

Improving the efficiency of a treatment room in a London tertiary children's hospital.

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BACKGROUND

- Healthcare professionals (HCPs) at Evelina London Children's hospital report that collecting IV cannulation items from the treatment room (TR) on Mountain ward is a time-consuming and inefficient process.
- A study in a district general hospital has shown that junior doctors spend **29 hours a year**, on average, accessing treatment rooms, and **4 working days a year** collecting equipment¹.
- Improvement in equipment gathering efficiency could reduce the pre-procedure anxiety faced by patients and parents, reduce delays in time-critical situations where IV access is needed urgently and save crucial time and money.

AIM

To reduce the median total time for HCPs to collect essential paediatric IV cannulation items from the TR on Mountain ward by **25%**, over a **5-month period**.

METHODS

Project planning

- All stakeholders, including the healthcare assistant (HCA) responsible for maintaining the TR, were identified and interviewed using 1:1 meetings and questionnaires.
- Factors contributing to delays in collecting IV cannulation items were brainstormed.
- A root cause analysis was conducted to identify suitable interventions.

Primary outcome measure

HCPs were asked to conduct weekly time trials longitudinally. HCPs recorded the time taken to gather essential IV cannulation items based on a pre-designed clinical scenario.

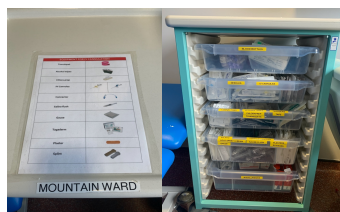
Process measures

Questionnaires were used to assess:

- HCPs being able to find all items in a single TR;
- HCA's satisfaction in the restocking process;
- Communication between HCPs and HCA;
- Patient's/parents' perceptions.

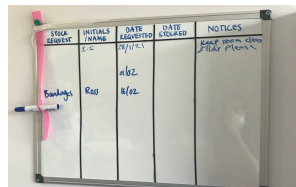
PDSA Cycle 1 (11/11/20 - 02/12/20)

- Re-labelling and re-organisation of the IV cannulation trolley
- Corresponding laminated 'How to stock' card
- Ward matron: pan-ward advertisement of intervention

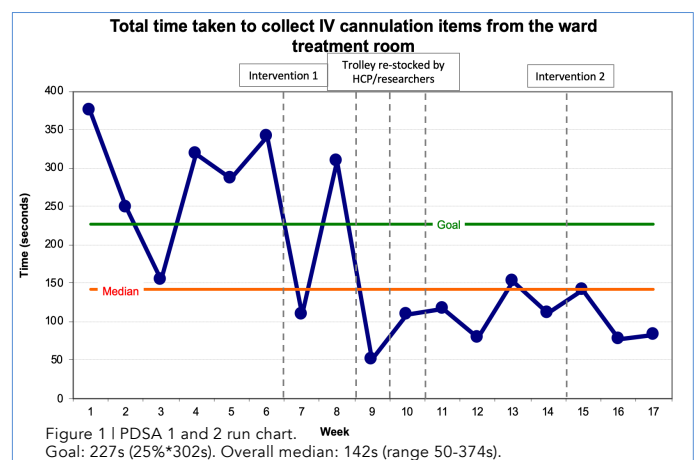


PDSA Cycle 2 (27/01/21 - 10/03/21)

- 'Stocking request whiteboard'
- To ease communication of missing items between HCPs and HCA
- Ward matron: pan-ward advertisement of intervention



RESULTS



Time trials (Figure 1)

- At baseline, median time to collect IV cannulation items was **302 seconds** (range 155-374 seconds); post-intervention 1: **111 seconds** (range 50-309 seconds); post-intervention 2: **83 seconds** (range 77-142 seconds), an overall decrease of **73%** from baseline.
- The goal was achieved on 1/6 instances at baseline, 7/8 post-intervention 1 and 2/3 post-intervention 2.

Questionnaires

- Following both interventions, HCPs were **33.4% more likely to find all required items in the TR** and reported an **increase in knowing what to do when items were missing** (positivity score increased by 66.7%).
- The HCA reported an **increase in knowing which items were out stock** (positivity score increased by 150%) and **where to stock them** (positive score increased by 33%).
- Improved patient's/parents' perceptions** regarding overall suitability of the TR for IV cannulation (positivity score increased by 18%).

CONCLUSIONS

Simplifying the process of restocking IV cannulation trolley



Implementing a system of communication between HCA and other HCPs



A **sustained 73%** reduction in median time taken to collect essential IV cannulation items from a single TR

Applicability

- Simple interventions can improve efficiency, crucial at a time when staff are overstretched during the COVID-19 pandemic.
- Other institutions report similar results in improving efficiency of collecting items through disseminating standardised cannulation trolleys. Other wards in the hospital could replicate our interventions to improve efficiency².

Lessons learnt

- Unfamiliarity of new staff with the TR, staff redeployment and sickness were key confounders affecting time trials.
- We liaised with the ward matron to identify a designated person to regularly re-stock the TR and handed over the key changes to the new paediatric doctors, both of which will be key to sustainability.

REFERENCES

- Karapinar Y, Habib A, Sawyerr H. Improving time efficiency gathering equipment in the treatment room. BMJ Open Quality 2017;6:e000010. doi:10.1136/bmjopen-2017-000010.
- Fonfe A, Lotha K, Rance T. G85 Improving cannulation efficiency in Leeds children's hospital (LCH). In: Archives of Disease in Childhood. BMJ; 2020. p. A27.2-A27.