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Multicultural Spanish adaptation of the Global Consensus Statement on Simulation-Based Practice in Healthcare

Adaptación multicultural al español del Consenso Mundial sobre Simulación Sanitaria

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Abstract

What do we know about this issue?

- A Global Consensus has been created that addresses terminology and guidance for simulation-based practice in healthcare.
- The Global Consensus is important for advancing a culture of patient safety.
- It is important to have versions of the Consensus available in Spanish.

How does this study contribute?

This study contributes to achieving the dissemination goals of the Consensus and the unification of terminology through a collaborative translation and adaptation process of the original work into neutral and culturally sensitive Spanish.

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Introduction: The recent creation of a Global Consensus Statement on simulation-based practice has provided the international community with a shared framework, albeit originally written in English. A translated and culturally adapted version in Spanish, accounting for the diverse uses of the language, was essential.

Objective: To produce a culturally appropriate translation into Latin American Spanish through a consensus of bilingual experts from multiple countries.

Methods: Formal authorization was obtained from the authors of the original article. A team of four simulation experts from Argentina, Chile, Colombia, and Spain, along with two bilingual experts residing in Wales and England, was assembled. An initial draft was generated using generative artificial intelligence. This was followed by iterative and collaborative human revisions, considering potential meanings, usage, interpretations, and linguistic appropriateness, until the final version was completed.

Results: The document summarizes the current state of simulation practice, global challenges and ethical considerations for its implementation, as well as areas of interest for developing recommendations. It concludes with nine key strategies for effective simulation implementation and a call to action with specific guidance for organizational leaders, healthcare systems, educational institutions, and simulation practitioners.

Conclusions: This Global Consensus provides essential guidance for simulation practice in Spanish-speaking countries.

Keywords: Simulation training; Patient safety; Quality of health care; Quality assurance, Health care; Health equity; Organizational culture; Competency-based education; Professional competence.

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Resumen

Introducción: La reciente creación de un Consenso Global para la práctica de la simulación ha ofrecido a toda la comunidad internacional un enfoque común, aunque redactado en inglés. Contar con un texto traducido y adaptado al español, contemplando la diversidad del uso de nuestra lengua, era indispensable.

Objetivo: Realizar una traducción culturalmente pertinente al español hispanoamericano, mediante un consenso de expertos bilingües y de varios países.

Métodos: Se obtuvo autorización formal de los autores del artículo original. Se conformó un equipo de cuatro expertos en simulación de Argentina, Chile, Colombia y España, junto a dos expertos bilingües residentes en Gales e Inglaterra. Inicialmente, se elaboró un primer borrador de traducción usando inteligencia artificial generativa. Posteriormente, considerando los posibles significados, utilización, interpretaciones y pertinencia lingüística, se realizaron revisiones iterativas y colaborativas hasta generar el documento definitivo.

Resultados: El documento resume el estado actual de la práctica de simulación, los desafíos globales y las consideraciones éticas para su implementación, y las áreas de interés para la generación de recomendaciones. El documento concluye con la recomendación de nueve estrategias clave para la implementación de la simulación efectiva, y con un llamado a la acción con indicaciones específicas para los líderes de las organizaciones, para los sistemas de atención sanitaria, para las instituciones educativas de salud y para los practicantes de simulación.

Conclusiones: Este Consenso Global aporta información fundamental para guiar la práctica de simulación en países de habla hispana.

Palabras clave: Entrenamiento simulado; Seguridad del paciente; Calidad de la atención de salud; Garantía de la calidad de atención de salud; Equidad en salud; Cultura organizacional; Educación basada en competencias; Competencia profesional.

INTRODUCTION

The publication of the Global Consensus on Simulation is a crucial step forward in advancing the culture of patient safety, jointly promoted by simulation societies (1–4).

Disseminating the Consensus and adhering to its agreements are important steps that require the text to be presented in culturally appropriate language. In the case of Spanish, care must be taken to ensure that it is representative of the diverse linguistic expressions of the language in countries where it is spoken as an official language.

