



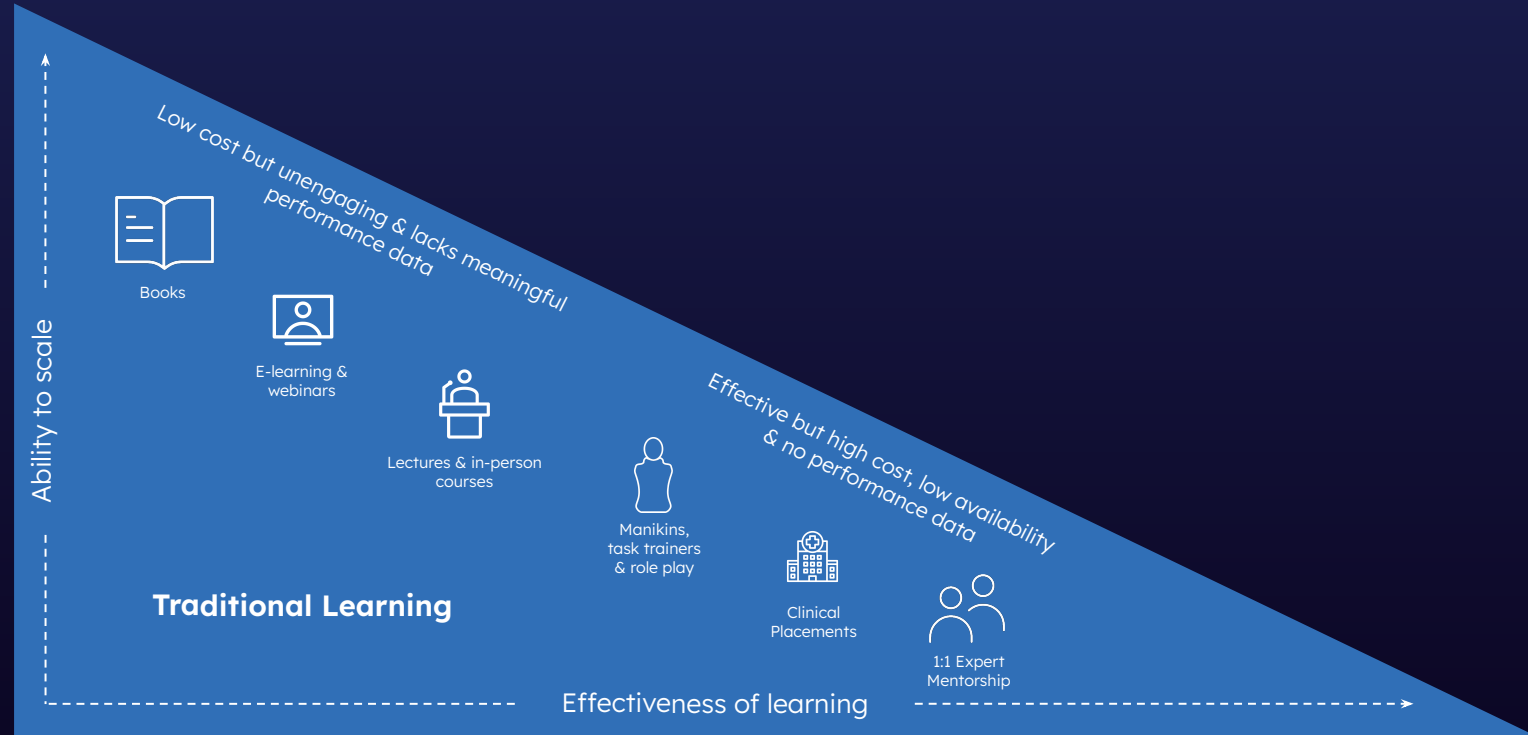
California Community Colleges Rebuilding Nursing Infrastructure

Clinical experience on demand
VR & on-screen simulation

Oxford Medical Simulation
helps transform education
using virtual reality to improve
patient care and safety.



