medical education (SBME) and improve clinical practices and patient outcomes. A recent strategic partnership was initiated between the Society for Simulation in Healthcare and the University of Toledo to update the ISDR to version 2.0. This collaboration aims to leverage a novel multimodal assessment platform, enhancing the ISDR's capabilities. The project not only boosts medical training and patient care but also lays the groundwork for tackling research hurdles like standardized data sharing, and enhancing education within the simulation community, reinforcing its significance for the future of healthcare education and practice improvement**

## Relevant Background

The global healthcare simulation community has grown tremendously over the last two decades. Many simulation centers worldwide have contributed to education and research efforts to optimize simulation-based medical education (SBME) outcomes. However, SBME has not realized its full translational science potential by demonstrating that effective SBME approaches lead to improved clinical practices and, ultimately, better patient outcomes[1]. The lack of infrastructure for sharing standardized data from healthcare simulation activities and correlating it with practice worldwide presented a challenge in bridging the gap.

## The Emergence of the International Simulation Data Registry

The International Simulation Data Registry (ISDR) was established in 2014 to drive evidence-based SBME, better clinical practice, and improved patient outcomes[2]. The ISDR was inspired by the growing utilization of clinical registries, which facilitate care quality benchmarking, optimizing health outcomes, controlling costs, and conducting epidemiological research[3]. Accessible data registries are also vital for developing effective tools and technologies across all healthcare fields and specialties, especially as machine learning and artificial intelligence become more prevalent[4].

The initial rollout of the ISDR targeted standardized cases with clearly defined performance metrics based on American Heart Association Guidelines, such as pulseless cardiac arrest[2]. The ISDR was launched across 27 institutions, collecting standardized data including (but not limited to) patient simulator type, simulation setting, simulation participant discipline and years in training, and key objective performance measures (e.g., time to initiation of care). There was considerable interest and momentum within the ISDR after its launch; however, this was sidetracked due to the COVID-19 pandemic.

> ***The holy grail of simulation-based research is to implement outcome measures that can be collected in both simulated and real-world patient care settings.***

## Enhancing ISDR with PREPARE: ISDR 2.0

In June 2023, the Society for Simulation in Healthcare (SSH) and the University of Toledo (UToledo) initiated a strategic partnership to update the ISDR. The ISDR 2.0 will leverage a novel multimodal assessment platform (PREPARE) developed at the University of Toledo at Dr. Pappada's laboratory[5]. The simplicity of the user interface enables standardization of curriculum generation and underlying assessments, making PREPARE highly synergistic with the vision and goals of the ISDR. A key feature of the platform is to collect, process, and synchronize data from multiple sources, such as observer-based performance assessments, operational/training environments (e.g., audio, video, simulator data), and learners.

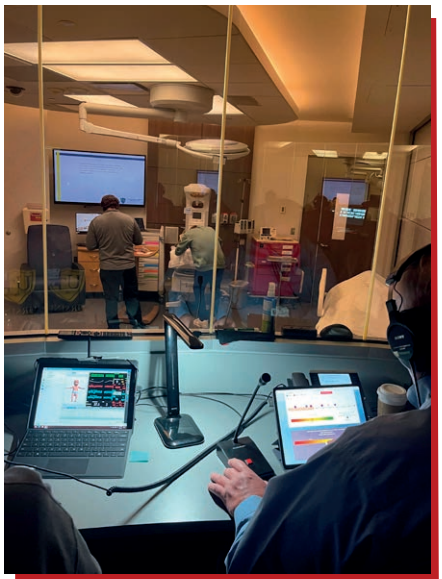

***Figure 1.*** *Challenges and Opportunities in Simulation-Based Medical Education and Assessment that ISDR will address*

## Addressing Simulation Challenges with ISDR 2.0

With the new functionalities afforded by PREPARE, ISDR 2.0 will address some of the challenges faced by the simulation community. One of these challenges is the lack of standardized scenarios, underlying data, and assessments to be collected during SBME activities. The holy grail of simulation-based research is to implement outcome measures that can be collected in both simulated and real-world patient care settings. Standardizing metrics and key performance measures in a way that can be seamlessly applied in both simulated and real environments ensures that key

comparisons can be made. This will allow the community to evaluate how knowledge, skills, and practices trained and evaluated in simulated environments translate to real-world care settings.

*Figure 2. Overview of PREPARE's Multimodal Assessment Capabilities*

Another challenge lies in the subjective performance evaluation that accompanies SBME, often resulting in a simplistic pass/fail assessment rather than acquiring richer data. Consequently, learners receive feedback that is often not personalized or tracked longitudinally to encourage reflection and inform repeated deliberate practice for improvement. The ISDR framework provides a standardized way to collect clinically relevant, objective data that can be consistently tracked over time. This data can be used for feedback and benchmarking across learners and simulation centers, optimizing the SBME processes and outcomes. Figure 1 shows the four key areas that ISDR will address. Two of these areas (**denoted) will be available with future development and advancement of the PREPARE platform through collaboration amongst the simulation community.

> ***PREPARE is platform-agnostic and can be utilized across various simulation centers or sites.***

## Addressing Simulation Challenges with ISDR 2.0

The Society for Simulation in Healthcare and UToledo teams are collaborating on the initial deployment of ISDR 2.0, which introduces instructor-level assessment. These features enable standardized curriculum, scenario creation, and real-time assessment during curriculum delivery. Unlike the initial version, ISDR 2.0 allows assessments to be entered as the scenario unfolds rather than retrospectively. Furthermore, all assessments are time-stamped, facilitating the recording of objective performance metrics such as time to intervention or diagnosis. PREPARE is platform-agnostic and can be utilized across various simulation centers or sites. Being web-based, users can access the platform on any device with internet browsing capabilities. The instructor-level functionalities of ISDR 2.0 are detailed in an initial publication outlining the multimodal assessment capabilities of the PREPARE platform[6]. Additionally, certain learner-level data acquisition capabilities are available in ISDR 2.0, including customizable pre- and post-assessments, survey generation, and a collection of learner-level demographics and training frequencies.