Those responsible for drafting reference documents, both in academic and clinical settings, must consider terminological diversity and aim for the clearest possible writing. It is necessary to disseminate, share, and engage public and private institutions, individuals, and societies in promoting this Consensus, thereby consolidating the use of a common vocabulary regarding simulation practice.

This need motivated the International Committee for Scientific Collaboration among Simulation Societies (Comité

Internacional de Colaboración Científica entre Asociaciones de Simulación (CICCAS)) to contribute to the dissemination goals of the Consensus and the unification of terminology through a collaborative translation and adaptation process of the original work into neutral and culturally sensitive Spanish.

METHOD

The first step in the translation process was to request formal authorization from the authors of the article “Global consensus statement on simulation-based practice in healthcare” (1–4). A team comprising four experts from Argentina, Chile, Colombia, and Spain was established, all of whom are leaders of Spanish-speaking simulation societies (Sociedad Argentina de Simulación en Ciencias de la Salud y Seguridad del Paciente (SASIM), Sociedad Chilena de Simulación Clínica y Seguridad del Paciente (SOCHISIM), Federación Latinoamericana de Simulación Clínica y Seguridad del Paciente (FLASIC), and Sociedad Española de Simulación y

Seguridad del Paciente (SESSEP)). Two bilingual healthcare professionals and simulation educators residing in Wales and England were also included, representing the Association for Simulated Practice in Healthcare (ASPIH) and the Society for Simulation in Europe (SESAM), who were entrusted with the task of verifying the original meaning against the neutral Spanish translation.

Initially, generative artificial intelligence (ChatGPT 4.0) was used to produce a first draft translation into neutral Spanish, followed by a second step of multicultural human verification and adaptation to ensure that the translation adhered to the specific meanings used in healthcare and simulation for clinical professions. (5) Each term or expression was collaboratively reviewed during virtual meetings, where its meaning, usage, possible interpretations, and linguistic appropriateness were discussed in the context of different countries or regions. In cases where differences were identified, the team members reached a consensus on a single expression, including in the discussions any particular relevant characteristics, based on the

contributions, knowledge, and experience of the representatives from each country. The results were coherently compiled into tables within the text. One of the original authors reviewed the full text and tables prior to submission for publication to ensure internal consistency.

RESULTS

Spanish version of the Global Consensus Statement on Simulation-Based Practice in Healthcare

Simulation plays a fundamental role in addressing universal challenges in healthcare by reducing educational disparities and improving mortality, morbidity, and patient experiences. It also enhances healthcare processes and systems, playing a vital role in fostering a culture of safety within both educational and healthcare institutions. Simulation has proven to be cost-effective and successful in improving team performance, fostering workforce resilience, and enhancing patient outcomes.

Through an international collaborative effort, an iterative consultation process was conducted with 50 societies operating in 67 countries across six continents. This process revealed common challenges in healthcare and in the global use of simulation. The target audience for this statement includes policymakers, healthcare and educational organizations leaders, and simulation professionals. The goal was to build consensus on critical priorities to support the global implementation of exemplary simulation practices that enhance outcomes for patients and healthcare professionals alike.

Key recommendations

It is essential to promote the benefits that simulation offers to patients, healthcare personnel, and organizations, as well as to encourage its adoption and integration into daily learning and practice across the healthcare spectrum. Low-cost, high-

impact simulation methods should be leveraged to expand global access, integrating them into system improvement processes and into undergraduate and postgraduate curricula. Institutional and governmental support is crucial, requiring a unified and coordinated approach in terms of political, strategic, and economic commitment.

It is mandatory that simulation be used appropriately, using evidence-based approaches that ensure quality and adhere to recognized standards of best practice. These standards include faculty development, activity evaluation, center and program accreditation, and multiprofessional individual certification.