With OMS, education is no longer a trade-off between effectiveness & scale



Challenges in clinical simulation

VR Immersion

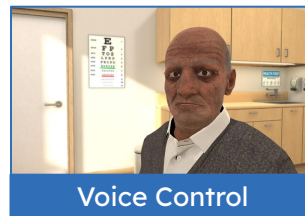
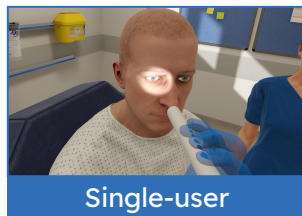
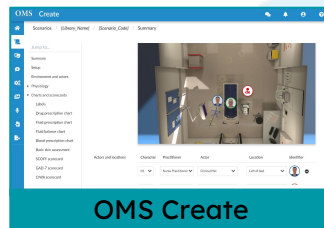
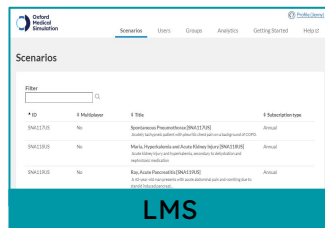
- Capable of delivering fully immersive 3D, computer-generated, interactive simulated clinical experience
- Learners can use without a VR headset
- Fully interactive, automated patients & team members (i.e. can be run without moderators or faculty)
- Dynamism of interactions & physiology including
- Basic reporting tools (e.g. basic scored and actions)
- Competency-based analytics platform



ELearning

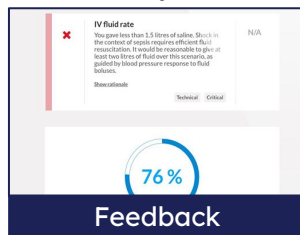


OMS Platform Structure



250+ Clinical Experiences

- Emergency
- Pediatrics
- Mental health
- Maternal health
- Fundamentals
- Examinations
- Interpretations
- Clinic
- ACLS
- Procedures
- Interprofessional
- Multi-patient



