Using Leeds Improvement Method to Improve the Process for Investigating Medication Incidents at Leeds Children's Hospital

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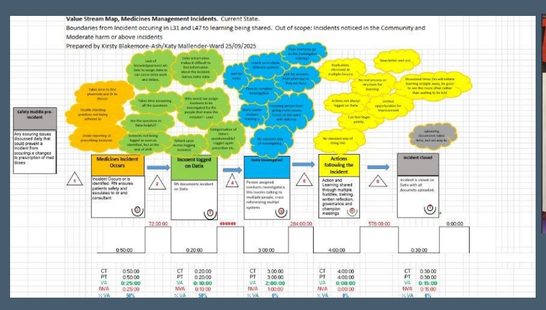
Aim:

To reduce the length of time taken to investigate a medication-related incidents within the Leeds Children's Hospital by **50%, improve staff morale metrics** and **reduce bottlenecks within the process** (represented by the **number of incidents waiting to be investigated**).

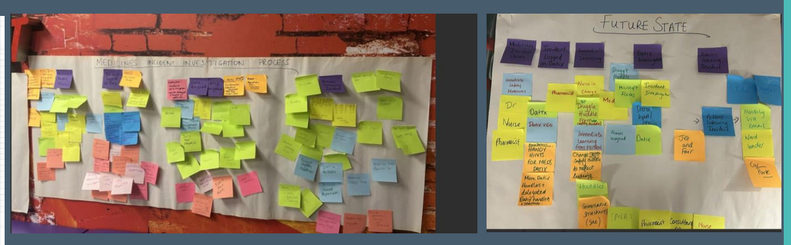
Methodology & Tools:

A Rapid Process Improvement Workshop (RPIW) is a key tool of the Leeds Improvement Method (LIM), which looks to make rapid changes to a process by making multiple small tests of change in a 5-day long workshop. The team were challenged to create a new process within the Children's Hospital adhering to the NHS England Patient Safety Incident and Response Framework (PSIRF) guidelines.

The team analysed the data and then rapidly tested the improvement ideas in flow (utilising a PDSA approach).



Value Stream Map shows waste and bottlenecks in process



Process Flow Charts of Current and Future State

Background & Stakeholder Engagement:

Medication incidents form a significant risk to patient safety throughout the NHS. The Leeds Children's Hospital accounts for 15% of medication incidents across the whole of Leeds Teaching Hospitals NHS Trust, with Paediatric ICU (PICU) and Children's Haematology and Oncology comprising the biggest proportion of these. In these areas, the investigation process was lengthy, taking on average 37 days from the incident occurring to learning being shared with the staff. The delay meant that often, repeated incidents occurred due to the causes of the incident not being immediately addressed. Staff feedback there was a blame culture around incidents (35% of staff surveyed), especially in nursing, with all staff having to go through a 'just and fair' process which felt punitive and which staff fed back made them feel "like criminals".

There was significant engagement across the Children's Hospital and the wider Trust, with a multi-disciplinary team of professionals including Consultants, Resident Doctors, Nursing Staff, Pharmacy and Health Care Assistants coming together to implement the improvement work, supported by the Trust Improvement Team (Kaizen Promotion Office – KPO). The rapid changes implemented were tested alongside the staff who continued to work on the wards during the RPIW, who were able to integrate the new ways of working, and feedback their views.

PDSA Cycles:

The following improvements were designed and tested utilising the multi-disciplinary approach during the RPIW week:

- **PDSA 1: Introduction of a Medication Safety Debrief, tested on PICU and Children's Haematology and Oncology Wards.**

The debrief takes place as soon after the incident as possible to create an action focussed approach to directly address the root causes of the issue, in line PSIRF principles. This has been in place in the test areas since November and has recently been spread to two new areas (Paediatric Medicine and Surgery).