Equitable and sustainable access to high-quality, contextually relevant simulation-based learning opportunities should be strongly promoted, firmly upholding the principles of equity, diversity, and inclusion. This must be complemented by a renewed emphasis on research, together with the advancement and dissemination of knowledge in this field.

Call to action

We encourage policymakers and other leaders to formally recognize and adopt the benefits of simulation in healthcare practice and education. This includes a commitment to ongoing support and the development of guidelines for the implementation of simulation in both educational and clinical settings.

We recommend that healthcare systems and educational institutions align their efforts toward the delivery of high-quality care and the continuous improvement of patient outcomes. This commitment should encompass the promotion and allocation of resources to create simulation-based learning opportunities aligned with best practice standards, targeting both individuals and interdisciplinary teams across all stages of workforce development and advancement.

We invite healthcare simulation professionals to champion this strategy as an indispensable learning tool, adopting best practice standards, maintaining a

relentless commitment to learning, and to continue passionately advocating for patient safety.

This statement, the result of an international collaborative effort, aims to establish consensus on key priorities for the widespread adoption of exemplary simulation practice that benefits patients and healthcare personnel worldwide.

Introduction

Healthcare simulation is defined as: "A technique that creates a situation or environment to allow persons to experience a representation of a real health care event for the purpose of practice, learning, evaluation, testing, or to gain understanding of systems or human actions". (6) Beyond its use in education and continuing professional development, it plays a fundamental role in optimizing healthcare systems, thereby improving medical care, promoting staff well-being, and enhancing patient safety and outcomes. (7,8)

Knowledge exchange and interaction dynamics within healthcare communities have evolved significantly in recent years, driven by exponential access to virtual platforms. (9) This transformation has increased the visibility of the various modalities and uses of simulation in the global healthcare context. It highlights the need for a unified global stance on needs, solutions, and priorities. The consensus process enabled the consideration of key variations in simulation contexts and applications, ultimately facilitating a global agreement on the path forward. (10)

This collaboration, facilitated by the Society for Simulation in Europe (SESAM) and the Society for Simulation in Healthcare (SSH), aims to present a global perspective on the current scope of simulation-based practice and to reach consensus on its future direction. It emphasizes the crucial role of simulation in improving healthcare and education, as well as its extraordinarily broad impact. The resulting recommendations are intended to promote the widespread adoption of simulation practices for the benefit of patients and

healthcare personnel globally. This valuable information is addressed to policymakers, leaders of healthcare organizations, health education institutions, and simulation professionals.

This global outlook has been rigorously developed through an extensive and iterative consultation process. Representatives from 50 national and international simulation societies and networks, spanning 67 countries, actively participated in this collaborative effort. The topics selected for discussion included critical challenges in healthcare, the current landscape of simulation use, and its ethical considerations. Prior to virtual meetings, relevant questions were sent via email, and initial input was provided during structured videoconference sessions held in November 2023. All individual contributions were inclusively compiled through an implicit approach, and emerging themes were summarized in narrative statements and tables.

Consensus on the identified topics was reached during in-person meetings held in January 2024. Subsequently, key areas were prioritized through an online survey. The initial draft of this document, produced in February 2024, was shared with all collaborators for peer review. Of the 24 responses received, each comment was carefully considered and significantly contributed to the final version of the document.

Current state of simulation-based practice in healthcare

Simulation is applied across the full spectrum of healthcare, encompassing all clinical disciplines and related professions, including dentistry, mental health, and social care. In this context, simulation-based practice is used for both educational and non-educational purposes. It includes activities such as evaluation and analysis of devices, processes, and systems, systems integration, quality improvement, research, and the development of innovations. (7,8) Contributions gathered during the consultation highlighted that simulation can complement therapeutic interventions.

It is currently used in various contexts, such as surgical planning for complex procedures in specific cases, supporting pain management during childbirth, aiding cognitive-behavioral therapy in mental health settings, and facilitating the development of social skills in patients with autism.

Additionally, there has been exponential integration of simulation approaches into quality improvement and patient safety initiatives at the team, departmental, and organizational levels.