Cross-Platform



VR Headsets

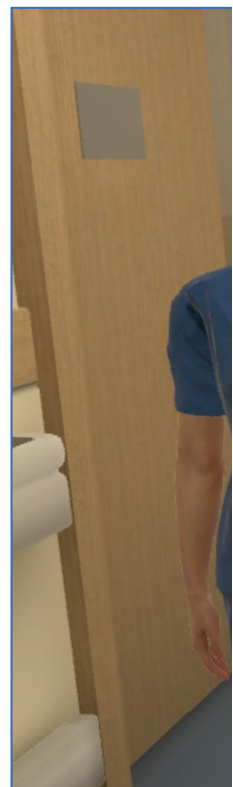


On-screen



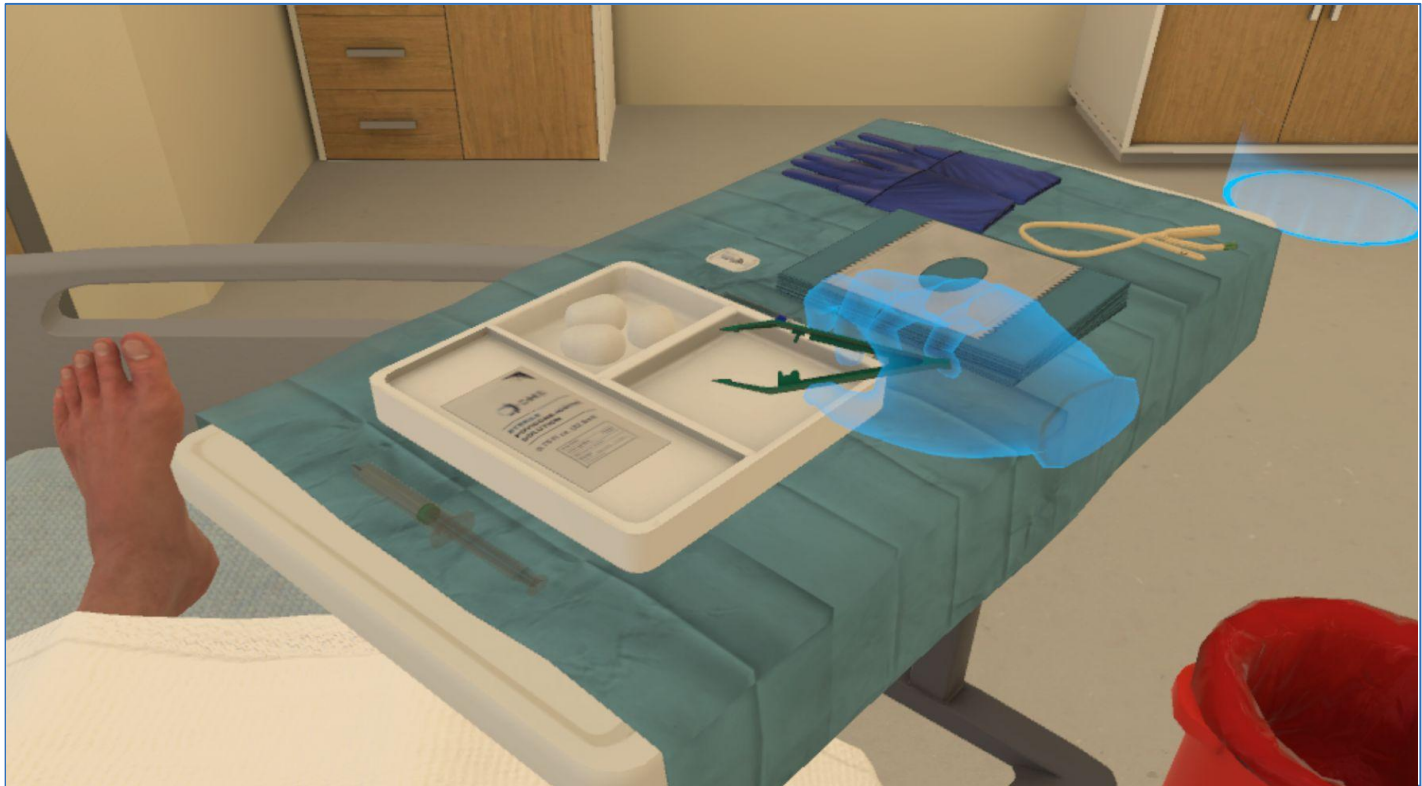
Individual

Individual training scenarios allow practice any time, any place
- focus on decision-making and critical thinking



