

# The Challenge and Benefit of Delivering an In Situ Covid-19 Simulation

Authors: L.Wells, E.Frost, S.Starnes, V.Gray & P.Christian

Contact: Lyndon.wells1@nhs.net

## Introduction:

Healthcare simulation is a tool, and/or environment that mimics an aspect of clinical care <sup>(1)</sup>. Physically integrating simulation into the clinical environment is a recognised method of improving reliability and safety in high risk areas <sup>(2)</sup>. Since it takes place in the clinical environment, it is ideally suited to improving patient safety outcomes <sup>(3)</sup>.

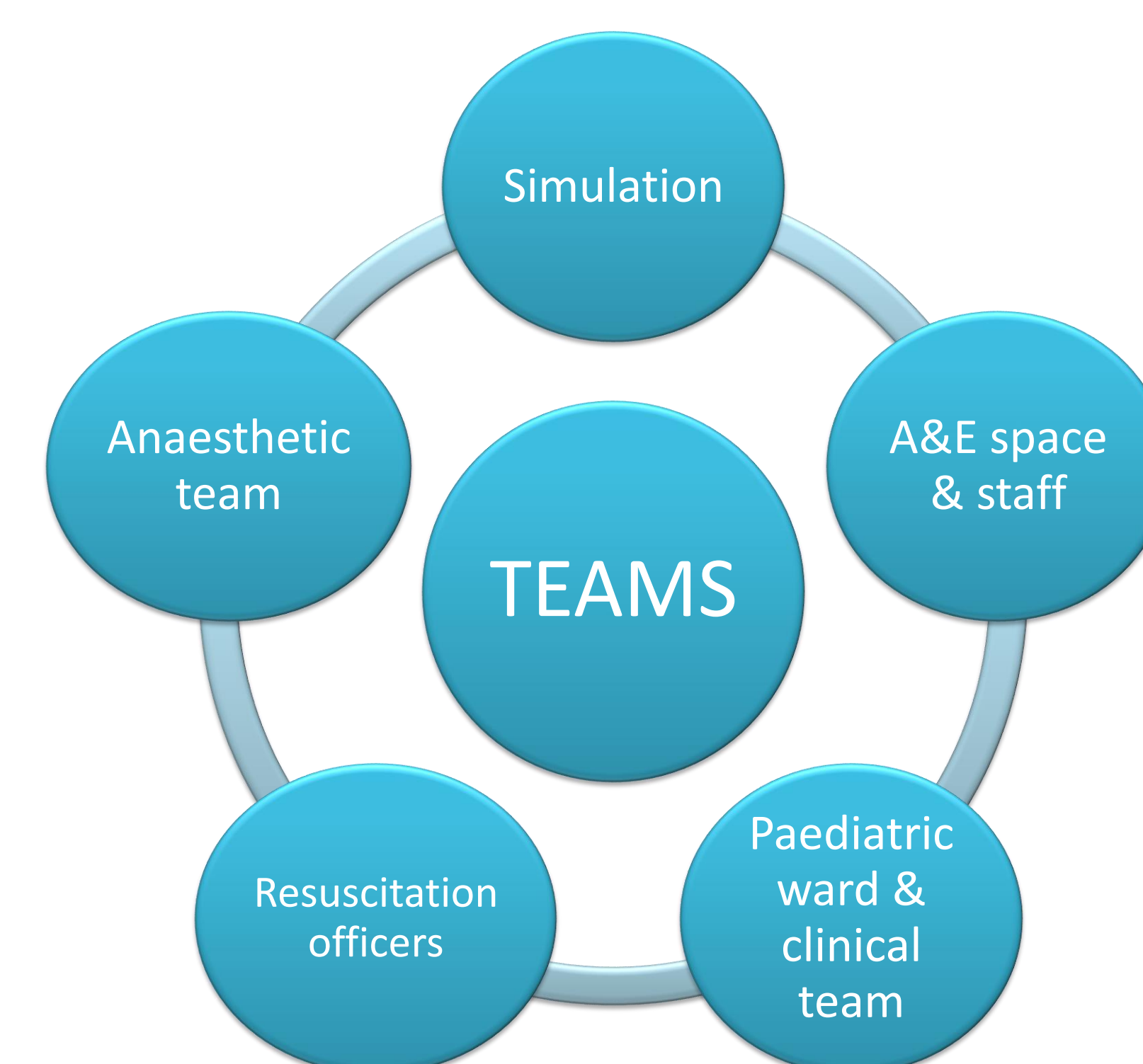
The COVID-19 pandemic has had a tremendous effect on all medical education especially within a clinical setting. In situ simulation has been proven an effective tool for training medical professionals during previous healthcare crises <sup>(4)</sup>. In situ simulation is helpful in detecting latent safety threats (errors identified within a scenario which, if they had occurred in real life, could have led to a degree of harm occurring to a patient) <sup>(3)</sup> and can lead to improved clinical skills, teamwork and observed behaviours.

How the multidisciplinary paediatric team manage children with potential COVID and acute respiratory deterioration in a DGH with no PICU on site, will require significant adaption of practice. An in situ simulation would help prepare for this and identify system issues that could compromise patient safety.

## Scenario:

An in situ simulation with a high-fidelity model was developed. The scenario involved an ex-premature 7 month old with no medical concerns presenting with cough and coryzal symptoms in the emergency department who was noted to have apnoeas in triage. The scenario begins in A&E and later requires movement to the isolation room for intubation and ventilation due to respiratory deterioration. The child is then transferred to the paediatric HDU, whilst awaiting retrieval and subsequent transfer.

## Challenge:



## Benefit:

The feedback was positive especially from paediatric and anaesthetic junior doctors who had rotated since the initial national lockdown. Specific system issues were identified, especially regarding access and delivery of equipment from an anaesthetic perspective. The debrief was helpful to clarify not only the clinical management, but human factors around communication within the isolation room, PPE and transfer.

### Feedback

- “Good to work with other teams we only see in emergency situation”
- “ helped to familiarise ourselves with other clinical areas”
- “ good reminder of resus skills and how to manage an acutely unwell child with the added pressure of PPE “

### System Issues

- Access to anaesthetic equipment
- Who brings the equipment
- Difficult telephone system delayed communication

### PPE

- Technique of doffing and donning
- Going in and out the room during AGP
- Who needs to be in the room for intubation and what PPE is required

### Human Factors

- Nametags: roles and name
- Identifying individuals: multiple teams involved
- Communication between runner and isolation room
- Clear assignment of roles
- Communication feedback loop and how to be a good follower

## Conclusion:

The Covid-19 era has emphasised the necessity for online learning opportunities and virtual education, but in situ simulation will always be of benefit to improve reliability and safety in high risk areas.

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