

# Empowering Future Nurses: Use of the EHR Playground in Simulation-Based Learning

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## INTRODUCTION

### Background

The Virtua Our Lady of Lourdes (VOLOL) School of Nursing (SON) utilized a third-party vendor for simulating electronic health record (EHR) documentation in simulation-based learning exercises. The third-party environment did not align with the EHR system used throughout Virtua hospital locations in which SON clinical rotations occurred. This caused students to feel unprepared when viewing and navigating the EHR in clinical settings.

Students have report that informatics concepts are limited in nursing school and that clinical systems training is not readily available for those looking for more practice (Ellis et al., 2020). Nursing programs are advised to incorporate informatics in their curriculum to prepare nursing students to use the EHR comfortably when performing nursing care upon graduation (Ramoo et al., 2023). Simulated EHRs for academic purposes have been proposed as an innovative pedagogy to promote theoretical knowledge of informatics and the EHR skills needed to use EHRs in safe environments before encounters with real patients (Kleib et al., 2021).

### Purpose

The purpose of this project was to leverage Virtua's existing EHR playground in simulation-based learning to improve nursing students' confidence in navigating the EHR including the use of hospital-issued mobile devices (HIMDs) and to enhance their informatics knowledge.

### Objectives of the Poster

1. Describe the benefits of using an EHR playground in simulation-based nursing education.
2. Identify informatics competencies enhanced through simulation-based learning with an EHR playground.
3. Summarize how simulated EHR training supports patient safety and effective healthcare delivery in clinical settings.

## METHODS

### Framework

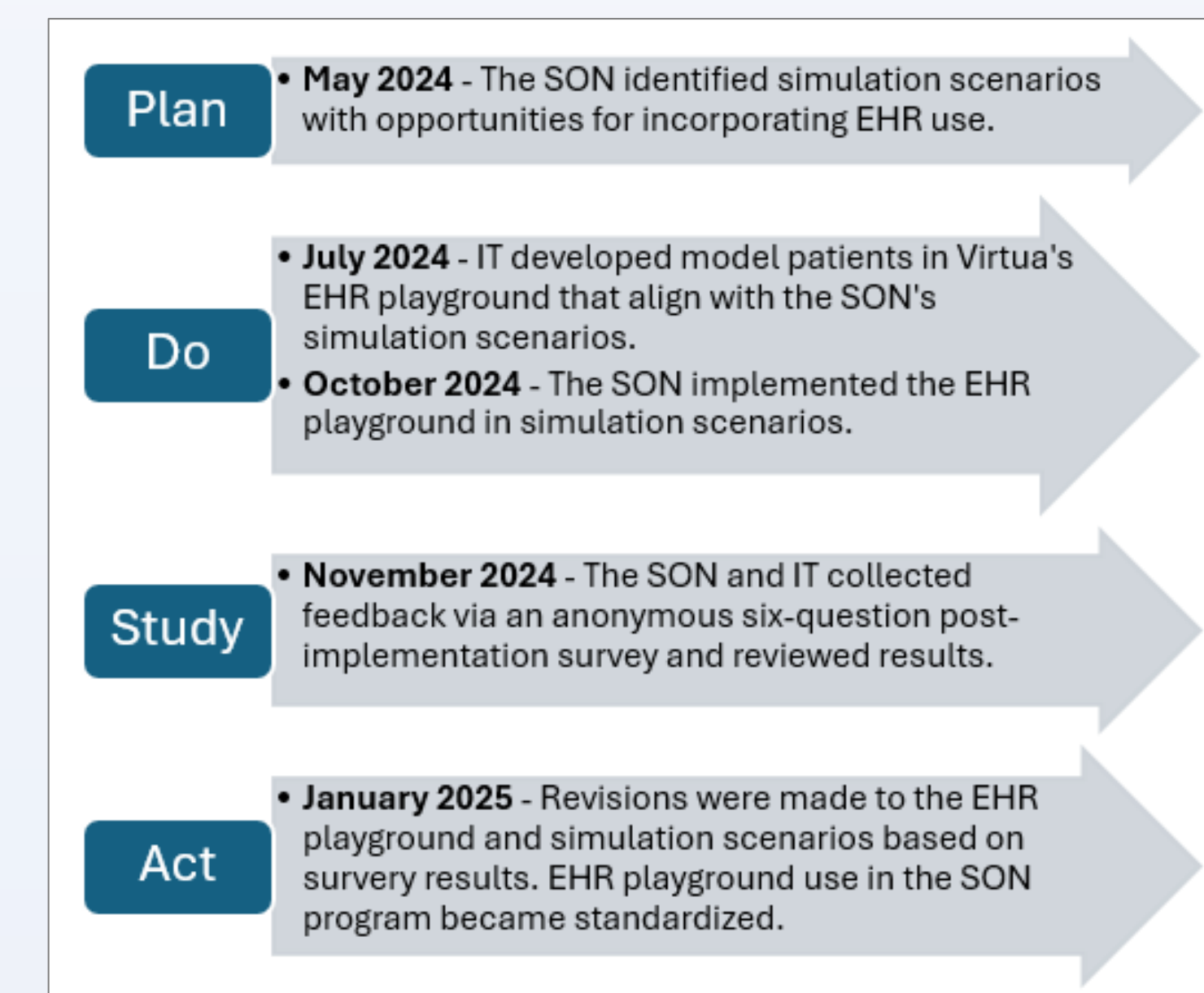
The Plan-Do-Study-Act (PDSA) method was the guiding model for this quality improvement project.