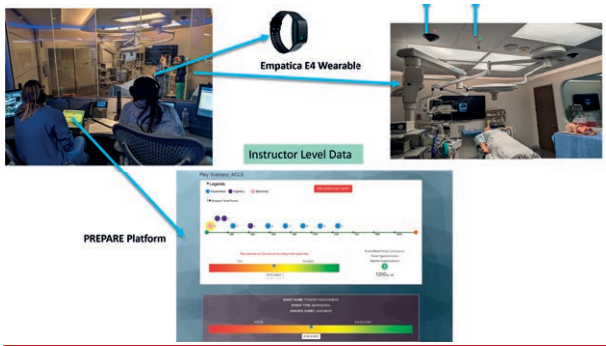


*Figure 2. Overview of PREPARE's Multimodal Assessment Capabilities*

PREPARE has additional capabilities that are part of a forward-looking development strategy[4]. The current capabilities of the PREPARE platform are shown in Figure 2, which demonstrates the data collection at the learner, simulation environment, and instructor levels. The automated data collection at the...

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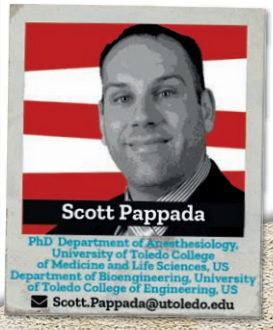

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DID YOU KNOW...

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# Nuove opportunità e strumenti innovativi per la formazione medica: l'esperienza del progetto Erasmus "SAFETY"

https://doi.org/10.69079/simzine.H24.n14.00012

**Il progetto SAFETY, finanziato da Erasmus+ Knowledge Alliance e coordinato dall'Università di Foggia, mira a migliorare la formazione in medicina d'urgenza in Europa. Nell'arco di tre anni, dieci partner provenienti da sette paesi hanno sviluppato un corso didattico innovativo che utilizza dispositivi di simulazione per formare in modo sicuro gli operatori sanitari. Per saperne di più sul progetto, leggi questo articolo**

Il team di lavoro del progetto SAFETY – Simulation Approach For Education and Training in emergencY, finanziato dal programma europeo *Erasmus+ Knowledge Alliance 2* e coordinato dal Dipartimento di *Scienze Mediche e Chirurgiche dell'***Università di Foggia (Italia)**, ha contribuito all'evento di chiusura del progetto, tenutosi a Foggia il **30-31 gennaio 2024**, in cui sono stati presentati i risultati del progetto.

Il progetto SAFETY ha visto tutti i partner impegnati attivamente in questi tre anni di lavoro in un ambiente internazionale e soddisfatti di aver raggiunto la fase finale per condividere i risultati ottenuti.

SAFETY ha coinvolto **10 partner** provenienti da **7 paesi europei** (Austria, Germania, Italia, Norvegia, Portogallo, Romania e Spagna) in rappresentanza di università e aziende. Il coordinamento del progetto è stato affidato all'*Università di Foggia*, sotto la guida della *Prof.ssa Gilda Cinnella*, in rappresentanza del gruppo di ricerca in *Anestesia e Terapia Intensiva* del *Dipartimento di Scienze Mediche e Chirurgiche*.

Gli **obiettivi principali** di SAFETY erano dedicati allo sviluppo di un nuovo corso di formazione nel campo della Medicina d'Urgenza basato sulle esigenze dei discenti e sull'uso di dispositivi di simulazione per la formazione. L'**idea del progetto** è nata dalla reale necessità di migliorare i processi di apprendimento in campo medico, poiché l'**attuale metodo di insegnamento manca di sicurezza** per l'operatore e per i pazienti. Il personale sanitario (medico o infermieristico) viene catapultato dalle lezioni universitarie ai reparti e deve prima fare pratica sui pazienti. In questo modo, gli errori normalmente dovuti al processo di apprendimento si ripercuotono direttamente sui pazienti.

A questo scopo, i materiali formativi sviluppati da SAFETY offrono ai discenti la possibilità di praticare un'attività in un ambiente sicuro senza compromettere la sicurezza del paziente, fornendo...

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SIMULATION APPROACH FOR EDUCATION AND TRAINING IN EMERGENCY

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# In my career path, "I Love Simulation" stands as my guiding motto

https://doi.org/10.69079/simzine.H24.n14.00013

**Nelly ElChammas' passion for simulation drove her to pursue advanced studies and become a Simulation Education Specialist in Doha, aiming to establish a leading simulation center. Here is the story of how she got to this point in her career**

In 2007, during my nursing board exam in Canada, I encountered clinical simulation for the first time. Though it was a mere component of an exam, and despite its initial introduction under exam conditions, I found myself captivated by its potential and fascinated by its teaching and testing modality. Since then, my fascination with simulation only grew.

This fascination led me to a remarkable opportunity at the Lebanese American University, where I served as a Simulation Center Coordinator. At that time, simulation was a relatively new concept in Lebanon, with few experts in the field, sparking my curiosity and driving me to delve deeper into its wonderland world; indeed, I often refer to Simulation as a wonderland world, as it offers a boundless realm where one can create anything imaginable while ensuring a safe environment for exploration and learning. I felt compelled to explore this educational method further so that we could establish a cutting-edge simulation center in Lebanon.

My passion for simulation prompted me to engage actively in various conferences as a presenter and advocate for simulation-based learning. By 2016, I had progressed to the position of Senior Supervisor at the same center. Fueled by my passion for simulation, I pursued a master's degree in management and obtained a Simulation Diploma to enhance my ability to manage our simulation center effectively.

Since 2012, I had been diligently seeking opportunities to pursue a Ph.D. in Simulation. Finally, during the SESAM conference 2023, I crossed paths with an inspiring colleague who encouraged me to apply to their university. To my delight, I was accepted into their Ph.D. program in Simulation.

Driven by my perpetual quest for knowledge and growth, I seized an opportunity in January of this year to serve as a Simulation Education Specialist in Doha. In this role, I am responsible for overseeing simulation education across various healthcare schools, including nursing, midwifery, paramedicine, and pharmacy. My objective is to establish a robust simulation center that bridges the gap between theoretical knowledge and practical application. I aspire to create a top-notch simulation center, pursue accreditation, and establish it as a leading hub for simulation in the region.

My journey in clinical simulation has been marked by unwavering love, passion and dedication. I firmly believe that simulation is a transformative tool that can revolutionize healthcare education, and I am committed to leveraging its potential to the fullest extent.

In summary, in my career path, "I Love Simulation" stands as my guiding motto.