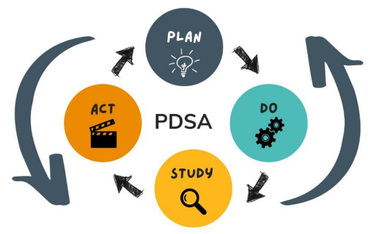
- **PDSA 2: Remove Waste from Datix Process and Increase Number of Datix Handlers across the Children's Hospital**

This has impacted the investigation time positively to remove bottlenecks in the current process. It has also sped up the implementation of learning and actions from medication incidents.

- **PDSA 2: Removal of Just & Fair portion of Investigation process.**

On all wards in the Children's Hospital. This has helped improve morale and reduce the blame culture that previously existed.

Staff testing the Medication Safety Debrief on the two wards during RPIW week

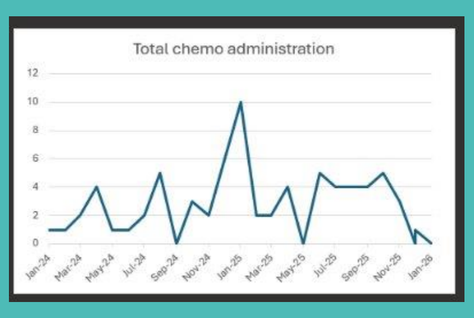


Results and Impact

- There has been a **significant reduction in the number of incidents waiting to be investigated (by 17%)**.
- The median **lead time** from incidents being investigated to reported has **decreased from 37 to 27 days**, meaning that actions needed to prevent future incidents are implemented more rapidly.
- The ward manager on Paediatric Haematology and Oncology reported that "the new process has actually prevented patient complaints, as when a parent asked what was being done about a medication error, the staff were able to immediately feedback the actions they had put in place for an incident which had happened the night before".
- The removal of the 'just and fair' process on the wards has led to a **significant improvement in staff morale and metrics around the 'blame culture'**. There has been a **34% decrease in staff who feel there is a blame culture, as well as a 78% increase in staff who feel that the process now prevents future errors**.
- The new process empowers staff to make changes in their area, truly fostering an improvement culture around medication incidents; **77% of staff feel positive or neutral toward the process compared to 56% prior to the medication incident being implemented**.

#	Metric (units of measurement)	Baseline	Target	Final	90 days 02/03/2026	Interim % Change (Nov-25)	90-day % Change
1	**Lead Time** Time from incident occurring to feedback being delivered	37 Days	19 Days	6 Days	27 Days	84%	27%
2	**Morale** Percentage of staff who agree or strongly agree with the following statements: • The current medicines incident framework prevents further errors • Staff regularly receive feedback about medication errors • When a medication incident happens, staff are supported • There is a blame culture around medicines incidents	 30.2% 68.3% 50.8% 34.8%	 Increase Increase Increase Decrease	 57% 57% 57% 29%	 53.8% 76.9% 53.8% 23.1%	 47% 17% 11.2% 27%	 78% 13% 6% 34%
3	**Morale** **Quality (defects)(%)** Percentage of staff who completed survey and gave a neutral or negative response about their current feelings towards the medicines incidents investigations process (59/63 as of 5th November 2025).	94% (44% negative)	0%	71% (21% negative)	69.2% (23.1% negative)	24% (23%)	26% (48%)
4	**Quality (defects)** Median number of medicines incidents occurring on L31 per month	4		4	4	0%	0%
5	**Work in Process (WIP)** Counted number of work within the process at a specific point in time (05/11/2025)	6		13	5	54%	17%

Target Progress Report: Shows the results of the improvement work



There has been a reduction in chemotherapy incidents since the implementation of the debrief

Sustainability and Next Steps

- The next steps are to scale to the other ward areas across the Children's Hospital; the leaders of these areas have been invited to the weekly improvement meeting to replicate the work done on the test wards and support them with any implementation issues.
- Once successfully implemented across the Children's Hospital, the longer-term plan will be to scale this across the organisation.

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