

Designing Safer Systems Through Simulated Technology| Full day

Background: This full-day Xperience workshop brings together five ASPIH Special Interest Groups—Human Factors, XR/AI, Maternity, Paramedics, and Paediatrics—to explore how simulated technologies can be used collaboratively to design, test, and improve safer healthcare systems across complex clinical environments. Recent national evidence highlights that, while simulation is increasingly embedded across healthcare, it is still rarely prioritised strategically, remains under-resourced, and often lacks consistent evaluation of system-level impact. At the same time, emerging technologies such as XR and AI are being adopted unevenly, with uncertainty around value, governance, and workforce capability. This workshop responds directly to these challenges by situating simulated technology not as an add-on educational tool, but as a core mechanism for workforce development, system design, and safety improvement. This is timely with the introduction of the Maternal Care Bundle which sets best practice standards across 5 areas of clinical care. For implementation by NHS providers and commissioners across England launched in 2026. The aim is to reduce maternal mortality and morbidity and reduce inequalities in these adverse outcomes.

The workshop is grounded in contemporary systems-focused simulation research, which shows that simulation-based testing enables healthcare organisations to identify latent safety threats, optimise workflows, support regulatory readiness, and inform high-stakes operational decisions. Evidence also reinforces the importance of co-design, engaging end users, and producing actionable outputs that align with leadership priorities—key considerations for embedding simulation within quality improvement and safety governance structures.

Aims: Drawing on the newly launched ASPIH Professional Development Framework, the session aligns simulation practice across education, technology, leadership, scholarship, and transformative simulation domains. SIG Chairs will demonstrate how human factors principles, immersive technologies, and specialty-specific expertise can be integrated to support practitioner capability, interdisciplinary collaboration, and sustainable simulation practice across career stages.

Objectives: Through shared case studies from maternity, paediatrics, pre-hospital and paramedic services, and digitally enabled care, participants will explore how simulation can be used to:

- test new technologies, environments, and pathways before implementation,
- surface cross-boundary safety risks,
- translate insights into meaningful system change.
- strengthen relationships across professional boundaries contributing to culture change.

Session description: Interactive discussions and cross-SIG activities will enable delegates to identify transferable approaches, map their work to the ASPIH Professional Development Framework, and respond collectively to the strategic gaps highlighted by the ASPIH Simulation Survey Report. The day is explicitly designed to foster collaboration between SIGs, supporting a shared language, shared priorities, and shared responsibility for designing safer systems through simulated technology.

Target audience: This workshop is aimed at simulation educators, clinicians, technologists, technicians, and system leaders who wish to move beyond siloed practice and use simulation as a strategic tool for workforce development, innovation, and patient safety.

Facilitators:

Paul Bowie	University of Glasgow
Martin Duffy	Belfast HSC Trust
Anita Banerjee	Guy's and St Thomas' NHS Foundation Trust
Kumi DeCosta	Guy's and St Thomas' NHS Foundation Trust
Charles Everard	University of Greenwich
Nicholas Peres	Torbay & South Devon NHS Foundation Trust
Joe Varrasso	Kiedimi Ltd.
Caroline Neveu	City St Georges University of London
Keith Bromwich	Buckinghamshire New University