It should be highlighted that simulation transcends the boundaries of healthcare systems. It has become an excellent tool for public engagement and plays a crucial role in preparing inter-agency teams for disaster management.

The value of simulation in healthcare is enormous and encompasses a wide range of tools and practices. These include, but are not limited to, task trainers, patient simulators (i.e., manikins), cadaveric simulation, and standardized patients or simulated participants representing patients, family members, healthcare staff, and other individuals. This approach also includes telesimulation, computer-based simulation, tabletop exercises, data modeling, and extended realities such as augmented reality, virtual reality, mixed reality, and haptic feedback models. As a community of practice, we provide unique opportunities to learn, practice, and enhance the broad range of skills required to care for all patients—from performing simple procedures to managing rare and potentially life-threatening situations. We foster the development of patient-centered communication skills, situational awareness, decision-making, teamwork, leadership, and other essential professional behaviors. We continue to innovate and adapt, developing new initiatives that respond to emerging needs, such as distributing simulation materials to students to support remote learning during the COVID-19 pandemic. Similarly, this creativity is vital for supporting health learning in resource-limited and rural settings, leading to the growing use of telesimulation and preplanned portable simulation equipment (pack-and-go).

Contributions received during the consultation process highlighted the universal challenge of inequalities in access to simulation education and resources across geographic areas and socioeconomic contexts, as well as among different institutions and specialties. Various professions continue to learn in isolated silos, with insufficient opportunities for interprofessional education, particularly in clinical settings. These inequities result in uneven competency development and are present at both undergraduate and postgraduate levels, revealing an urgent need to integrate simulation into health curricula and daily learning opportunities within healthcare organizations.

Additional challenges identified include poor standardization of simulation training programs and a lack of adequate quality assurance, particularly regarding educator development and assessment. Following the impact of the COVID-19 pandemic, a new challenge has emerged in student development. Not only have students experienced reduced exposure to clinical environments, but also to in-person simulation. Consequently, they may now perceive immersive environments as more intimidating during their initial experiences.

Nonetheless, simulation offers global opportunities to facilitate the development of healthcare skills, contributing for instance to prepare healthcare professionals when joining the workforce. Additionally, simulation helps to mitigate the decline in skills, especially in the context of high-risk, low-frequency situations, such as administering cardiopulmonary resuscitation by healthcare providers or bystanders.

Overcoming healthcare challenges

The consultation process identified relevant global challenges in healthcare (Table 1). These challenges include significant inequalities in access to healthcare and safety culture, including education and training of healthcare professionals at both undergraduate and postgraduate levels. Economic constraints

Table 1. Global healthcare challenges identified during the consensus consultation phase.

Theme	Subtheme	Challenges
Healthcare systems	System design	Endemic and social issues affecting healthcare systems. Short-term workforce planning. Insufficient staff for patient volume and care demands. Political pressures.
	Healthcare distribution	Major global inequalities in healthcare quality and access to professional training. Variability in patient care distribution across hospitals, primary care, and rural medicine. Redistribution of social care resources also affecting social support. Primary and community care overwhelmed by demand. Increased referrals from primary care to specialized hospitals. Lack of patient-centered collaboration between community health services and hospitals.
	Demand on healthcare services	Long waiting lists and extended emergency department waiting times. Hospitals continuously operating at capacity involve risks for patients. Long waiting times for pediatric and young adult mental health diagnoses. General increase in mental health issues, especially post-COVID-19. Need for well-being support for geriatric and youth populations. Increased case complexity. Additional burden from: -Non-communicable chronic diseases. -Infectious diseases in tropical or unsanitary areas. -Trauma from violence or accidents. -Polytrauma and mass casualty victims.
	Funding	Unequal budget distribution across care areas. Budget limitations and cuts. Economic constraints affecting continuing education, particularly interprofessional education. -Inadequate preparation of non-professional health workers. -Insufficient funding for simulation programs. -Sustainability of simulation programs.
	Institutional culture and leadership	Inadequate leadership. Little interest in promoting excellence aligned with standards. Political pressures affecting priority setting. Insufficient investment in continuing education for healthcare staff. Low priority given to educational activities. Little support for neurodivergent staff.
	Safety culture	Blame culture. Discrepancies between work as imagined and work as done. Patient safety deficiencies.
	Education	Few opportunities for interprofessional education in healthcare settings. Lack of time for staff to attend clinical simulation sessions. Insufficient recognition of simulation's value. Lack of career pathways for simulation staff. Shortage of simulation instructors in clinical settings. Insufficient training positions. In some areas, low patient volume may be inadequate to maintain clinical competencies. Decreased training opportunities in real clinical settings at both undergraduate and postgraduate levels.
	Technology	Transformative consequences for the future of healthcare. Lack of regulation for its introduction into healthcare systems. Variable tech skills within the workforce. Slow adoption curve for changes and technologies in healthcare systems. Need for innovative methods for data management and interpretation, including modeling, analysis, and simulation.