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SIMTALKS

# Simulation in India? SHS President tells us about it

https://doi.org/10.69079/simzine.H24.n14.00022

**We recently had the privilege of speaking with Murthy Nyasavajjala, founder and current President of the Society for Healthcare Simulation (SHS) India. In this insightful interview, Murthy shares his strategic vision for SHS and discusses the pivotal role of simulation in enhancing healthcare education across India**

We continue in our effort to explore and share the actions, views and ideas of leaders in professional and scientific simulation societies. Today we move to Asia and meet Murthy Nyasavajjala, founding President of the Society for Healthcare Simulation (SHS) India. Since its inception in 2019, SHS has emerged as a vital resource for healthcare educators and professionals across India, driving the advancement of simulation-based learning. Under Murthy's leadership, SHS focuses on improving patient outcomes and safety through innovative training methods. In this interview, Murthy shares insights from his experience in healthcare simulation and discusses the future of SHS and its impact on medical education in India.

**Hi Murthy, I appreciate you taking your time to join us. When did your journey begin with simulation?**

My interest in medical simulation arises from recognizing the limitations of traditional education for healthcare professionals. Simulation merges learning with technology, allowing us to embrace mistakes as vital learning opportunities. It bridges theory and practice, offering immersive experiences without real-world consequences. Unlike traditional methods, simulation fosters technical mastery and cultivates empathy, resilience, and adaptability. Through reflection, participants unravel human behaviour complexities, contributing to ongoing improvements in patient care. I envision the future of medical simulation advancing with innovation and integration with emerging technologies, shaping healthcare training for excellence in patient care.

**Can you describe for our readers what Society for Healthcare Simulation (SHS) India is and what it does?**

Society for Healthcare Simulation (SHS) leads the progress of healthcare education through simulation-based learning, emphasizing...

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SIM BOOKS

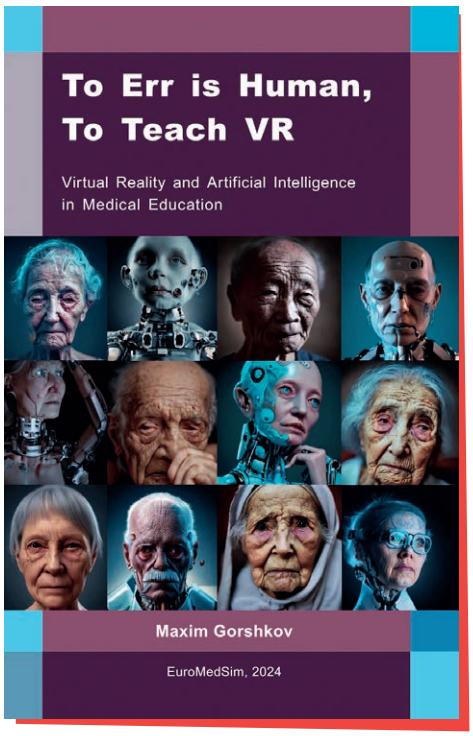
https://doi.org/10.69079/simzine.H24.n14.00015

# To Err is Human, To Teach VR

## Virtual Reality and Artificial Intelligence in Medical Education

**Maxim Gorshkov**

EuroMedSim, Stuttgart, 2024 - ISBN 978-3-00-077736-3




It is hard to admit that my generation of physicians and medical educators (those over 50), while being at the top of their clinical skills, finds it challenging to keep up with the ever changing world of information technology, including virtual reality (VR) and artificial intelligence (AI). Yet, we must. It is driven not only by our desire to stay relevant, but by a necessity to offer all spectrum of different educational modalities to our learners.

We are slowly implementing chat-GPT and like in our daily routines, but the breadth and diversity of AI application in medical education is growing at incredible speed. We gain our knowledge of new technologies from being exposed to them at conferences, reading relevant scientific publications, but at times, nothing is better than an opportunity to read an overview put together by an expert.

The book by Dr. Maxim Gorshkov, "To Err is human, to teach – VR" offers such an opportunity. It differs from the textbooks compiled by multiple authors, for it follows a "story of VR and AI" from one person's perspective. Dr. Gorshkov does a good job referencing many of his points, and while there is no methodology behind his choice of references and many of his statements are his personal beliefs, his thoughts and biases, in my opinion, this is not a weakness, but actually a strength of his book.

The To Err is Human, To Teach - VR brilliantly presents complex concepts in an engaging and structured manner. It delves into the fascinating convergence of digital technologies, exploring how virtual worlds are seamlessly integrated with the real environment for the purpose to optimize educational experience of the learners, and the role of artificial intelligence in this blend. It poses thought-provoking questions about the boundaries between these realms and whether such distinctions are even necessary.
The book offers a useful description and classification of modern virtual reality medical simulators, highlighting their Pros & Cons. It also provides a well thought of and insightful perspective on how digital environments are transforming the learning process, analyzed through the lens of Maslow's hierarchy of needs.

It is a book for anyone involved in the training of healthcare providers, especially simulation-based educators and curriculum developers seeking to integrate VR and AI systems into their educational practice. More so, it is an enjoyable (if not an easy) read.

*Review by Vsevolod (Sev) Perelman (Canada)*

## REGISTER AND GET THE BOOK

**SIMZINE** wants to donate to its readers 2 copies of the book '**To Err is Human, To Teach VR**'. To get the book, register on simzine.news and send an email to ***redazione@simzine.it*** with the subject 'To Err is Human, To Teach VR'. If you like, drop us a line about who you are and why you're interested in the topic

Chris Gay
Project Manager, NHSE TEL

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Bryn Baxendale
TEL Advisor and Simulation Clinical Lead

# Becoming Simulation Faculty: The national programme for those who design and deliver simulation and immersive learning

https://doi.org/10.69079/simzine.H24.n14.00014

**The Becoming Simulation Faculty (BSF) programme supports the development of simulation educators, practitioners, technicians, and managers across the NHS. It offers blended learning with eLearning topics and workshops, providing foundational skills and advancing professional development. Would you like to enrol? Then read the article to learn how you can register for the programme**

## Background

The Technology Enhanced Learning Programme within NHS England (NHSE TEL) has a number of goals, which relate to promoting the development and adoption of emerging and innovative approaches to education in health and care. Our strategic vision for the use of simulation and immersive learning technologies (REF) described how simulation can support workforce development and safety improvement in clinical practice. One of the key principles of this to be successful requires a multi professional faculty who have the appropriate capabilities and recognition. Increasingly this includes educators, practitioners, technicians and managers.

NHSE TEL were aware of the success of the NHETSim programme in Australia (REF) and initial engagement with the simulation community across the UK suggested that a similar programme would be welcomed for the NHS health and care system.

