Eliminating Typing Errors

During Transcribing of Prescriptions in Outpatient Pharmacy

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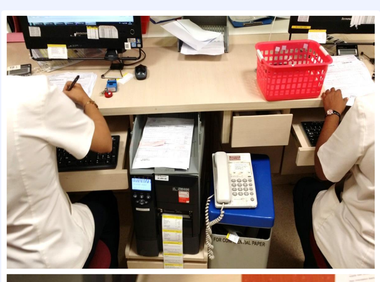
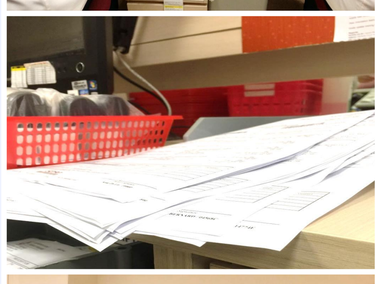
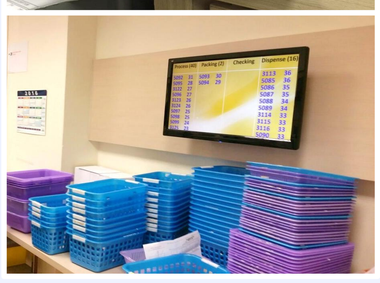
Introduction

Outpatient Pharmacy is a dynamic environment. Peak patient crowd stretches for 3-4 hours where most near miss typing errors happen. Typing errors constitute >50% of total near miss errors in Outpatient Pharmacy.

Eliminating typing near miss errors will reduce medication errors





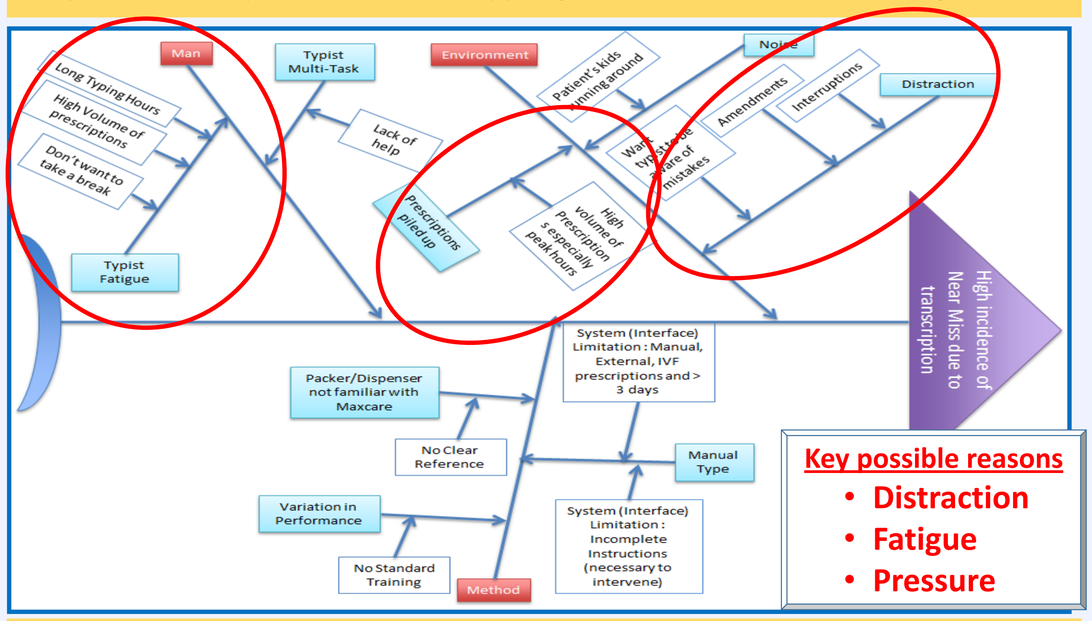


Aim

To **eliminate** typing errors in Outpatient Pharmacy by **identifying** contributing factors and **implementing** solutions.