Interprofessional

Multiplayer and interprofessional scenarios to foster communication & teamwork



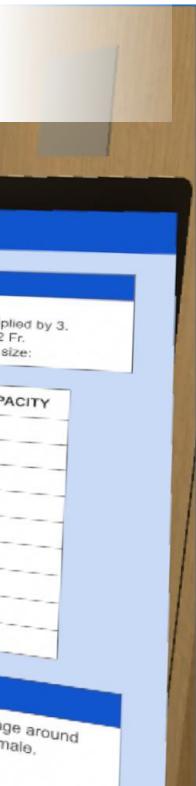
Procedures

Procedural scenarios to build muscle memory
in clinical skills



⚠ Critical





Communication skills

Prioritizing empathetic, culturally sensitive communication





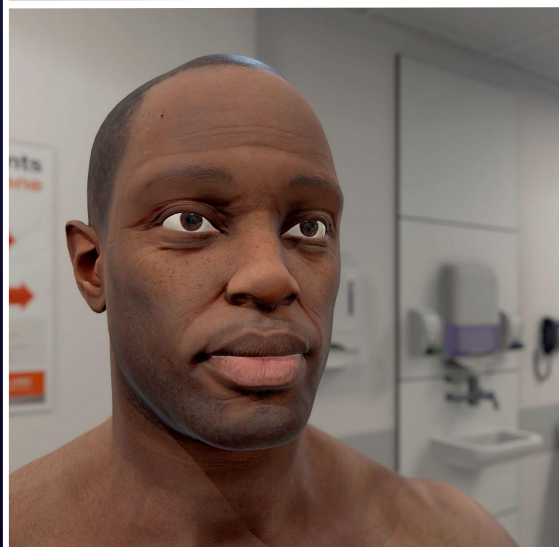
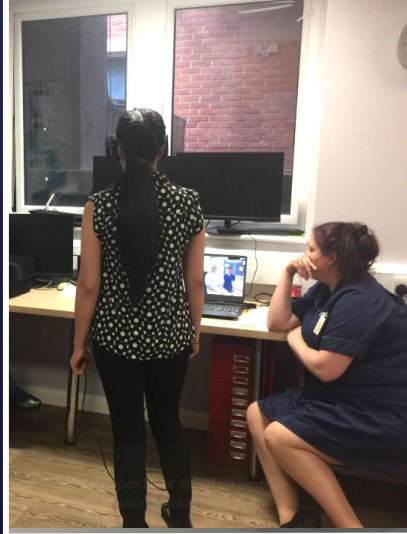
Multi-patient

Opportunity to manage multiple patients at one time - focused on prioritization, delegation and task switching

Emphasis on Diversity

Our AI characters represent diverse identities:

- Characters include those who primarily speak different languages and represent a variety of cultures, gender identities and ages.
- Health care providers in scenarios have a diverse backgrounds. This fosters a sense of inclusion.



Use Cases & Demo

 Feedback, Data & Analytics



Check blood glucose

You correctly checked Wilfred's blood glucose

10:28

[Show rationale](#) ▼

⚠ Critical

Evidence-Based Practice

Patient-Centered Care



Inspect facial symmetry

You assessed Wilfred for facial symmetry

13:09

[Hide rationale](#) ▲

Rationale

Motor function of the facial nerve, cranial nerve VII, was assessed appropriately. Wilfred clearly displayed facial asymmetry when he smiled. Other methods to test motor function of cranial nerve VII are asking the patient to close both eyes, puff their cheeks, frown or raise their eyebrows.

[Reference: Checklist for Neurological Assessment](#) 🔗

Feedback

Immediate, evidence-based performance
feedback written by clinicians, for clinicians

Data & analytics

- Objective & standardized system
- Clinically-weighted scoring
- Individual & group performance metrics
- Learner, faculty and administrator levels of access
- Inbuilt learning management system with integration capabilities



10:28

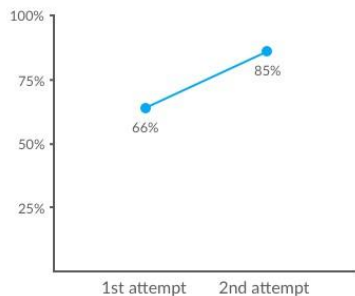
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75% score average

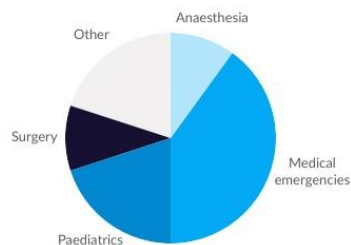
70% cohort engagement

12 sessions run per student

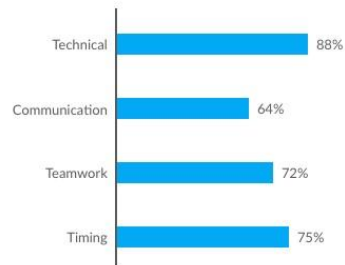
Improvement average



Specialty selections



Skill performance



1340 sessions run

50% repeat rate

12 days 19 hrs in simulations

Sessions run

Analytics

Track progress, identify trends, and remediate issues with objective performance data

Erasmus Willemsson [3NR106US] | ...