## Vision

The Becoming Simulation Faculty (BSF) programme was initiated to address a number of challenges identified by NHSE TEL and the simulation community. The programme has the following aims:

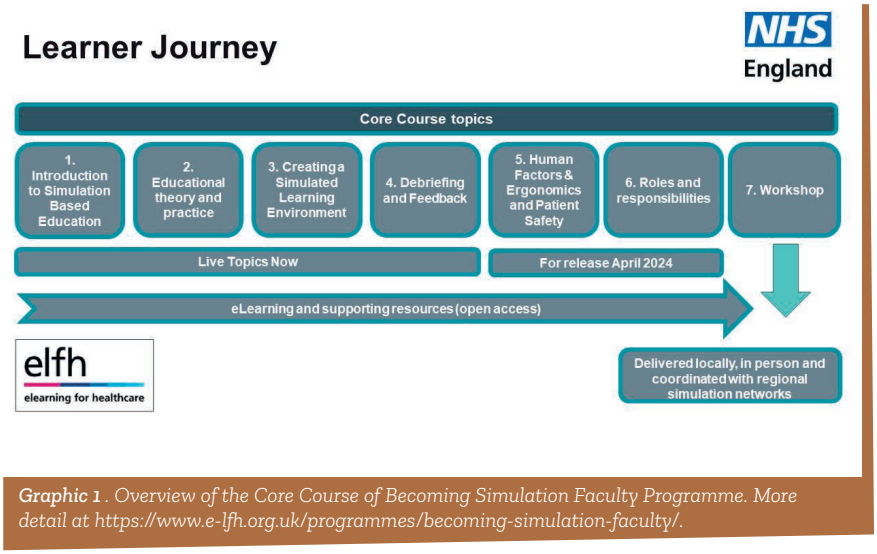
- To establish and implement an expert-led, sustainable national programme to support the professional development of simulation educators, practitioners, technicians and managers from educational and care provider organisations
- To ensure equitable access across professional, geographical and institutional boundaries
- To enhance the quality of design, delivery and evaluation of simulation and immersive learning methodologies applied within the health & care sector

| | | | |
|---|---|---|---|
| Advanced debriefing | Teamwork and clinical leadership capabilities | Equality, Diversity and Inclusion (EDI), including neurodiversity | Immersive learning technologies |
| Evaluation and Research | Mental health and welfare | Mixed reality technologies | Developing the simulation technician |
| Standardised Patients | Primary and community care | High stakes assessment | Mastery learning and technical / procedural skills |
| In-Situ simulation | Human Factors, systems testing and quality improvement | Psychological Safety and civility | Leadership and management of simulation programmes |

*Table 1. Advanced topics being explored*

## What is the Becoming Simulation Faculty Programme?

The BSF programme...




*Graphic 1. Overview of the Core Course of Becoming Simulation Faculty Programme. More detail at https://www.e-lfh.org.uk/programmes/becoming-simulation-faculty/.*

Gabriel Reedy
Professor of Clinical Education, King's College London

Mark Fores
Senior Nurse, Workforce Delivery, NHSE

Patricia Howe
Programme Manager, NHSE TEL

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SIM VOICES

# El SUMMA112 y el proyecto europeo MED1stMR

https://doi.org/10.69079/simzine.H24.n14.00019

**El proyecto europeo H2020 MED1stMR revolucionará el entrenamiento para primeros intervinientes en incidentes de múltiples víctimas. Utiliza tecnología de realidad mixta que combina maniquíes, sensores de estrés y herramientas de IA. Desde julio de 2023, se está probando en seis ciudades europeas con más de 300 rescatadores: lee el artículo para saber más**

Los resultados del proyecto europeo H2020 MED1stMR transformarán los entrenamientos que se realizan para los primeros intervinientes en incidentes de múltiples víctimas.

La innovadora tecnología de realidad mixta combina pacientes simulados por maniquís (que al entrar en contacto con ellos nos ofrecen frecuencia cardíaca, estimación del nivel de conciencia y de la frecuencia respiratoria), sensores de medición de estrés y una herramienta de control de escenarios basada en IA, para lograr una mayor preparación de los primeros intervinientes sanitarios ante situaciones reales de incidentes de gran complejidad.

Desde julio de 2023, la tecnología desarrollada y el programa de formación asociado está siendo testado con usuarios finales de toda Europa. En total, más de 300 rescatadores y sanitarios de emergencias de toda Europa (60 de ellos españoles) entrenarán con la tecnología desarrollada en sesiones de entrenamiento de una semana de duración en 6 ciudades europeas (Viena, Heildeberg, Östersund, Ransdt, Madrid y Thessalonika), y proporcionarán información y sugerencias al equipo de investigación y desarrollo.

### El desafío de los Incidentes con múltiples víctimas

Los desastres que implican un gran número de víctimas (por causas humanas o naturales) van en aumento. En estas situaciones, los primeros intervinientes sanitarios necesitan realizar el triaje de las víctimas, proveer cuidados sanitarios y coordinar el lugar del incidente mediante complejas tareas organizativas y de comunicación bajo condiciones extremas de estrés. La propuesta de entrenamiento MED1stMR prepara a esos primeros intervinientes para afrontar de una manera eficaz y eficiente este tipo de eventos.

## El viaje tecnológico

Un consorcio multidisciplinar de 18 socios de 9 países europeos, coordinados por el AIT- instituto Austriaco de tecnología, el centro de Experimentación tecnológico, empezó en 2021 creando soluciones realistas de entrenamiento con realidad mixta para primeros intervinientes sanitarios. "El desarrollo de productos a lo largo de 9 países y 18 organizaciones asociadas es un desafío, pero los usuarios finales están continuamente involucrados en el desarrollo por el consorcio para identificar todas las necesidades relevantes. De este modo, "la ciencia, la tecnología y el punto de vista de los primeros intervinientes sanitarios se combinan desde el principio" afirma Helmut Schrom-Feiertag, coordinador del proyecto en el AIT de Viena.

Después de 2 años de análisis de requerimientos con usuarios finales, desarrollo tecnológico y estudios científicos preliminares, el proyecto está ahora preparado para la demostración y la evaluación en el terreno. El primer entrenamiento tuvo lugar en Viena en Julio de 2023, organizado por Johanniter Austria, los cuales están contribuyendo al proyecto principalmente con su experiencia desde la perspectiva de los servicios de rescate y ayuda en catástrofe.

