Future-Proofing Simulation Practice | Full day

SIGs Involved: Emergency Medicine / Pharmacy / Sustainability / Technicians and Learning Technologists

Background: Health and care simulation services are, more than ever, expected to respond to evolving pressures including financial constraints, staff shortages, technological advancement, environmental and sustainability targets and changing learner or organisational expectations.

Artificial Intelligence (AI) and sustainable practices are emerging as major drivers of change, offering opportunities to improve efficiency, accessibility, educational quality, and environmental impact. However, both also raise important questions regarding ethics, governance, resource allocation, equity and workforce implications.

Simulation practitioners, educators, technicians, clinicians and organisational leaders require space to critically explore these developments, challenge assumptions and consider how simulation can remain effective, responsible and future-focussed.

This Xperience day workshop provides an opportunity for multiprofessional collaboration to explore and hopefully answer the question: How do we future-proof simulation practices in health and care?

Session description: This interactive, multiprofessional workshop explores how health and care simulation can evolve to meet future demands through sustainable practice and responsible integration of artificial intelligence (AI).

The morning session introduces two key themes through facilitated parallel workshops: **sustainability in simulation practice** and **AI in healthcare simulation**. Participants will examine benefits, limitations, risks, ethical considerations and practical implications relevant to educators, technicians, clinicians and organisations. Through mixed-group discussions, delegates will identify emerging opportunities, tensions and challenges. Outputs from these sessions will then inform a group debate focused on **future-proofing simulation**, enabling participants to challenge assumptions, consider trade-offs and identify shared priorities for the future.

The afternoon session shifts from discussion to application. Participants will rotate through three practical stations addressing:

- **Designing sustainable simulation programmes** through reducing waste, improving efficiency and maintaining educational quality
- **Applying AI in simulation practice**, considering implementation, governance, ethical boundaries and workforce implications
- **Future-proofing simulation**, using real-world scenarios to navigate competing priorities such as budget constraints, environmental targets, technological innovation, and faculty roles

Working in small, multiprofessional groups, participants will develop solutions and reflect on trade-offs influencing simulation practice. The session concludes with a whole-group feedback discussion, sharing key insights, practical takeaways and priorities for advancing sustainable and future-ready healthcare simulation.

Aim(s):

1) Enable the participants to critically explore sustainability and AI within health and care simulation and evaluate the implications for practice
2) Develop practical approaches to future-proof simulation programmes through collaborative discussion

Objectives: By the end of the workshop, participants will have/be able to:

1) **Discuss** the opportunities, challenges, ethical considerations and unintended consequences associated with sustainability initiatives in health and care simulation
2) **Evaluate** the potential role of AI within simulation design, delivery, assessment and debriefing, including governance and ethical implications
3) **Analyse** competing priorities influencing simulation practice, including educational outcomes, environmental impact, cost, innovation and workforce considerations
4) **Apply** sustainability principles and AI approaches to redesign or enhance simulation programmes within realistic operational constraints
5) **Identify** practical actions, safeguards and strategies that can support more sustainable, ethical and future-ready simulation services
6) **Collaborate** across professional groups to discuss complex challenges and develop shared priorities for the future of simulation practice

Target audience: Simulation practitioners, educators, technicians, clinicians and industry/organisational leaders.

Particularly aimed at anyone wanting to investigate and discuss ways of future-proofing simulation in terms of common challenges we encounter and emerging technologies.

Session agenda: AM

Activity 1 – Sustainability in Simulation Practice

An interprofessional, facilitated workshop exploring sustainability within healthcare simulation.

This session will examine benefits, challenges, and unintended consequences, with delegates working in mixed groups to identify key themes, opportunities, and tensions for sustainable simulation practice.

Activity 2 – AI in Healthcare Simulation

A parallel interprofessional activity focusing on the role of AI in simulation.

This would explore potential benefits, risks, ethical considerations, and practical implications for educators, technicians, clinicians, and organisations. We will showcase specific software examples (Mirno MAIA, Medascend, Simflow.Ai, AVT and Heidi…etc).

Activity 3 – Integrating the Debate: Future-Proofing Simulation

A combined plenary workshop bringing all delegates back together.

Using the outputs from the first two workshops, we would examine the core arguments for and against sustainability initiatives and AI adoption in simulation, using a structured debate format to explore areas of consensus, challenge assumptions, and identify shared priorities for the future.

PM

Each station focusses on applying the challenges that arose/were highlighted within the morning workshops on sustainability in practice, AI integration and future-proofing simulation.

Attendees will be split into small, multi-disciplinary/professional groups and will rotate between 3 stations. Each station will present a different applied challenge(s).

Station 1: Designing sustainable simulation

Participants will redesign a simulation programme using sustainability principles introduces in the morning

- Identify:
    - high-impact waste/cost areas
    - Opportunities for reuse/reduction
- Redesign thinking of how we can:
    - Lower environmental impact
    - Maintain educational value
- Learning outcome(s):
    - A re-designed programme
    - 3 practical changes they can takeaway

Station 2: AI in practice

Pending confirmation if XR/AI SIG is joining us (preference). HEIW presents how AI could potentially be integrated. The group will discuss how this can be practically introduced into their services/programmes etc.

The group will discuss challenges, potential ethical barriers and ways to overcome these.

(Potentially tie in industry: Sim Flow is going to be at conference and that is the software being used by HEIW)

Station 3: Future proofing/debates

- Participants will work through real-world challenges based on morning themes
- Example scenarios to discuss:

    - Budget cuts vs sustainability goals
    - AI replacing part of faculty roles
    - High-fidelity vs low-carbon simulation
    - Data ethics vs innovation speed
- Activities:
    - Small group decision-making under constraints
    - Justify decisions to others
    - Challenge and defend positions
- Learning outcome(s):
    - Understand their decisions and rationale clearly
    - Identify any trade-offs
    - Understand what influenced their decision most (cost, ethics, outcomes, feasibility)

At the end of the session, groups feedback to the whole room regarding key findings and takeaways from the day.