

Holographic SBEs in Healthcare Training: Bridging Technology and Clinical Reasoning

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The authors report no significant conflicts of interest. Grant funding was obtained.

Background

- Holographic simulation is an emerging approach to developing clinical skills and diagnostic reasoning competencies in healthcare education.¹
- Holographic simulation-based learning experiences (SBE) offer standardized, reproducible, and cost-effective virtual patient encounters.²⁻⁴
- Despite their realism, limitations in real-time interaction remain.⁵
- This pilot study examined primary and acute care nurse practitioner (NP) students' perceptions of a holographic geriatric simulation.

Approach and Methods

- A geriatric mental health-focused simulated participant (SP) urgent care scenario was developed using the Healthcare Simulation Standards of Best Practice^{®6-9} and ASPE Standards of Best Practice.¹⁰
- Working in small groups, students interviewed a tabletop holographic SP, collected health data, engage in clinical reasoning, and participated in debriefing.
- Students completed three open-ended reflection questions regarding their hologram experience.
- Qualitative content analysis identified recurring themes.
- The study received exempt IRB approval.

Impact/Outcomes

- Reflections from 25 NP student revealed the following themes:
 - **Realistic Older Adult Encounters**
 - Lifelike interactions that felt like speaking with a real patient.
 - Enhanced sense of realism, particularly among primary care students.
 - **Holistic Patient-Centered Care Practice**
 - Safe environment to practice challenging conversations (e.g., mental health).
 - Improved assessment of social determinants of health and nonverbal cues.
 - Experience comparable to telehealth visits.
 - **Clinical Judgment Development**
 - Encouraged broader and supported creative thinking.
 - Increased awareness of mental health and substance use issues in older adults.
 - Prompted consideration of overlooked clinical questions and concerns.
 - **Technology-Related Barriers**
 - Limited control over interview flow and question sequencing.
 - Desire for greater interactivity.
 - Conversation pauses reduced realism and disrupted interview flow.
- **Conclusion**
 - Realism of holographic SP supported comprehensive, empathetic history gathering.
 - Future integration of AI communication will enhance visual reality provided by holographic SPs.^{11,12}

References and Acknowledgements



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