Theme	Subtheme	Challenges
Workforce	Workload and recruitment	Significant salary disparities. Low wages, low morale, insufficient study leave. Healthcare professions increasingly undervalued by society. Work-life imbalance. Professionals using unpaid time for teaching and training. Inadequate preparation of new healthcare professionals for real-life work. Workplace violence.
	Staff availability	Recruitment and retention difficulties. Staff reassignment to different care areas. International impact of healthcare professional migration (emigration leads to brain drain, immigration requires credentialing and adaptation). Aging workforce.
	Clinical practice	Changes in the scope of healthcare practice. Defensive practice. Inadequate skills for managing interruptions, which may lead to errors. Limited exposure to healthcare settings during the pandemic, affecting clinical competencies. Differences in communication, knowledge application, and practice across healthcare settings.
Patients	Demographics	Aging population, increasing social and healthcare needs. Multicultural contexts, ethnic differences, and marked disparities in health across population groups. Socioeconomic differences and their impact. Geographic-based inequalities.
	Interaction with services	Changing expectations. Patient empowerment: involvement in decision-making, access to medical records and results.
	Outcomes	High mortality and morbidity rates. Maternal and perinatal morbidity. Socially excluded young adults (unemployed, out of education, etc.). Litigation related to medical errors, injuries, or iatrogenic complications.

Source: Adapted by the authors from [\(1\)](#).

contribute to disparities in healthcare and education, with low-income countries experiencing the most pronounced effects. The consequences of underfunding and inadequate resource allocation impact healthcare culture and systems, limiting the incorporation of new skills and the continuing education of healthcare personnel and teams. Ultimately, these challenges negatively affect the workforce, patients, and society at large.

Simulation plays a fundamental role in overcoming these challenges. For example, it has been shown that simulation positively impacts the reduction of educational disparities, leading to decreased mortality and morbidity in low-resource settings. [\(11,12\)](#), while also promoting improved

patient experience. [\(13\)](#) Simulation interventions contribute to optimize healthcare processes and systems, and the institutional culture of safety. [\(14–16\)](#) They have been proven to be cost-effective and successful in improving team performance [\(17\)](#), while also fostering workforce well-being and resilience. [\(18,19\)](#) Undeniably, simulation enhances healthcare practices, for instance reducing infection rates and improving patient outcomes associated with the insertion of central venous catheters. [\(20,21\)](#)

Simulation can facilitate adaptation to the increasingly demanding healthcare systems; for example, by preparing healthcare personnel to manage complexity [\(22\)](#) and encouraging the development of skills in healthcare practitioners and

social workers caring for the elderly. [\(23\)](#) It also improves team performance when managing multiple trauma victims and mass casualty incidents. [\(24,25\)](#)

Other recent challenges include the ongoing transformation of healthcare practice and education as a result of technological developments. Although the regulatory framework for the introduction of such IT developments is limited, usually the development of digital skills by the workforce is often lagging behind, affecting the adoption curve of technological changes in healthcare settings. Nevertheless, managing and interpreting the growing volume of healthcare data requires innovative methods, including modeling, analysis, and simulation. [\(25\)](#)

Ethical considerations

Ethical considerations focus on issues that may be interpreted as “morally right or wrong, fair or unfair”. (26) These considerations help ensure that all individuals involved in healthcare simulation are treated—and treat others—with integrity, respect, empathy, and compassion.

