Reshaping our Approach to Incident Review: Multi-Incident Analysis of Crushed Medication Errors

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Background

Multi-Incident Analysis (MIA) is a structured method for reviewing similar-themed incidents to identify patterns of contributing factors that may not have been identified with individual analyses.

This method was identified as a potentially useful tool to further investigate a cluster of incident reports relating to inappropriately crushed medications at our hospital.

Objective

To apply a structured, MIA method to review incidents involving inappropriately crushed medications, and to identify contributing factors and opportunities for system improvements.

Methods

An MIA method was adapted from the Canadian Incident Analysis Framework[1] to analyse five incidents relating to inappropriately crushed medications in April 2022.

INCIDENT REVIEW

The Medication Safety Pharmacist reviewed individual incident reports and patient clinical records, and prepared a summary of each incident.

KEY THEMES

The incident summaries were qualitatively analysed and incidents were grouped by Key Themes (Figure 1).

CONTRIBUTING FACTORS

Contributing factors for each Key Theme were identified using the London Protocol[2] (Figure 1).

RECOMMENDATIONS

Recommendations were developed to address the contributing factors (Figure 1).

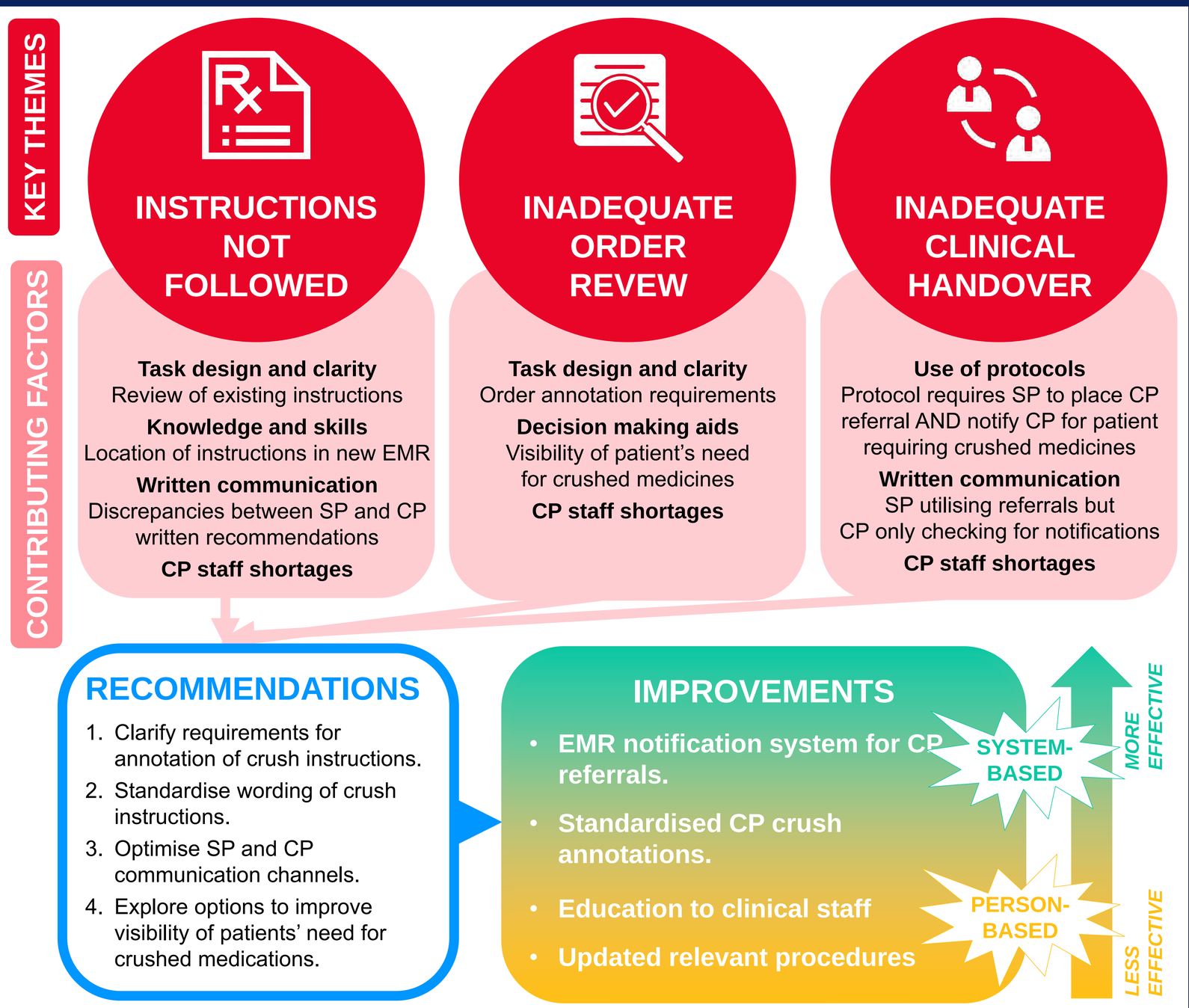

Figure 1: Crushed Medicines Multi-Incident Analysis Infographic. *CP: clinical pharmacist; EMR: electronic medical record; SP: speech pathologist.*

Evaluation

The structured MIA approach facilitated key themes and contributing factors to be established systematically.

The Key Themes were (Figure 1):

- Failure to follow existing administration instructions.
- Inadequate review of existing and new medication orders for suitability of crushing.
- Inadequate clinical handover regarding a patients' need for crushed medicines.

Factors that contributed to the Key Themes (Figure 1) included:

- Lack of clarity regarding checking administration instructions when administering medications.
- Lack of clarity regarding requirements for annotation of medication orders
- Visibility of patients' need for crushed medicines in clinical record.
- Discrepancies between Speech Pathologist (SP) and Clinical Pharmacist (CP) recommendations.
- Lack of knowledge regarding the location of administration instructions on the medication order,
- Miscommunication between SP and CP of SP recommendations for crushed medications
- Staff shortages

A mixture of systems-focused and person-focused improvements were implemented in response to the recommendations (Figure 1).

Discussion

MIA was an effective strategy to identify overarching themes from multiple medication incident reports.

The identification of contributing factors from multiple incidents provided a compelling case for systems-focused improvements.

Through enabling systems-focused improvements, MIA supports the continuous optimisation of our electronic medical record (EMR), thus contributing to the maturation of our EMR.[3]

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References

1. Canadian Incident Analysis Framework. Edmonton, AB: *Canadian Patient Safety Institute*, 2012.
2. Taylor-Adams S & Vincent C. Systems analysis of clinical incidents: The London Protocol. London: *Imperial College London*; 2004.
3. Electronic Medical Record Adoption Model [EMRAM]. Chicago, IL: *Healthcare Information and Management Systems Society*; 2022.