Save Change Template

Diagnosis
Sepsis secondary to cellulitis.

Case Summary
Intravenous drug user with sepsis, cellulitis abscess from injection site.

Clinical Findings

- In pain and unwell
- Febrile, tachycardic, hypotensive
- Erythematous, tender abscess on right thigh

Actions/Responses | Playlist Controls

Search...

Documents

- Recent
- HTML Chart
- Patient chart
- Medical record
- Prescription record
- Static (Image)
- Guideline (HTML)
- Guideline (Image)

Documents

Controls- Character
- Text Editing
- Monitor

Competency Mapping

Tags & Competencies

- An educational system allowing clients to easily link their curriculum competency framework with OMS scenarios
- 10 inbuilt competency frameworks
 - US Nursing
 - AANP; AACN Essentials; C-CEI; NCLEX; QSEN
 - US Medicine
 - EPA; ACGME
 - UK Nursing
 - NMC
 - UK Medicine
 - GMC Foundation
 - OMS Legacy
- Ability to add own frameworks



Client ability to add own frameworks in collaboration with OMS



[Edit Customisation](#)

Customise:

Competency Framework

Baccalaureate Essentials ▼

AANP

ACGME

Baccalaureate Essentials

CCEI

C-CEI

EPA

Essentials

GMC

GMC Foundation

NCLEX

NMC

OMS Legacy

OMS Legacy

QSEN






Baccalaureate Essentials Competencies

89% scenario repeat rate

69% cohort engagement

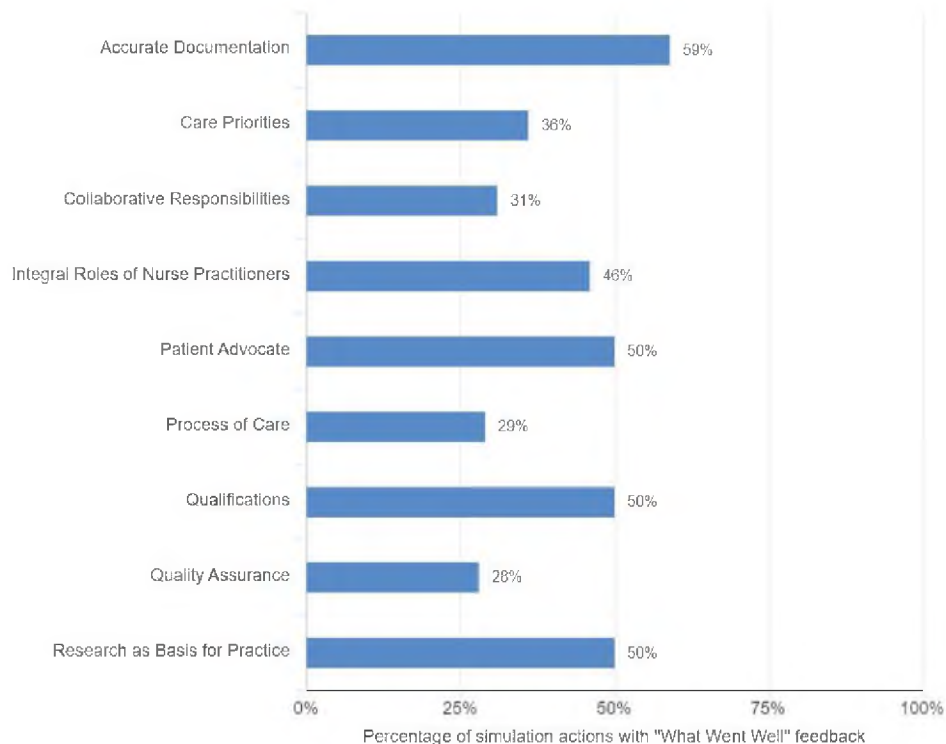


What To Improve On - Critical Aspects

	IV access You didn't secure IV access and critical management steps therefore could not be carried out Show rationale ▼ Critical Informatics Safety Evidence-Based Practice	N/A
	Incomplete handover You didn't complete your SBAR handover which delayed critical medical review and management for George Show rationale ▼ Critical Teamwork & Collaboration Patient-Centered Care Safety	N/A
	Incomplete EWS Score Calculating a EWS score is important to help identify acutely unwell patients Show rationale ▼ Critical Teamwork & Collaboration Patient-Centered Care Safety	N/A
	No antibiotics This patient had neutropenic sepsis and no antibiotics were given, increasing mortality Show rationale ▼ Critical Informatics Safety Evidence-Based Practice	N/A
	IV fluids You didn't give George any IV fluids. Show rationale ▼ Critical Patient-Centered Care Safety Evidence-Based Practice	N/A



Competencies



Competency Mapping & Tracking

- All scenarios link directly to competency frameworks
- Provides standardized, objective and unbiased assurance of clinical competence
- Competence can be measured at an individual, cohort or system level