The consultation process revealed a wide range of ethical considerations important to the global patient care community (Table 2). A fundamental requirement is to promote equitable access to high-quality healthcare, including dental care, mental health, and social care. Simulation supports the development and refinement of care skills, which are essential for all professionals to deliver the excellent care every patient deserves. Therefore, global availability of access to healthcare simulation is an ethical imperative. At the same time, opportunities for faculty development in simulation must be identified globally, taking into account affordability in low-resource settings.

As with all tools, medications, and interventions relevant to healthcare, simulation related to clinical practice must be used ethically. This includes commitment to and adherence to generally accepted guidelines and standards, such as those produced by the International Nursing Association of Clinical Simulation and Learning (INACSL), the Association for Simulated Practice in Healthcare (ASPiH), and the Association of Standardized Patient Educators (ASPE), as well as the Healthcare Simulationist Code of Ethics. (27–30)

It is essential to encourage, promote, and share a safety culture mindset, ensuring the psychological and physical safety of all participants, protecting personal and patient information, and eliminating “blame and shame” feedback from education and clinical practice. (28) Moreover, participants in experiential learning activities must be supported with integrity and transparency, and in accordance with best practice standards. (30)

The principles of diversity, equity, inclusion, and accessibility are essential in simulation and in healthcare practice.

Table 2. Ethical considerations in healthcare simulation provided during the consultation process.

Theme	Consideraciones
Equity of access	High-quality healthcare (including dental care, mental health, and social care) must be universally accessible. – Global burnout among healthcare personnel. – Support for staff in distress. Equitable access to education. – Identifying educational needs: “Students don’t know what they don’t know.” – Prioritizing the investment of time and personnel needed for educational activities. – Cost of training and availability of resources. – Identifying methods for sharing resources (e.g., faculty exchanges or transporting simulation equipment). – Affordability of faculty development in low-resource settings. – Fair pricing for access to international resources.
Safety culture	Psychological and physical safety of both participants and patients. – Weighing participant and patient safety when “red flags” are identified. Protection of confidential patient information. Psychological safety during debriefing. – Fostered through faculty training. – Confidentiality. – Support for participant vulnerabilities. Avoidance of a “blame and shame” culture in both simulation and healthcare settings.
Attention to diversity, equity, and inclusion (considering differences in gender, age, ethnicity, disability, sexual orientation, and neurodiversity, among others).	Cultural differences. Siloed practices (isolation by profession and group). Multicultural societies. Complex cultural diversity within the same area. Ethnic minorities. Equitable collaboration among: – Healthcare professionals. – First responders and care providers. – National and international collaborations.
Emerging technologies	Use of new technologies and benefit versus risk assessment: – Digital twins. – Computer modeling and data generation to support research and analysis – AI as a facilitator for managing complex tasks.
Sustainability	Carbon footprint of simulation. Sustainability of the workforce in education and healthcare. Sustainability of simulation programs.

Source: Adapted by the authors from (1).

(31) By intentionally integrating these principles, a more culturally competent and responsive environment develops. Teams, institutions, and other healthcare settings must actively manage complex cultural relationships. Furthermore, it is crucial to foster equitable collaborations at all levels of care and education.

While the incorporation of advanced technologies in healthcare simulation is valuable, it is equally important to proceed with caution. These innovations should be carefully implemented and evaluated to minimize potential unintended negative outcomes in learning. We all share a collective responsibility as stewards of the planet; it is then imperative to encourage a shared mindset of sustainability and conservation. (32)

RECOMMENDATIONS

The global consultation process has generated several key themes for the development of recommendations (Table 3). The following recommendations are intended to provide guidance and direction to simulation professionals, healthcare systems, health education institutions, and global leaders.