La Doctora Carmen Cardós Alonso, la cual ha participado en el proyecto MED1stMR con sus conocimientos de enfermera de emergencias, así como investigadora principal del SUMMA 112 (Servicio de Urgencias Médicas de Madrid) en este proyecto, afirma: "Es fantástico haber participado en el desarrollo de MED1stMR desde el principio. Podemos utilizar el sistema de formación para entrenar grandes y complejos escenarios de emergencia y así poder prepararnos de la forma óptima posible. Las grandes ventajas de la formación con realidad mixta para nosotros son la posibilidad de repetir cada entrenamiento tantas veces queramos, y por supuesto, la capacidad de análisis post-entrenamiento para el debriefing".

## Experiencia Tecnológica

El entrenamiento de simulación de escenarios a gran escala (www.med1stmr.eu/field-trials) proporcionará información sobre la idoneidad de la solución de entrenamiento de realidad mixta. Un equipo de formadores experimentados del proyecto entrenará a formadores locales, según el principio de "Formar al formador", para transmitir el conocimiento y asegurarse de la correcta aplicación de los métodos de entrenamiento y formación. Hasta un total de 4 alumnos por grupo entrenará dos escenarios con diferentes incidentes de múltiples víctimas cada uno, utilizando la avanzada tecnológica MED1stMR.

## Propósito de las pruebas de campo:

- **Evaluar** el desarrollo de la tecnología bajo condiciones realistas. (1 semana de entrenamiento con unas 3-5 sesiones por día, cada sesión con 4 voluntarios).
- Recibir los comentarios de los **Usuarios finales** sobre la calidad de la experiencia y la aprobación de la tecnología para su posterior desarrollo (todos los alumnos son primeros intervinientes sanitarios en sus países)
- Estudios de **Investigación** in situ (estrés, rendimiento, estado cognitivo, comportamiento del equipo, fatiga, autoeficacia...).
- Aumentar la **Sensibilización** sobre el uso de la formación virtual mediante un entorno de realidad mixta para que los primeros intervinientes sanitarios se preparen mejor a la hora de intervenir en situaciones de catástrofes (implicación de los responsables políticos y de la toma de decisiones).

Vázquez Rodríguez T. Cardós Alonso C. Uzuriaga M. González Barea M. Fernández Benítez A. Cintora Sanz A. García R. Espinosa Rodríguez S. Herrador S. Sanchíz P. Equipo de investigación SUMMA112 (SERMAS).

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SIM VOICES

# A day in the life of a simulation journal editor: Gabriel Reedy

https://doi.org/10.69079/simzine.H24.n14.00017

**Gabriel Reedy, the Editor-in-Chief of Advances in Simulation, shares his unique journey from aspiring pilot to leading academic and editor, reveals the day-to-day challenges of balancing editorial duties with an academic career, and discusses the future of healthcare simulation. Amongst his priorities, innovation and global collaborations to enhance training and patient care outcomes.**

**Gabriel Reedy**
Professor of Clinical Education at King's College London, UK. He is a Chartered Psychologist and an Associate Fellow of the British Psychological Society. His research focuses on how healthcare professionals learn and work together, especially in simulated environments.

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At the intersection of healthcare education and simulation we found Gabriel Reedy, Editor-in-Chief of Advances in Simulation and Professor of Clinical Education at King's College London. A Chartered Psychologist, Reedy blends his expertise in psychology with a passion for improving how healthcare teams learn and collaborate in simulated environments. Since taking the lead at the outset of the pandemic in 2020, he has steered the journal through significant global challenges.

In our conversation, Professor Reedy shares his journey from aspiring airline pilot to leading a major scientific journal in simulation, reflects on the challenges of balancing editorial duties with an academic career, and discusses the journal's mission to push the boundaries of simulation science and practice. This interview offers a behind-the-scenes look at the journal's impact on global healthcare education and Professor Reedy's vision for its future.

**Hi Gabe, thank you for eagerly joining us for this brief interview. We would like to present a behind-the-scenes look at the journal you edit and provide insights into the editor-in-chief's perspective. Being EiC of a scientific journal is not an easy task. When did you join the journal, and what is your typical day as an editor-in-chief?**

I joined the journal as an editorial board member in 2016, back when the journal was launched, working with Professor Debra Nestel, the founding editor-in-chief and my mentor. I stepped into the Editor-in-Chief role at the start of 2020, just a few weeks before the pandemic began. Like all of us who work in editorial roles at academic journals, my role as editor-in-chief is in addition to my full-time job as an academic! I am a professor at King's College London, in the UK, where I do research in simulation and health professions education, and I run a master's programme for healthcare professionals. So, my day is quite varied and never the same! It's almost always, though, a combination of the things I love to do: reading, writing, designing and planning and doing research, teaching, facilitating—and now more and more, supporting and leading teams of colleagues who are doing those things.

**Did you always want to be editor-in-chief of a scientific journal or did it just happen by chance?**

Well, maybe not always! This role isn't something that I dreamt about as a child, but that's probably because I didn't know it existed. (I actually wanted to be an airline pilot from about age 11, the first time I was on an airplane. It's still on my list!) My undergraduate degree was in English, and I have been doing academic writing and reading since high school. From there I went into the technology industry as a writer and trainer, helping to make difficult technical concepts more understandable. As I became an academic, I knew that I wanted scholarly publishing to be a big part of my work. I have always enjoyed helping people develop their academic writing—it's a part of my work that I have always found very fulfilling. And that's a big part of what we do as editors!

**What is the most difficult part of your job? And the most frustrating?**

I think the most difficult part of my job has to be sending out those letters with the decision of "reject" on them. No one likes to be told that their work isn't suitable for publication, especially because publishing is such an important part of the academic and clinical roles many of us have. Every time I reject a manuscript, I remember how it feels when I have gotten that message myself (yes, even editors-in-chief have manuscripts rejected!). But I try to channel that feeling into feedback for authors that explains the decision and helps them improve their work. I think the most frustrating thing for me is that a lot of folks don't realize that virtually everyone with editorial roles in academic journals does that work in addition to their "day jobs". Every peer reviewer, every editor at every level, does this work because they want to make a contribution to the field of healthcare simulation. So, when authors complain about how long the review process takes, it can really frustrate me. All the peer reviewers, associate editors, and senior editors do their work as volunteers!