### Setting and Participants

Virtua's EHR playground was implemented in simulation exercises for students of the VOLOL SON program enrolled in the Fall 2024 semester. This included those enrolled in Nursing 1, Nursing 2, Nursing 3, and Nursing 4 courses.

### Intervention and Process

Virtua's SON faculty and information technology (IT) staff collaborated to design and create patients in Virtua's EHR playground for use in simulation-based learning. The process is detailed below:



### Data Collection

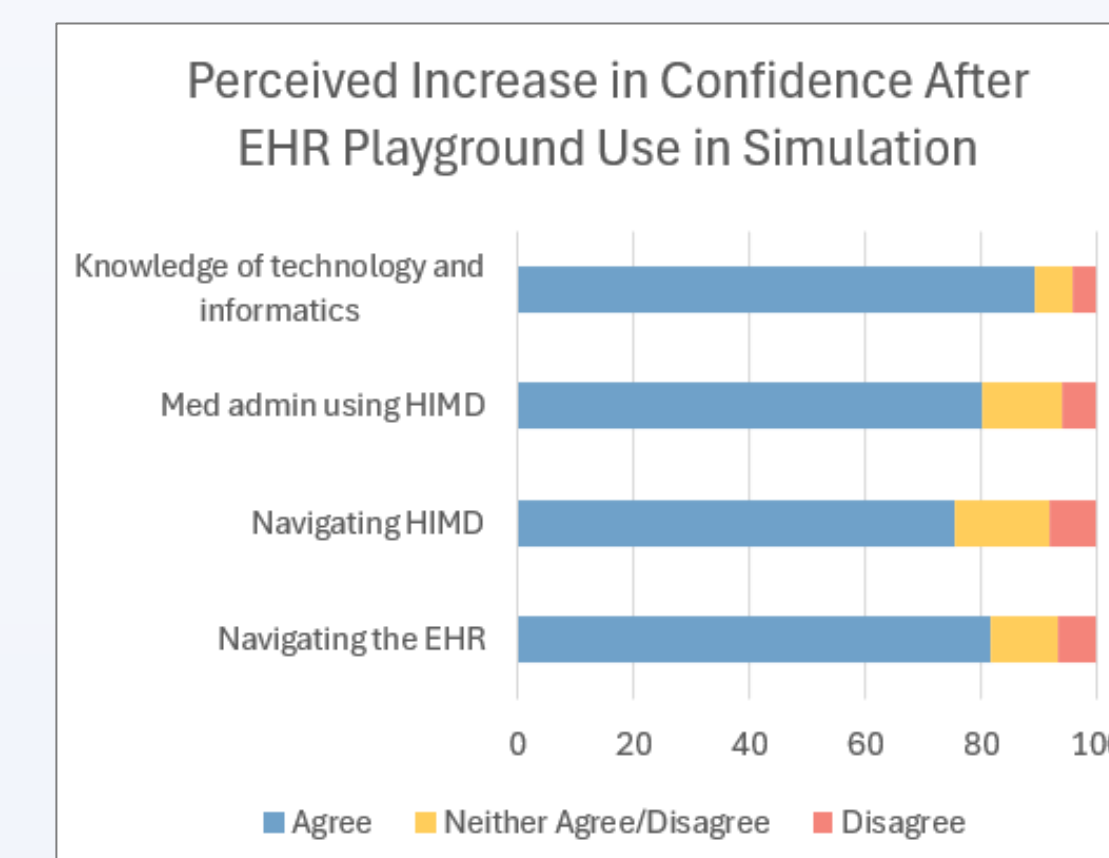
A six-question post-implementation survey was given to students after the simulation exercises. This survey was limited to those enrolled in Nursing 2, Nursing 3, and Nursing 4 because those students used the third-party simulated EHR in previous semesters. This allowed for comparison between the third-party simulated EHR to Virtua's EHR playground to measure the effectiveness of the intervention.