It is essential to disseminate the benefits that simulation brings to patients, healthcare personnel, and organizations. Promoting its adoption and integration into daily learning and practice across the entire spectrum of healthcare is critical. In addition to improving the performance of care providers and healthcare teams,

simulation has the potential to empower patients by offering new perspectives and fostering a sense of responsibility and positive behaviors, ultimately leading to better care outcomes.

Institutional and governmental political, strategic, and economic support is vital. These coordinated efforts and commitments are necessary to ensure the sustainability of simulation facilities, programs, and the required workforce.

An increased awareness of low-cost, high-impact simulation methods can help expand their educational use throughout the entire training and professional life of healthcare workers. These approaches can be transformative, particularly in interprofessional learning contexts. Furthermore, the integration

Table 3. Thematic priorities emerging from the consultation process to inform recommendations.

Theme	Considerations
Adoption in daily learning and practice	Promote the use of simulation in patient safety initiatives. Encourage institutional use of simulation to improve adaptability to new challenges, productivity, and burnout prevention. Promote the “return on experience investment”: highlighting the value of well-trained healthcare providers. Low-cost simulation options can provide optimal and accessible learning experiences. Encourage the use of simulation throughout the entire training and continuing education of healthcare personnel. Facilitation skills required for simulation can support training in any setting. Emphasize the need for interprofessional education and team training. Prioritize participant and patient safety. Disseminate knowledge in simulation methodology. Encourage and participate in collaborative projects.
Integration into curricula	Harmonization between undergraduate and postgraduate simulation programs. Development of interprofessional learning opportunities. Integration of simulation into educational programs should follow a collaborative, prudent approach based on best practice standards. Simulation programs should be aligned.
Quality assurance (QA)	Simulation only works well if used correctly: promote and develop best practice standards. Faculty training is crucial. Evaluate all simulation activities. Promote inclusion of the patient's perspective. Incorporate risk assessment into simulation-based practice. Evaluation and certification of simulation devices. Consider quality assurance during the development and early adoption of emerging technologies. Quality assurance is the responsibility of all simulation practitioners, managers, healthcare and education organizations, and policymakers. Develop internationally agreed frameworks to assess sociocognitive skills. Develop and adopt practical, standardized tools for quality assurance. Develop quality assurance approaches for accreditation and credentialing.

Theme	Considerations
Equitable access	Simulation-based learning opportunities must be high-quality, equitably accessible, and appropriate for the particular context and learning need. High-impact, low-cost simulations and telesimulation can facilitate access: -Across the full spectrum of professions and practices. -In low-income areas. -In rural or remote settings. Develop outreach programs. Facilitate participation of individuals from low-income areas in international learning events. Commitment to equity, diversity, and inclusion both within and through simulation.
Promotion of research and academic knowledge	Promote simulation-based research focused on patient outcomes. Curricular alignment of simulation could facilitate educational research.
Collaboration	Collaborate with patient safety associations or quality improvement institutions and agencies. Foster professional networks.
Social expectations	Be mindful of recognizing desirable and misleading social expectations: “Your first attempt should never be on a real patient.” “All healthcare workers should be experts.” “Failure is not an option.” Pressure for perfect performance. Public engagement initiatives: -Simulation's potential to help shift patient perspectives, responsibility, and behavior. -Share what we do daily with the public.
Sustainability	Environmental sustainability of simulation facilities, considering infrastructure design, use and reuse of resources, use of eco-friendly materials, and awareness of carbon footprint. -Telesimulation and telemedicine may help to lower our carbon footprint. -Sustainability of high-quality simulation programs, simulation staff, and the global healthcare workforce.
Key enablers required to realize these objectives	Political and strategic support. Practical support, including staff hiring and other resources. Societies. Networks.
Policy elements	At the institutional and government level. Proper prioritization of investment in educational resources (prioritize people over technology). Support the sustainability of simulation facilities and programs. Explicit guidance for replacing clinical practice with simulation (specifying desirable ratios and quality assurance standards).

