Introduction

Medication errors are the largest identified source of preventable hospital medical errors.

Serious errors arise from orders that contain abbreviations, symbols and faulty dose designations.

ISMP and Accreditation Canada suggest that hospitals adopt a list of prohibited, error-prone abbreviations and unacceptable dose designations ("Do Not Use List").

The WRHA implemented a Medication Order Writing Standards (MOWS) Policy in 2007. It includes the Banned Abbreviations, Acronyms, and Symbols List.

We performed retrospective chart reviews to determine the effect of implementing the MOWS Policy on the quality of medication order writing.

Methods

Serial retrospective audits of prescriber compliance with MOWS elements were conducted at 6 WRHA hospitals (~ 1700 beds):

• Before implementing the MOWS Policy (baseline; Feb'07)
• After Intervention 1 (Sept'07)
• After Intervention 2 (Oct'09)

Two investigators (BS, LJG) collected data from medication orders received in pharmacy on 3 randomly selected dates within each audit period.

Intervention 1 consisted of education (Feb-Jun'07) delivered to prescribers and other health care providers via didactic lectures or inservices and posters (wall; computer screen savers).

Intervention 2 consisted of pharmacists sending memos signed by the Chief Medical Officer to prescribers who did not comply with a list of prohibited, error-prone abbreviations and unacceptable dose designations ("Do Not Use List").

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The two sample test of proportions was used to evaluate changes in compliance (compared to baseline) after Intervention 1 and after Intervention 2.

Results

• 8565 orders were audited at baseline, 5461 were audited following Intervention 1, and 6198 were audited following Intervention 2.

• Use of abbreviations for “once daily” decreased significantly (p<0.05) after education (Figure 1).

• Use of abbreviations for “once daily”, “units” and “subcutaneous” decreased substantially and significantly (p<0.05) after direct prescriber feedback (Figure 1).

• Though small in number in each audit, abbreviated drug name use increased significantly (p<0.05) from baseline following direct prescriber feedback (2.8% to 4.3%) (Figure 2).

• The number of orders containing a trailing zero in each audit was too small for statistical analysis.

• PRN orders missing an indication, which was a non-targeted MOWS element, increased significantly (p<0.05) from 56% to 86% following direct prescriber feedback (Figure 2).

Discussion

• The direct prescriber feedback education campaign was successful in decreasing prescriber use of targeted MOWS banned abbreviations.

• The rise in use of abbreviated drug names after direct prescriber feedback indicates that alternate methods of enforcing this MOWS element might be required.

• Education or direct prescriber feedback did not alter compliance with non-targeted MOWS elements.

• Future MOWS campaigns should include direct prescriber feedback focused on MOWS elements that remain problematic (e.g. inclusion of route).

Conclusion

• Education plus direct prescriber feedback had a greater impact than education alone on improving compliance with the MOWS Policy.