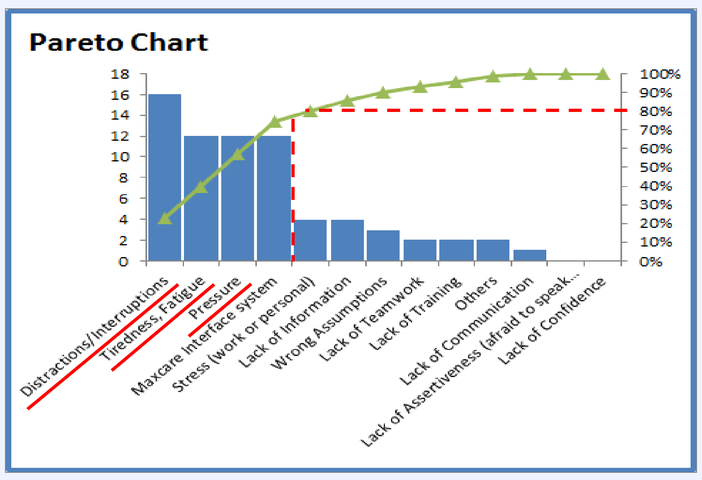
Methodology

Step 1: Identify Reasons for Typing Errors – Fish Bone Diagram



Key possible reasons
- **Distraction**
- **Fatigue**
- **Pressure**

Step 2: Validate Reasons with Typists' Survey – Pareto Chart



Typist's top 3 reasons for typing errors:

- (23%) **Distractions**
  - Due to common amendment requests: Quantity, Instructions, Deletion of drugs
- (17%) **Fatigue**
  - Long typing hours
- (17%) **Pressure**
  - Peak hour work demand

Step 3: Initiated 6 different phases (PDSA*) of improvement.

	Initiative
PDSA 1	Collection of Pre-data to identify possible causes
PDSA 2	Introduction of **Editor Typist** to carry out non-critical amendments and minimize distraction
PDSA 3	**Empowering staff for self-amendments** with counterchecking
PDSA 4	Typists taking regular 5 min **breaks**
PDSA 5	**Roster redesign** with 1 additional typist during peak hours and shorter overall hours
PDSA 6	**Final initiative consisting of all the above**

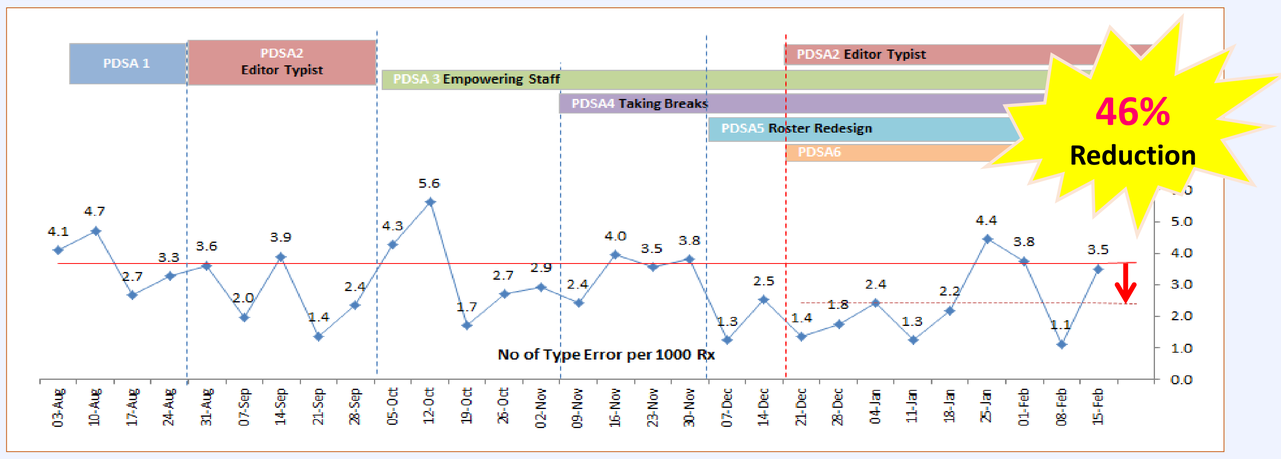
*PDSA- Plan, Do, Study, Act

Each phase was:
- implemented over 4 weeks
- followed by staff survey
- built upon the previous one

