

A PHARMACIST LED EDUCATION PROGRAM TO IMPROVE ACCURACY OF THE ELECTRONIC ALLERGY RECORDS IN HOSPITAL

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INTRODUCTION

Approximately 12.1% of medication errors that result in adverse drug events, are caused by a lack of understanding of drug allergies.(1) Inaccuracies have been shown to exist in up to 98% of patient's records, (2) leading to medication errors and inappropriate prescribing.(3) Missing reactions, missing allergies/ADRs and incorrect type of reaction (recording a side effect as an allergy) are common inaccuracies.(4) This student lead research study aimed to assess the accuracy of the allergy/ADR record in eMR and identify whether a pharmacist-led education package improved the accuracy of such record.

METHODS

Retrospective audits were conducted across two six-month periods 1st January to June 30th 2019 and 1st July to December 30th 2020. Systematic sampling of every third patient was utilised to include records in the audit (n=1080 records). Each patient's digital allergy/ADR record through eMR, MHR and iPharmacy was accessed and data extracted into an excel document. Documentation was defined as accurate if all fields aside from date of reaction were complete in eMR and there were no discrepancies between data sources. Between the two audit periods a pharmacist led education package was delivered to health professionals targeted at improving ADR knowledge within the hospital.

CONCLUSION

Essentially all patients being admitted to the study hospital are having their allergy/ADR history taken and documented in eMR. However, the recording in eMR of allergies/ADRs is largely inaccurate. A Pharmacist-led education program was found to significantly improve the accuracy of documentation. A broader multi point program of allergy/ADR documentation training and education, auditing with feedback and electronic system changes should be considered.

ADR DOCUMENTATION ACCURACY

PHARMACISTS
63% ->89.2%

P<0.001

NURSES
59.2% ->69.9%

P<0.001

DOCTORS
39.4% ->45.5%

P=0.655

OVERALL
41.9% ->58.1%

x2<0.001

"SIGNIFICANT IMPROVEMENT"

THE PHARMACY-LED EDUCATION PROGRAM WAS FOUND TO SIGNIFICANTLY IMPROVE ACCURATE ALLERGY/ADR DOCUMENTATION.

37.1% INCREASE IN ADR DOCUMENTATION ACCURACY POST INTERVENTION.

Improvement post intervention was seen in all professions, with both Nurse and Pharmacist statistically significant P<0.001.

EDUCATION

An education package was developed by the pharmacy department. The package involved a 45-minute presentation with accompanying power point and 15-minute training demonstration using the eMR functionality.

Documentation errors

PRE INTERVENTION

POST INTERVENTION

NO REACTION DOCUMENTED

49.9%

35%

INCORRECT SUBSTANCE TYPE

20%

22.5%

INCORRECT REACTION TYPE

72%

54%

DISCUSSION

The allergies/ADRs electronic record for patients admitted to the hospital was largely inaccurate. These findings are consistent with the literature.

The leading errors were due to incomplete "reaction symptoms" and incorrect classification of reactions.

The reaction symptoms field was incomplete (left blank) in 43% of instances. The field is not mandatory, and non-mandatory fields in electronic forms are frequently left incomplete. Additionally the reaction type default of "allergy" encourages incorrect classification of intolerance/side effects.

Pre-intervention, Pharmacist review was not associated with an increased accuracy allergy/ADR record (22.5% vs 18.26%), whereas post intervention a Pharmacist review was associated with a significantly more accurate record (68.5% vs 38.6% P<0.001), demonstrating that ADR accuracy cannot be assumed to be innately important to pharmacists and should be reinforced.

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