**What is the best article you have ever read in the area of simulation, and why? I know this is not an easy question**

I never answer these kinds of questions – I just don't like the question! (I can't even tell you what my favourite type of ice cream is!) What do we mean, best article? Best how? Most cited? Most well-written? Most impactful? But to whom? I could point to a few that have really shaped my practice. I could also point to some amazing articles that have really made me think differently, and to some manuscripts that I ask my students to read when they are learning about particular aspects of simulation. But for me, there's no such thing as the best article I've ever read. I think that the scientific literature always has to

be considered in context, and we build on the literature in ways that mean they both support and are improved by subsequent literature. For me, to think now about a foundational or seminal article feels like an outdated conception of how science works, and our field is way too complex and diverse for that way of thinking. The healthcare simulation community is so broad, so diverse, and covers so many specialties that the question doesn't really work for me!

we train our colleagues, to take better care of patients and clients and each other, and to make health and social care better. I think the other thing we want to do, and I mean all of us on the editorial team, is that we want to help develop scholars and researchers and writers in the field—to help make them better researchers and writers. Because when we help each other learn and grow and develop, we make the research better, and we advance the field!

basis in clinical and care settings around the world, using simulation to do things that make care better and safer. Many of us straddle these worlds. And I think this is the great thing about Advances in Simulation: it serves the entire field of healthcare simulation. We aim to bring the highest quality simulation science to everyone in the field, regardless of whether you're at a university or working in a community clinic. Last year, almost half a million Advances in Simulation articles


## Advances in Simulation is the official journal of SESAM - The Society for Simulation in Europe

The journal provides a forum to share scholarly practice to advance the use of simulation in the context of health and social care. To enable the broadest access to health and social care practitioners, researchers, scholars, students, and trainees, articles in the journal are published as open access, so they are free to download, read, and distribute. It is published by BioMed Central (BMC), part of Springer Nature
Website: *www.advancesinsimulation.biomedcentral.com*
Editor in chief: **Prof. Gabriel Reedy**

**ORIGINAL SUBMISSIONS IN 2023**
**90**

**AVERAGE TIME TO FIRST DECISION**
**24 days**

**AVERAGE TIME TO ACCEPTANCE**
**101 days**

**NUMBER OF DIFFERENT COUNTRIES OF SUBMISSION**
*(based on author's institutions)*
**32**


**I love your answer and we'll take inspiration from it to modify the questions for the next guest of this space.**
**Can you describe Advances in Simulation (AiS) in a few words? We would like to hear how its EiC sees it**
My approach as the editor-in-chief of AiS is that I seek for us to really live the mission and values represented by the title of the journal. We want to help to push the boundaries of the field, to help us all in the community do new and interesting things with simulation science and practice. We want to push ourselves to think in new ways, to think carefully and critically about how and why we do what we do. We want to learn and be inspired by ideas from across disciplines and fields. And we want all of that to help us improve how

**What sort of reach do you think Advances in Simulation has in the simulation field?**
I described healthcare simulation to a colleague recently as a field that has a foot in quite different traditions. Firstly, of course, there's an academic component to our field. Many of us are in traditional academic roles and so there's that drive and push to think about scholarly publishing and to contribute to the field in that way. And even in that academic component we have very different disciplinary backgrounds – education, psychology, humanities, biosciences, engineering, healthcare improvement, and of course all our clinical academic specialties, among so many others. But there's also the practitioner side of our community—the folks who are doing simulation on a weekly

were downloaded, and I'm really proud of that! If we were only available in university libraries, that wouldn't have happened. But we are open access, so that really lets us reach across that broad audience!

**Advances in Simulation is the official journal of the Society for..**

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DID YOU KNOW...

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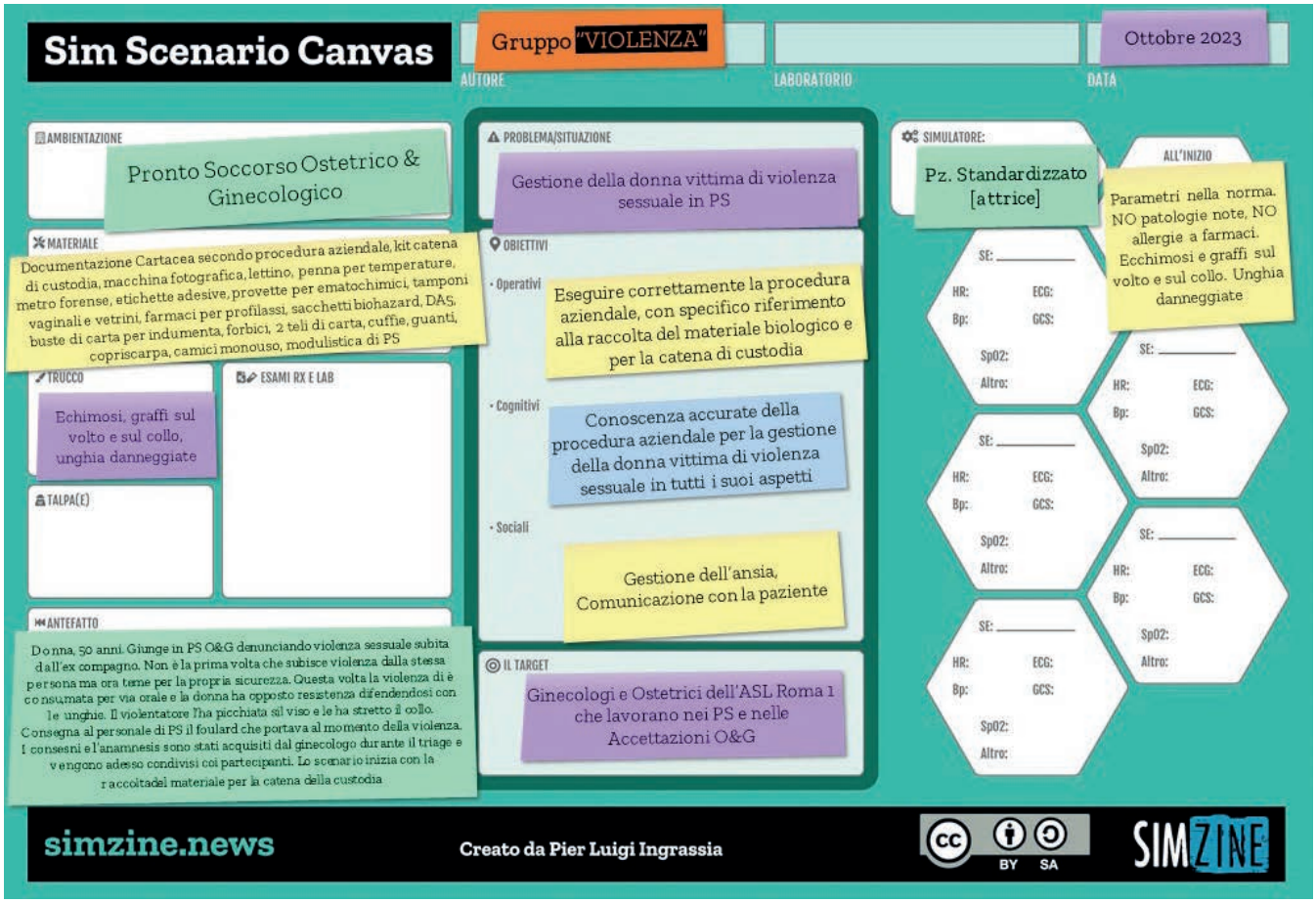
# L'assistenza alle vittime di violenza sessuale: l'esperienza pilota dell'ASL Roma1

