

Beyond Protocols: Uncovering Allergy-Related Medication Errors in the Digital Prescribing Era

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INTRODUCTION & AIM

The 2021 implementation of an electronic prescribing and medicines administration (ePMA) system within a large National Health Service (NHS) teaching hospital has reduced prescribing and administration of medicines where allergies are documented. However, allergy-related incidents persist, posing ongoing challenges to patient safety. This review aimed to identify and thematically analyse reported allergy-related medication incidents, supporting the value of leveraging digital systems to improve safety and quality in healthcare.

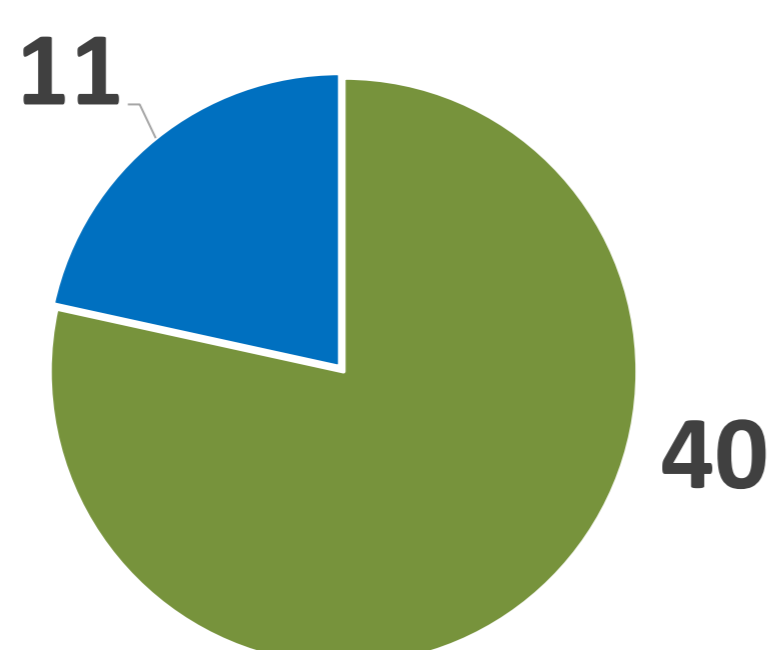
METHOD

Allergy incident data logged via the electronic incident reporting system (Datix) between November 2021 and June 2025 were analysed. Data included incident date and description, actions taken, lessons learned, and allergy documentation prior to prescribing. A secondary thematic review categorised incidents into two groups: (1) medicines prescribed and administered to patients with documented allergies, and (2) medicines prescribed but not administered.

RESULTS

A total of 51 allergy-related Datix reports were reviewed.

