

# Simulate First, Fail Less: A Smarter Framework for Building Safer EHR Workflows from the Ground Up



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## Problem

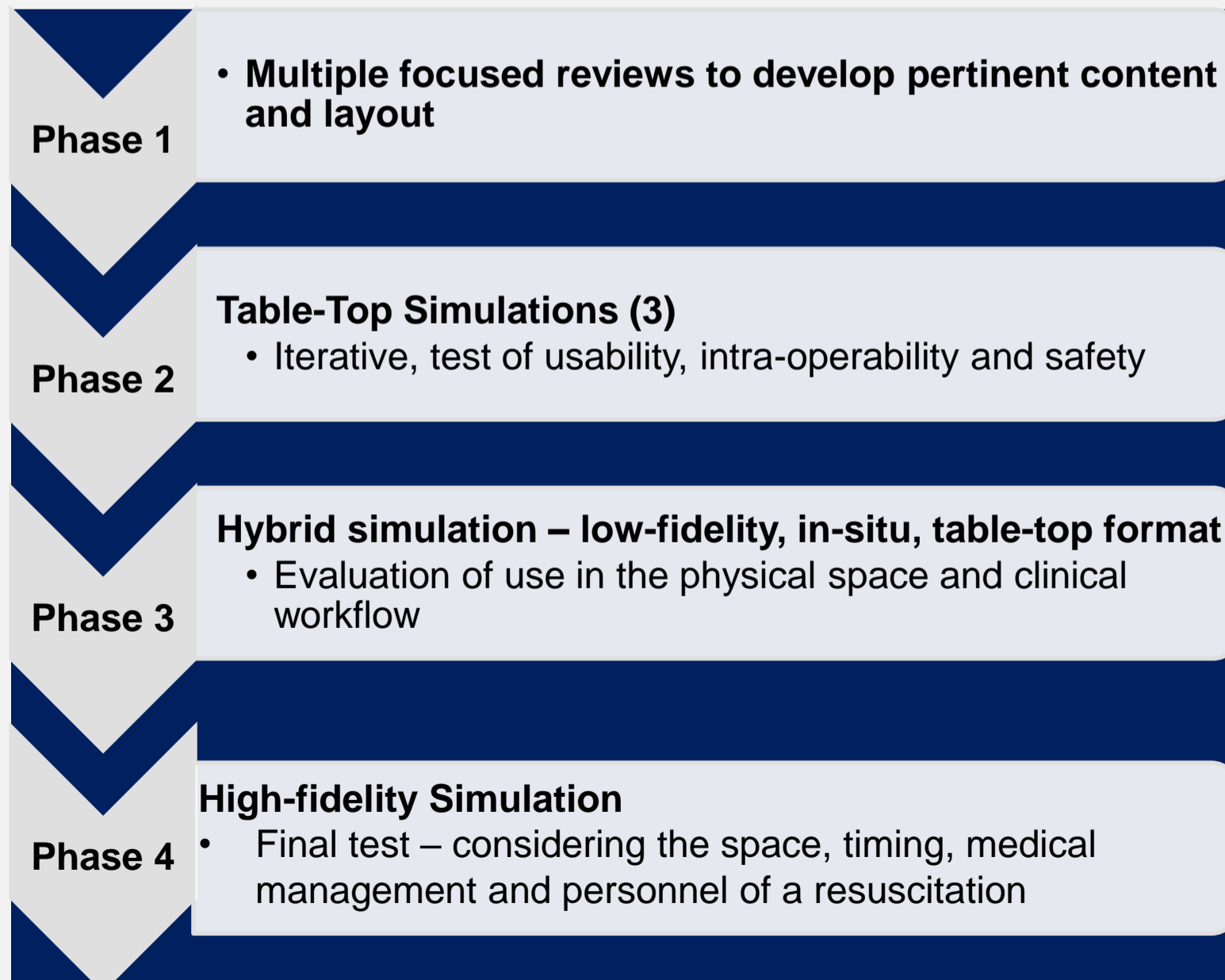
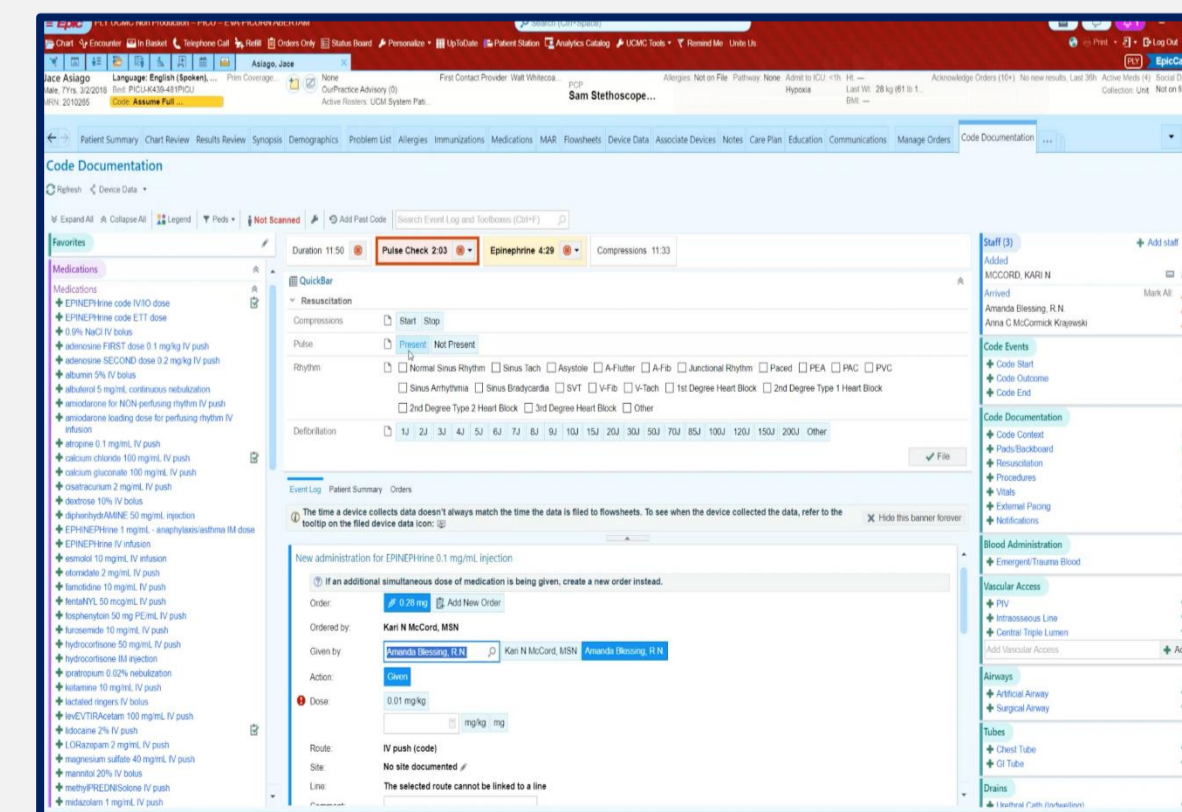
- Code Narrator is an EHR-based platform used to document clinical actions during a resuscitation and provide clinical decision support.
- EHR-based platforms embedded into clinical workflows play an important role in patient safety and quality. Whereas well-designed and tested EHR-workflows can mitigate errors and promote high quality care, poor design and ineffective training leads to medical errors, creation of latent safety threats and system inefficiencies.
- While an out of the box Code Narrator platform exists, the platform was untested in the Pediatric population and lacked review of usability, operability and safety of use within the UCM system.