https://doi.org/10.69079/simzine.H24.n14.00018

**Scopri come l'ASL Roma 1 utilizza la simulazione di violenza sulle donne nel pronto soccorso ostetrico-ginecologico per migliorare l'assistenza alle vittime. Questa esperienza pilota sottolinea l'importanza della formazione basata sulla simulazione per preparare i professionisti sanitari ad affrontare con competenza e sensibilità casi di violenza sessuale. Un approccio innovativo che mira a ridurre l'impatto della violenza di genere e a offrire un sostegno efficace alle donne in situazioni di emergenza**

## La violenza sulle donne: un fenomeno endemico e dilagante

L'Organizzazione Mondiale della Sanità (OMS) riferisce che, a livello globale, circa un terzo di tutte le donne ha subito violenza fisica o sessuale da parte del partner o di altri nel corso della propria vita. Questi atti di violenza sono i principali responsabili di tutta una serie di problemi di salute che le donne devono affrontare, quali ad esempio lesioni fisiche, gravidanze indesiderate, problemi ginecologici e infezioni trasmesse per via sessuale, tra cui l'HIV (WHO, 2021). In Italia i dati dell'Istituto Nazionale di Statistica (ISTAT, 2023) informano che il 31,5% delle donne tra 16 e 70 anni ha subito nel corso della propria vita una qualche forma di violenza e, di queste, il 21% violenza sessuale. Un fenomeno endemico e dilagante. La normativa emanata negli ultimi anni mira a rafforzare un approccio di sistema integrando gli interventi non in emergenza, affidati al territorio, e gli interventi in emergenza, ad appannaggio dell'ospedale e in particolare del pronto soccorso. Un sistema complesso che prevede la segnalazione e documentazione a livello nazionale ma che non può prescindere dall'assistenza alla singola donna in accordo con le linee guida nazionali per il soccorso alle vittime di violenza del 24 novembre 2017 (DPCM 2017). La gestione della donna vittima di violenza sessuale in emergenza è un



percorso articolato e delicato, per i risvolti psicologici, emotivi, clinici e giudiziari in relazione alla corretta raccolta delle tracce biologiche e del materiale fotografico a supporto, nonché della valutazione del rischio di "revittimizzazione". Ai sensi delle linee guida nazionali del 2017, ogni pronto soccorso deve essere in grado di garantire la corretta assistenza alle donne vittime di violenza. Le citate Linee Guida, all'allegato inerente la formazione professionale, raccomandano una strategia integrata e prevedono di avvalersi anche della simulazione di casi clinici. La simulazione gioca, quindi, un ruolo rilevante non solo nell'acquisizione ma anche nel mantenimento delle conoscenze e delle competenze dei professionisti. In assenza di realtà che utilizzino soluzioni organizzative come team dedicati o case manager, qualunque professionista in turno potrebbe trovarsi a dover gestire una donna vittima di un episodio di violenza, avendo solo conoscenze teoriche e senza aver mai lavorato in affiancamento ad un collega più esperto. In questo contesto è stato proposto un percorso formativo per la gestione della vittima di violenza sessuale in pronto soccorso mediante simulazione.

## Efficacia della Simulazione nella Prevenzione e Gestione della Violenza sulle Donne

La simulazione è una risorsa strategica per l'assistenza in pronto soccorso alla donna vittima di violenza sessuale. Nel 2021 Polonko I. pubblica un articolo su IJoHS in cui descrive l'uso della simulazione con pazienti simulati nella formazione dei team sanitari multiprofessionali di gestione delle pazienti vittime di violenza. In particolare, i risultati dimostrano l'efficacia della metodologia nel ridurre l'ansia del personale in training e nel migliorare l'assistenza. Sempre lo stesso anno Pinar G (2021) pubblica un articolo in cui dimostra che incorporare la simulazione in un'ampia iniziativa di screening della violenza domestica (DV) è una strategia efficace per la prevenzione della DV, raccomandando che la formazione continua basata sulla simulazione dovrebbe essere adottata come pratica standard nelle cliniche sanitarie.

## Simulazione nella Formazione sulla Violenza sulle Donne: il Caso dell'ASL Roma 1

L'iniziativa formativa da noi realizzata è stata preceduta da una giornata di confronto fra debriefers e facilitatori per progettare gli scenari. Lo strumento Sim Scenario Canvas è stato utilizzato per la progettazione e lo sviluppo degli scenari di simulazione facilitando la collaborazione tra professionisti diversi nell'applicazione della procedura aziendale, oggetto della giornata formativa.

La giornata di formazione è iniziata con un momento di discussione plenaria in cui sono stati condivisi i concetti teorici sull'argomento e in cui sono state riviste le fasi dell'accoglienza della donna vittima di violenza sessuale in pronto soccorso ostetrico-ginecologico, identificando i punti di forza e di debolezza della procedura. Dopo avere familiarizzato con l'ambiente di simulazione, i discenti sono stati esposti ad uno scenario clinico di simulazione di equipe con paziente standardizzato, ossia un'attrice opportunamente addestrata. Lo scenario ha permesso ai discenti di vivere una situazione realistica e di mettere in gioco le proprie conoscenze tecniche e le abilità comunicative sia con la vittima che all'interno del team. È stato inoltre applicato lo scambio di ruolo professionale per migliorare la consapevolezza del ruolo dei colleghi, delle loro priorità e del loro modo di agire. Nel debriefing, che ha seguito lo scenario, i discenti hanno riflettuto sulle loro azioni ed emozioni, stimolando la consapevolezza sulle loro conoscenze e abilità e sugli aspetti da approfondire e migliorare. In particolare è emersa la necessità di sviluppare strategie comunicative adeguate alla gestione di questo tipo di pazienti e controllare le ricadute emozionali, in relazione al rapporto con la vittima. Il contatto visivo, la vicinanza, il tono della voce, l'accoglienza, la necessità di dedicare tempo sono stati aspetti vissuti nell'esperienza di simulazione e successivamente condivisi ed ampliati nella fase di riflessione critica. La scelta dello scambio di ruoli attribuito ai partecipanti durante lo scenario è stata particolarmente apprezzata: "interpretare un ruolo professionale differente da quello reale...