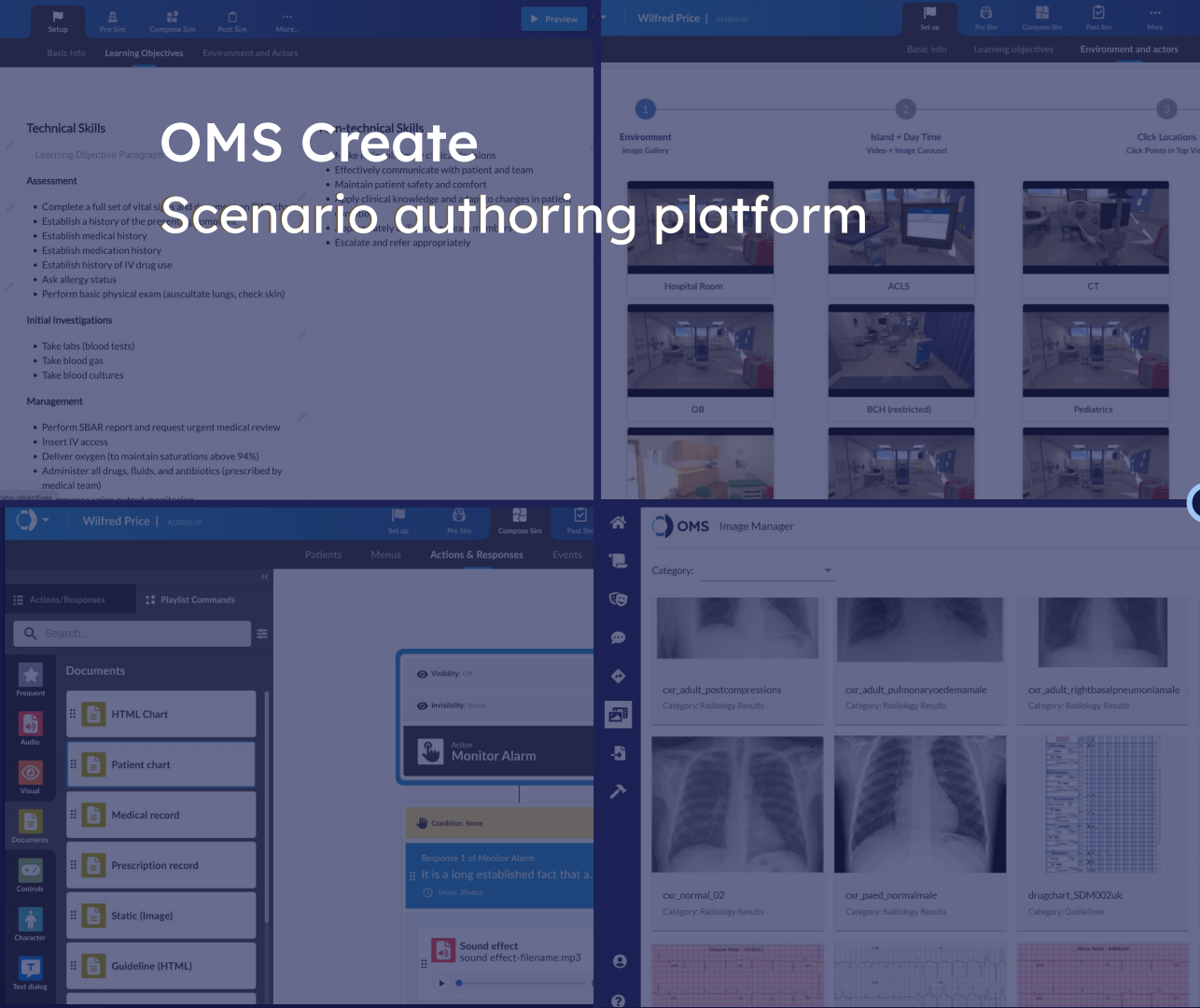


OMS Create Scenario authoring platform

Directly create and edit
scenarios to build exactly
what you need

Edit patient history and
physical, physiology,
imaging & results,
conversation, feedback
and blended learning

Share scenarios across the
OMS platform





OMS Create

Scenario authoring platform

Alpha release Spring 2022



Directly create and edit
scenarios to build exactly
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Share scenarios across the
OMS platform



Combining the tools: Providing a bridge
to continued education & practice





Hardware specifications



Tethered Virtual Reality

Headsets

- Oculus Rift and Rift S
- Meta Quest 2, 3 & Oculus Link

Computer specifications

- NVIDIA GTX1080+
- Intel i7 with 16GB+ RAM
- Rift S - miniDisplayPort & USB 3.0
- Rift - HDMI & 2 x USB 3.0 ports



Standalone Virtual Reality

Headsets

- Meta Quest 2, Quest 3, Quest 3S
 - Available now
- Pico Neo 3
 - From Q2 2022
- Vive Focus 3
 - From Q2 2022



On screen (laptop/desktop)

Windows

- Intel i5 with 8GB+ RAM
- Integrated Graphics Chip

Mac

- Intel i5 or Apple M1 with 8GB+ RAM
- Integrated Graphics Chip

Browser

- Google Chrome



OMS platform

Independent trials

Trials demonstrate significantly improved learner behavior in key areas affecting patient safety.

