
Using Simulation to test ieMR clinical workflows and clinician change readiness in preparation for rollout

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Service Improvement

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Summary

Recognising the role of simulation in testing work place transition (Adler et al 2009) and the recommendation for the use of simulation to improve EMR use and patient safety (Mohan et al 2017),

simulated scenarios were used to prepare for the change to integrated electronic medical records (ieMR) at the Sunshine Coast University Hospital (SCUH). Fifteen inter-professional and inter-departmental ieMR simulation exercises were conducted as part of the health service preparation for digital transition.

Key dates

Feb 2020

Feb 2020

Implementation sites

Sunshine Coast University Hospital and Nambour General Hospital

Partnerships

Consumer representatives

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Aim

The aim was to use simulation based clinical system testing to review the impact of the ieMR roll out on complex patient journeys and departmental workflows, detect latent safety threats, and ensure patient centred care remains the priority throughout the transition.

Benefits

The simulations were valuable exercises to detect potential risks associated with system transition. It enhanced clinician engagement by re-focusing the organizational change to an individual patient level. The ieMR simulations highlighted the universal challenges endemic in health care institutions, but also revealed unexpected non-ieMR related issues in business processes, workflows, work place instructions and patient care delivery.

Background

Simulated scenarios were used to prepare for the change to integrated electronic medical records (ieMR) at SCUH. Fifteen inter-professional and inter-departmental ieMR simulation exercises were conducted - desktop, in-situ and rapid cycle deliberate practice simulations.

Solutions Implemented

A team of experts in simulation, ieMR and technical aspects developed a multi-modal approach - desktop, in-situ and rapid cycle deliberate practice simulations. The scenarios depicted patient journeys through the hospital and were constructed to encompass the National Safety and Quality Health Service standards. ieMR subject matter experts and clinicians from all disciplines (medical, nursing, allied health and administration) were consulted as to what simulation exercises would be most beneficial, and specifically targeted high-risk events. We involved key representatives from clinical areas, the ieMR project team, patient safety, and consumer representatives to observe the in-situ simulations and participate in reflective debriefings.

Evaluation and Results

The simulations enabled us to identify problems, generate solutions and nominate responsible roles for resolving issues. Problems were recorded on a quality activity register with key themes identified

including communication, team work and leadership. Individual issues were categorised based on the impact on the patient journey. Of the 89 problems identified nine were considered 'high' (patient could not continue their journey), 28 'medium' (patient could continue their journey with significant work around), and 48 'low' (patient could continue their journey with little to no impact). These latent patient safety threats were resolved prior to 'Go Live' using the same risk categorisation. This was achieved with targeted communication, changes to technical requirements, further focused dress rehearsals, and modifications to procedures, clinical workflows and local business rules. Evaluations from clinicians (n=128) indicated that 99% of involved staff felt that the simulation was extremely relevant or relevant to their work place. Direct involvement of clinicians allowed meaningful reflection on patient experience during debriefings. These simulation activities also improved interdepartmental relationships and has laid the foundation for interdepartmental and inter-professional simulations for ongoing system testing as quality assurance beyond the ieMR project. Consumer representatives observed the simulation exercises and provided feedback to clinical staff particularly regarding environmental design and patient centred care.

Lessons Learnt

- Simulation based clinical system testing is very different to simulation used as a clinical tool. Whilst the facilitators were aware of this it was important to prepare participants during the pre-brief of this significant difference.
- Consumer representatives reinforce patient centred care
- Providing a psychological and physical safe environment is paramount and simulation expert is necessary to deliver this
- Scenarios do not have to be high fidelity
- Resource intensive and significant preparation required but does get easier
- Participants found it highly valuable and project provide a gateway for continued simulation based clinical system testing

References

1. Adler MD, Vozenilek JA, Trainor JL, Eppich WJ, Wang EE, Beaumont JL, et al. Development and evaluation of a simulation-based pediatric emergency medicine curriculum. *Academic Medicine*. 2009;84(7):935-41.