Using Functional Resonance Analysis Method (FRAM) model in a children's surgical unit to understand work-flow and design solutions to dampen variability.

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Introduction

Every year 4,500 children come to Plymouth children's theatres every year for a range of procedures cared for by a multi-disciplinary team. Recently there has been a change of senior management in the unit alongside opening of a third theatre increasing the workflow through the unit without an increase in resources. Each healthcare worker staff group has a different perspective on the issues faced.

In this study we used FRAM to understand the system to ultimately design solutions to the problems identified. We have focused on the pre-operative preparation of patients.

Aims

- To investigate how 'work is done' by the recovery practitioners in children's theatres
- To design interventions to reduce variance in the system

Methods

We have used the Functional Resonance Analysis Method (FRAM) to model the pre-operative preparation phase of the system1. Application of FRAM in my area of healthcare, paediatrics and the perioperative arena appears limited. Analysis through FRAM has involved data collection through structured interviews and workshops with a representative selection of staff; Receptionists, Nurses, Anaesthetists and Surgeons. These have been supported with direct observations and data from a local positive event reporting system (Leaning from Excellence LfE). We have worked with staff to develop and verify the model and identify variability in the system.

Results

FRAM has clearly identified a number of key functions, with the workshops highlighting how the successful outcome of these functions has not previously been understood across all roles within the team. Upstream functions of particular significance to the system include "mark off theatre list" and "coordinate staff" as having a huge impact on patient flow. The use of FRAM, through a visualisation of the system, has promoted conversations on how these functions can vary and innate knowledge is shared across the teams and imparted to new staff. Staff have suggested changes which we have considered using the FRAM model to access the impact of these changes. Staff engagement in this process and taking responsibility to initiate improvement within the pre-operative area has increased. An understanding of how change can have downstream consequences is now being appreciated by staff at all levels.

Conclusion

Staff working in the healthcare environment are faced with complex technology, uncertain teams and dynamic and uncertain patient interactions. Many healthcare workers are used to working within systems that are deeply imperfect. Time is pressured, required equipment is not always available and clinical demand can exceed resources2. Healthcare workers depend heavily on their own skills to keep the patient out of harm. Understanding what tasks need to be completed to prepare a patient for surgery by the different clinical groups has allowed a conversation to develop around how to reduce duplication of tasks and design improvements for all. This study is attempting to understand innate knowledge held by the staff and embed in the system within the sphere of children's perioperative care. We invite comments on how we can dampen the variability in the system.

References

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This work is in collaboration with Plymouth Hospitals NHS Trust and my dissertation for Plymouth University Patient Safety and Simulation Msc.