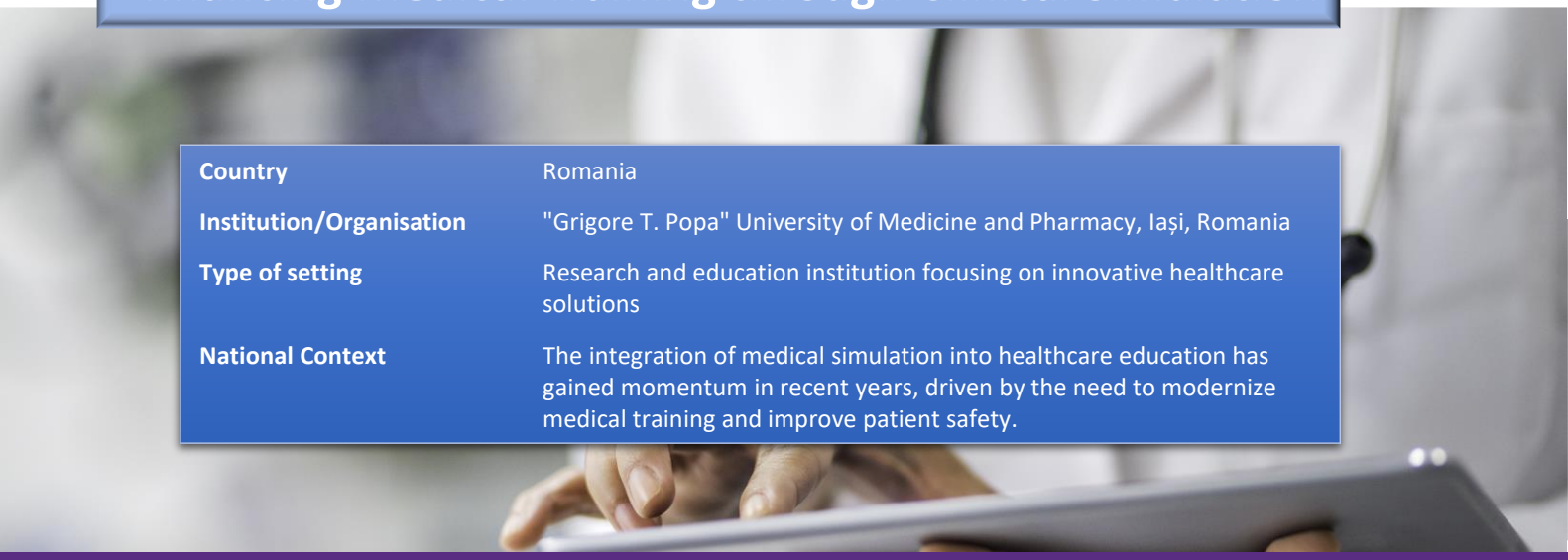
Case Study

Hybrid Healthcare

Enhancing Medical Training through Clinical Simulation



Country	Romania
Institution/Organisation	"Grigore T. Popa" University of Medicine and Pharmacy, Iași, Romania
Type of setting	Research and education institution focusing on innovative healthcare solutions
National Context	The integration of medical simulation into healthcare education has gained momentum in recent years, driven by the need to modernize medical training and improve patient safety.

While traditionally reliant on theoretical instruction and limited clinical exposure, Romanian medical universities are increasingly investing in simulation centers to bridge the gap between knowledge and practice. However, adoption remains uneven across the country due to funding limitations, disparities in infrastructure, and a shortage of trained simulation educators, particularly in smaller or rural medical schools.

Description of Technology or System

UMF implemented a comprehensive multimodal simulation system that includes high-fidelity mannequins replicating realistic physiological responses, virtual patient simulators for diagnostic decision-making, and task trainers for essential clinical skills. Standardized patients support communication and empathy training, while fully equipped simulated hospital environments mirror operating rooms, ERs, and ICUs. All sessions are recorded for structured feedback, and the entire system is integrated throughout the UMF curriculum, from pre-clinical stages to internship training.

Implementation Process

- Procurement and installation of simulation equipment.
- Technical training for support staff, development programs on simulation pedagogy.
- Initial modules implemented with small student groups, feedback collected to refine scenarios and logistics.
- Simulation scenarios embedded into formal coursework.

Impact and Results

- Quantitative: 25% increase in student performance scores in practical exams over two years, 40% reduction in reported errors during clinical internships.
- Qualitative: Improved student confidence in handling emergencies. Increased satisfaction among faculty due to enhanced teaching efficacy. Higher patient safety during student-involved procedures.

Success Factors

- Dedicated funding from public and private sources.
- Comprehensive faculty engagement and training.
- Integration with existing assessment structures.

Challenges and Barriers

- High initial cost: equipment, software, and facilities required significant investment.
- Maintenance and technical support.
- Some instructors were skeptical of simulation's educational value.

Key Lessons Learned

- Start small: Piloting with focused modules allows iterative improvement.
- Train the trainers: Faculty acceptance and competence are critical.
- Debriefing is key: Reflective discussions enhance learning outcomes.

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