Source: Adapted by the authors from (1).

of simulation into both healthcare system improvement processes and undergraduate and postgraduate curricula should follow a collaborative and prudent approach based on best practices.

There is a global consensus that simulation must be appropriately used. Several key strategies are suggested for improved effectiveness (Figure 1):

- Develop and use evidence-based tools to ensure the quality of healthcare practice. These tools should align with best practice standards and evolve alongside simulation methodologies.
- Invest in faculty development to enhance their knowledge of simulation practice.
- Rigorously evaluate all simulation activities to maintain quality standards.
- Establish quality assurance approaches for the accreditation and certification of simulation programs and personnel.
- Provide equitable access to high-quality, contextually relevant simulation-based learning opportunities. To achieve this, it is essential to nurture the necessary support to secure consistent resources and funding for healthcare simulation.

Figure 1. Key strategies for effective simulation practice.

Source: Authors.

- Leverage telesimulation and virtual approaches to facilitate access across the full spectrum of health professions and practices, including rural, remote, and low-income areas.
- Uphold the principles of equity, diversity, and inclusion both within and through simulation.
- Consider the environmental impact of simulation activities.
- Foster a renewed emphasis on research and academic knowledge to advance as a practice community. Promote specific simulation initiatives and find innovative ways to integrate simulation into healthcare research and innovation.

Call to action

Healthcare simulation serves a purpose beyond its own existence. Its mission is to elevate the performance of individuals, teams, and healthcare systems, leading to better outcomes for patients, communities, and societies. Achieving this transformative impact will require a coordinated effort from leaders, directors, policymakers, healthcare systems, health education institutions, and simulation professionals to promote and enhance this discipline as a fundamental tool for improving patient outcomes worldwide.

In pursuit of this objective, we recommend a set of strategic actions:

1. Directors, leaders, and policymakers shall formally recognize and adopt the benefits of simulation in healthcare practice and education, leading to improved patient outcomes by:

- Providing sustained resources for simulation.
- Mandating the use of simulation in educational, training, and clinical settings.

2. Being explicit and detailed about how simulated experiences can complement or replace clinical experiences during undergraduate and postgraduate training, including medical residencies. We recommend that healthcare systems and health education institutions commit to the goal of delivering high-quality healthcare and improving patient outcomes by:

- Advocating for the integration of healthcare simulation as an essential educational tool across all stages and levels of healthcare professionals' careers.
- Providing the necessary resources for healthcare simulation, including personnel, equipment, space, and curricular integration.
- Using healthcare simulation to create opportunities for interprofessional education and training.
- Encouraging and adhering to best practice standards in healthcare simulation.
- Cultivating faculty and mentors trained in simulation.

3. We encourage simulation professionals to:

- Promote healthcare simulation as a fundamental learning tool.
- Adhere to best practice standards.
- Demonstrate the highest standards of personal integrity and ethical conduct in the execution of their professional duties.
- Commit to lifelong learning.

- Persist in their passionate advocacy for patient safety.

We hope this global statement will elevate the profile of healthcare simulation and serve as a framework for aligning simulation strategies and guidelines across the global healthcare community.

ETHICAL RESPONSIBILITIES

Ethics committee approval

Approval of the ethics committee was not required for this study.

Protection of humans and animals

The authors declare that no experiments were conducted on humans or animals for this research.

Data confidentiality and right to privacy

The authors declare that no patient data are disclosed in this article.

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Author contributions

SAR: Conceptualization, methodology, translation, writing, review, editing, visualization, project administration.

ACC, CPP, ADN, DOF, CDN: Conceptualization, translation, writing.

CDN: Methodology, writing, review, and editing.

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The authors declare no conflicts of interest related to this article.

Presentations

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