Further information available on request.

Results Summary

Qualitative:

"The most important part was that it felt really life-like. Like it felt really, really real."

"I genuinely think it would definitely calm a lot of us down and allow us to make better decisions in real life."

Quantitative:

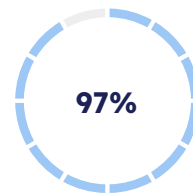
Significant improvement in time to appropriate fluid resuscitation ($p < 0.005$)

Significant improvement in time to correct antibiotics ($p = 0.014$)

Significant improvement in overall score ($p < 0.005$)



"This VR simulation is a **valuable** training resource"



"I would **choose** this VR simulation as a method of learning in future"



"This simulation is likely to **impact** on my clinical practice to the benefit of **patient care**"



TIME TO FLUID RESUS ($P < 0.05$)



TIME TO ANTIBIOTICS ($P = 0.005$)



OVERALL SCORE ($P < 0.05$)

Testimonials

“It’s a brilliant simulation for practicing how to interact with patients.”

“Honestly, this is the single most useful experience I’ve had so far in my medical training.”

“It’s something I’d be happy to spend some time on doing a session each day.”

“It felt really life-like. Like it felt really, really real!”

“I genuinely think this will allow us to make better decisions in real life.”



www.oxfordmedicalsimulation.com