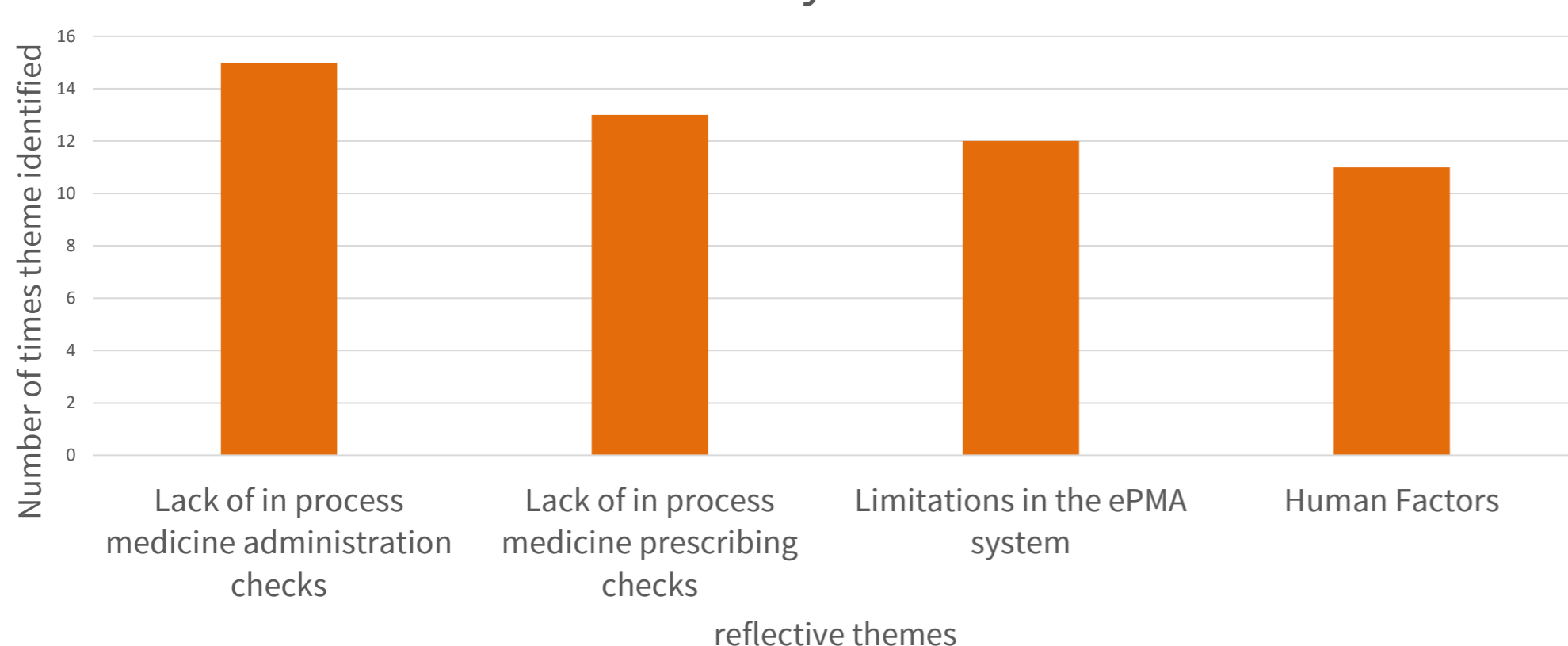
Reported medication allergy incidents



- Prescribed and Administered a medicine with documented allergy
- Prescribed a medicine with documented allergy

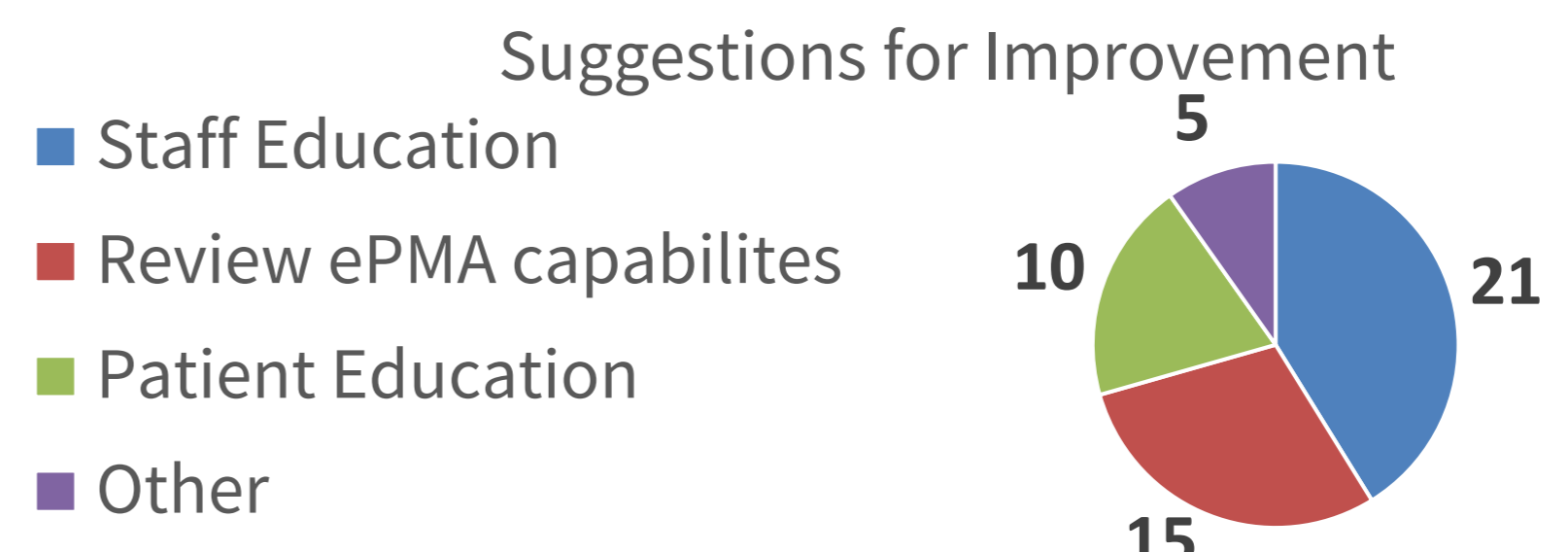
Reflections and reasons why the incidents occurred can be grouped into 4 main themes.

Reflections on why incidents occur



RESULTS CONTINUED

Suggestions for learning can be grouped into 4 themes.



DISCUSSION

Of the 51 incidents, 40 (78%) involved patients who were prescribed and administered medicines despite documented allergies, while 11 (22%) involved prescriptions that were not administered. The number incidents each year related to penicillin prescribing and administration is less than 0.01% of medication related incidents within the hospital.

The ePMA system does not have 'decision support' built in and the existing 'pop up' alert to prescribers is not enough to prevent errors such as these occurring. Other limitations include a lack of alert from ePMA at the point of medicines administration.

The thematic review identified both prescribing and administration errors occur for varying reasons. Lessons learned indicated that 28 (55%) of responses emphasised the importance of routine allergy checks before prescribing and administering medicines in line with current standard operating procedures. This also includes allergy wrist band, as a visual check and a verbal check with the patient.

CONCLUSION AND FUTURE WORK

This review highlights prescribing and administration errors occur despite robust protocols and ePMA safeguards. The 'get it right first time' approach should be considered within future developments and improvements especially in digital systems

Findings will inform targeted awareness campaigns for prescribers and nurses and pharmacy staff, reinforcing adherence to standard operating procedures and addressing limitations of ePMA systems in allergy management. Patient education and involvement in the administration of medicines will support a higher level of patient safety. Delabelling, a risk-based process to remove penicillin allergy labels from patients with unverified allergy is a new service that has been set up. Future developments focusing on the learning themes aim to continue to improve patient safety.