## RESULTS

### Key Findings

Based on 146 post-implementation responses:

- 89.1% reported enhanced knowledge of technology and informatics.
- 80.2% reported confidence in medication administration using HIMDs.
- 75.4% reported confidence navigating HIMDs.
- 81.5% reported confidence navigating the EHR.



### Actionable Data

121 of the 146 students have administered medications in the clinical setting *after* use of the EHR playground in simulation.

- 89.2% reported confidence with medication administration during clinicals.
- 78.6% felt that the simulation exercise prepared them for medication administration during clinicals.



A Virtua Our Lady of Lourdes SON student using a hospital-issued mobile device to document medication administration in the EHR playground to a simulation manikin.

## CONCLUSIONS

### Interpretation and Relevance

Replacing the third-party simulated EHR with Virtua's EHR playground has increased nursing students' confidence in using technology and informatics, particularly in EHR navigation. This intervention enhances readiness for clinical practice by embedding informatics competencies into pre-licensure education, better preparing graduates for accurate EHR documentation in real-world settings.

### Limitations and Future Directions

This project lacks long-term post-graduation data which may be used to assess whether increased comfort with EHR documentation translates into clinical practice. Future research should evaluate if students who trained with Virtua's EHR playground and are then hired at Virtua as nurses experience shorter hospital orientations and demonstrate reduced documentation and medication errors.

## REFERENCES

- Ellis, B. S., Quayle, S., Bailey, I., Tishkovskaya, S., Spencer, J., & Richardson, R. (2020, October 21). Students' perceptions on their use of an EHR: Pilot questionnaire study. *BMJ Health & Care Informatics*, 27(3). <https://doi.org/10.1136/bmjhci-2020-100163>
- Kleib, M., Jackman, D., Wisnesky, U. D., & Ali, S. (2021). Academic electronic health records in undergraduate nursing education: Mixed methods pilot study. *JMIR Nursing*, 4(2). <https://doi.org/10.2196/26944>
- Ramoo, V., Kamaruddin, A., Nawawi, W. N. F. W., Che, C. C., & Kavitha, R. (2023). Nurses' perception and satisfaction toward electronic medical record system. *Florence Nightingale Journal of Nursing*, 31(1). <https://doi.org/10.5152/FNJJN.2022.22061>

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The Virtua IT Instructional Designers (special thanks to Norman Merckx) and the VOLOL SON.

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