## Goal

- To use simulation to design, develop and implement Code Narrator for Comer Children's hospital with optimal usability, efficacy and safety

## Innovation

- Each simulation phase brought together multiple key stakeholders from IT, end-users (nurses (PICU, ED) and physicians for iterative development.



## Impact

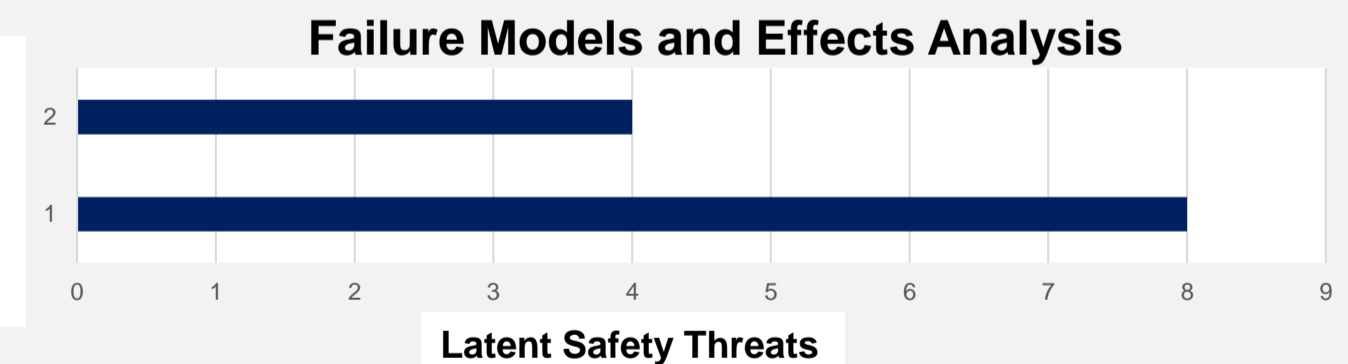
Table-top and Hybrid simulations demonstrated a reduction in issues across themes related to usability, intra-operability and safety (165 items → 6 items).

Theme	Iteration 1	Iteration 2	Iteration 3
Medication & Blood Products	● ● ●	●	●
UI Layout & Navigation	● ●	●	●
Procedures & Workflows	●	●	●
Staff & Role Management	●	●	●
Quick bar/Vitals/Timers	● ●	●	●
Safety & Hardware	●	●	●
Training & Onboarding	●	●	●
General Affirmation	●	●	●

- High-Fidelity Simulation provided a final system's test with replication of the complexity and fast-pace of a resuscitation.
- FMEA analysis identified latent safety threats related primarily to education needs, changes to resuscitation choreography and technical needs.

Moderate: Failure can be overcome but there is minor performance loss (PSE 1-2)

Minor: Failure not noticeable, no effect on delivery of service



## Next Steps

- Utilizing information from all simulations, the educational plan is underway and will include video-based simulated practice using Code Narrator while watching example resuscitation videos.
- Integration of the education into existing educational programming, in-situ simulations and PALS courses
- Continued collection of feedback from both simulated and actual resuscitative efforts for ongoing improvement

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