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SIMREVIEW

# SimX: the VR software to innovate simulation

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**SimX is virtual reality software that offers immersive simulations for healthcare workers and military personnel. It allows multiplayer sessions, customizable scenarios, and remote training. Read the review by Gianluca Nepi (VR specialist) and Pierangelo Pinetti (simulation facilitator) to discover the pros and cons of this innovative tool**

## The Software

SimX is a product that uses virtual reality to enable multiplayer immersive simulation sessions in a VR environment by going to complement and supplement simulation-based education. The software runs on virtual reality headsets to recreate scenarios where healthcare workers, paramedics, first responders and even military medical responders are required.
SimX allows users to fully immerse themselves in the operational context, using medical devices normally adopted in different hospital and first aid settings. The possibility of using virtual reality, enables healthcare workers to realistically experience the "human presence" of patients and colleagues, activating the emotional and relational components as well as acting in their specific roles, sharing tasks and procedures.
The exercise is run with a moderator app with educational tutoring functions (lecturer or expert). The tutor is able to supplement the various activities that users can perform with direct interventions in addition to continuous monitoring of the vital status of virtual patients.
The platform significantly reduces maintenance and equipment costs by requiring less time to set up, especially for all those complex scenarios to be conjured in the real environment, such as, for example, maxi emergency, impervious environment, or prehospital scenarios.

## Multiplayer Training

SimX allows virtual scenarios to be simulated in multiplayer mode involving an unlimited number of users simultaneously. The ability to practice in teams triggers a learning mode that revolves around cooperative learning. Students practice with structured clinical cases with clear learning objectives helping each other by emphasizing the individual responsibility system.
Through remote connection, simulation sessions can be brought to life with users connected from multiple parts of the world, relocating training and overcoming geographical barriers.

## The "Virtual Manikin" scenario

It is worth mentioning the advanced "Virtual Manikin" case creator series which SimX is developing . In the Virtual Manikin series, users can choose different adult and pediatric patient avatars and environments (such as hospitals or ambulances).The 'Virtual Manikin' series allows the creation of fully customisable presets that can act on a wide range of medical conditions, such as respiratory diseases, chest pains, skin reactions. Scenarios can be saved and reused, improving teaching efficiency through rapid repetition.

## The SimX Marketplace

The SimX Marketplace is currently the largest available library of virtual reality simulated patient scenarios for medical education. The marketplace hosts more than 250 customized scenarios, covering a wide range of specialties and clinical situations, including emergency cases, internal medicine, pediatrics, and many others. The scenarios are created in collaboration with renowned institutions such as ELSEVIER, Air Methods, UPenn, NYU, and the US Department of Defense. Users interested in purchasing the software can search for scenarios based on learning objectives, medical specialty, or author, and build a custom case library that meets their specific learning needs. SimX also allows users to create custom scenarios in collaboration with their team, which can then be shared on the marketplace, also generating financial returns for authors.

### Pros

- Good team and social skills training
- Good medical procedural skills training
- Complete immersion in the scenario for headset users
- Real and realistic use of devices
- Fun for those who use it

### Cons

- Continuous software updates
- Need for adequate space for each scenario
- The cases that are purchased are not categorized by specialty, but in alphabetical order
- Case descriptions are sometimes not comprehensive, and the instructor needs to "try" the case in order to know it and use it effectively
- Poor involvement of observers (those not wearing headsets)
- To some people looking at a screen scenario causes discomfort
- English language only

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SIM NURSE

# The Road to Quality Simulation: Endorsement by INACSL

https://doi.org/10.69079/simzine.H24.n14.00016

**The International Nursing Association for Clinical Simulation and Learning (INACSL) advances innovative clinical simulation in nursing education to improve patient outcomes. Their Healthcare Simulation Standards Endorsement™ program promotes high-quality simulation practices globally, recognizing disparities in resources. Read the article to learn more**

The International Nursing Association for Clinical Simulation and Learning (INACSL) is committed to advancing the research and implementation of innovative clinical simulation methodologies and technologies in nursing education. INACSL aims to enhance patient outcomes through high-quality simulations that improve education, research, and practice. As a leader in promoting global excellence in simulation-based learning, INACSL envisions leading the global community in transforming practice to improve patient safety and healthcare simulation excellence. A recent initiative by INACSL to support quality simulation is the Healthcare Simulation Standards Endorsement™ program.

INACSL established the **Healthcare Simulation Standards Endorsement™** program to promote excellence in simulation-based education worldwide. This initiative recognizes the disparities in resources among different simulation programs and aims to showcase high-quality practices regardless of an institution's size or resources. In 2021, INACSL formed a workgroup with a diverse community of practice to define quality simulation, identifying the cornerstones of quality simulation. Prebriefing: Preparation and Briefing, Facilitation, Professional Integrity, and Debriefing—as the foundation of the endorsement program. This program emphasizes inclusivity and equitable recognition of simulation excellence.

The endorsement initiative supports quality simulation practices across all levels of healthcare education, from well-resourced, large-scale simulation centers to smaller, underfunded programs. Since the standards apply to all simulations, endorsement is available globally to all healthcare simulation programs. By focusing on essential standards for effective simulation, the program seeks to level the playing field and motivate all institutions to pursue excellence in simulation.

The inclusive nature of this program underlines that high-quality simulation relies on adhering to best practices and standards that foster meaningful learning experiences. It encourages educational programs to concentrate on core elements, ensuring students access top-tier simulation education that prepares them for healthcare realities. To date, there are over 36 programs endorsed globally.

The endorsement benefits learners by learning in a simulation program that applies the standards to each simulation experience. Faculty members gain from a structured framework that supports effective education delivery and professional development. The broader simulation community benefits from a commitment to excellence and continuous improvement, establishing a quality benchmark and fostering the adoption of evidence-based practices and innovative technologies.

Additionally, the endorsement promotes interprofessional collaboration by recognizing various simulation-based experiences such...

as high fidelity, simulated participants, and virtual simulation, ...

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