

A Technology Aid for Performance Assessment in Paediatric Emergency Department In-situ Simulation

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Abstract

Context

Our Emergency Department runs weekly paediatric in-situ simulations for medical and nursing staff, followed by a debrief focussing on clinical and human factors. We sought to build a software tool to aid trainers collect key data on assessment and management of simulated paediatric patients in real time, and display data appropriately to facilitate team debriefing.

Description

We identified performance assessment measures in paediatric simulation via a literature search¹ and devised a scheme to record times for key events during simulation, using an ABCDE approach and the following markers:

- a) Time at which a clinical problem occurred
- b) Time at which the clinical or logistical problem is identified
- c) Time at which it is treated

This scheme was implemented as a web application accessible via departmental iPads. The application allows facilitators to customise labels for problems and interventions specific to the scenario.

Observation

The tool has been trialled during weekly in-situ paediatric simulation, for example including a Paediatric Sepsis scenario (fig1). The scenario revealed that the team performed rapid ABCDE assessment (completed at 4 min 30) with timely identification of diagnosis of sepsis (5 min); however there were significant delays in administration of an IV fluid bolus (due to unfamiliarity with weight estimation techniques) and IV antibiotics (due to a specific person not being allocated to the task).

Discussion

We have developed a working tool to record and visualise performance in paediatric simulation.

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Further features may include analysis of overall team performance over time and there is no reason why it can not be used in other specialties and disciplines.

References

1. Mann JA, Roland D What are the measures that can be used to assess performance during in situ Paediatric Emergency Medicine Simulation? *BMJ Simulation and Technology Enhanced Learning* Published Online First: 20 March 2017. doi: 10.1136/bmjstel-2016-000140