Weekly typing errors per 1000 prescriptions was collated and charted

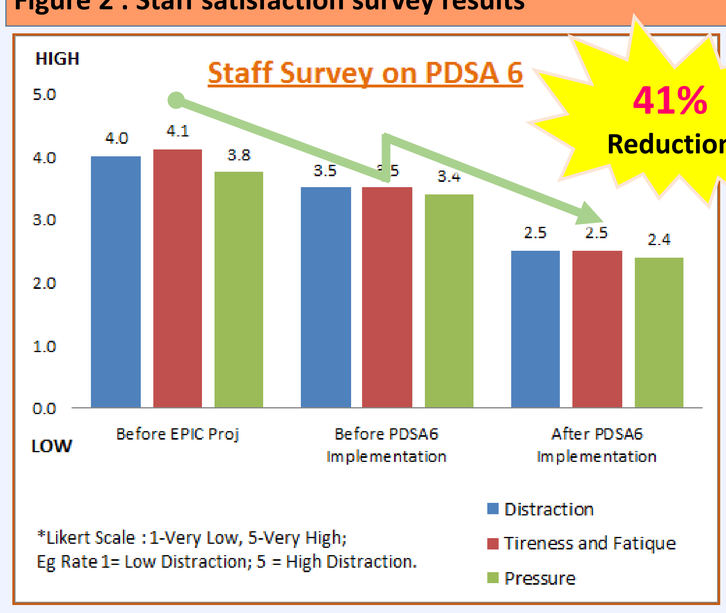
Results

Figure 1: Results of each phase - Typing Errors per 1000 Prescriptions



The Number of Typing Errors **reduced** from **3.7 to 2.0 per 1000 prescriptions** **(46% improvement)**

Figure 2 : Staff satisfaction survey results



Staff reported:
- Workload is better distributed
- Less distracted
- Less fatigue
- Less pressure

Table 1: Risk levels at different phases

Risk levels at different phases

Phases	Risk Rating with initiatives	Review	Further actions needed	Risk Rating after change	Average No of Type Errors per 1000 prescriptions
PDSA 1 Data Collection	LOW	Significant Typing Errors due to Distractions , Fatigue, Pressure	None	LOW	3.7 (Project Baseline)
PDSA 2 Editor Typist	LOW	Editor Typist Role not fully utilised	Staff communication for awareness to support new role	LOW	2.4
PDSA 3 Staff Empowerment	HIGH	Staff confusion due to lack of clarity. Typists Fatigue and Pressure still exist Breaks needed with shorter typing hours.	Staff communication for clarity and commitment to do self amendments.	MEDIUM	2.9 (1st 2 weeks 5.0) (Next 3 weeks 2.5)
PDSA 4 Mandatory breaks	MEDIUM	Staff dislike mandatory breaks Fatigue persisted due to long typing hours.	Breaks taken as needed	MEDIUM	3.7
PDSA 5 Roster Redesign	LOW	Roster Redesign relieved fatigue. Peak hour constraints on manpower and resources.	None	LOW	1.9
PDSA 6 Combine all	LOW	Staff satisfied feeling less distraction, pressure and fatigue.	None	LOW	2.2

LOW RISK RATING	MEDIUM RISK RATING	HIGH RISK RATING
Monitor progress and trend	Plan and manage as resource permits	Tackle immediately

Overall **smooth transition** for all phases implemented and operations not compromised

Conclusion

Typing Errors, Distractions, Pressure and Fatigue were **reduced** with implementation of:
- Editor typist role
- Staff empowerment
- Typist breaks
- Roster redesign

Patient-Medication Safety and its importance raised to a new level:
- **Staff commitment & support was critical** for each initiatives to mitigate risk and improve overall medication safety for patient care
- **Increased staff awareness** towards medication safety and care
- **On-going effort** established to eliminate typing error