

Standardizing and improving medication reconciliation implementation strategies by enhancing the consistency in the classification of medication discrepancies

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Background Medication reconciliation process is hampered by the complexity, heterogeneity, and lack of standardised method for quantifying the outcomes. Accordingly, we suggest that in order to monitor and measure changes that are associated with the implementation of medication reconciliation strategies, standardisation of medication discrepancy nomenclature will improve optimizing measurements and outcomes of medication reconciliation.

Purpose The aim of this work was to develop and validate a new taxonomy for medication discrepancies to enhance the consistency in the identification and classification of discrepancies, as a critical step in the medication reconciliation process.

Method A new taxonomy of medication discrepancies was developed and tested for its content validity, inter-rater reliability, internal consistency, and usability between pharmacists and nurses. Additionally, four operational definitions and instructions were formulated and tested. The content of the taxonomy was assessed using expert opinion through a two-round modified Delphi process. Six experienced pharmacists were then invited to classify medication discrepancies from a number of fictitious cases using the taxonomy. Finally, 20 nurses and 20 pharmacists were asked to use the new taxonomy for classifying 38 different medication discrepancies. The pharmacists required to apply the taxonomy to cases at two times, 7 to 10 days apart.

Findings The medication discrepancy taxonomy (MedTax) comprises 12 main types and 28 sub-types of discrepancies that have been arranged in an open hierarchy structure. This work demonstrated that the overall average content validity index (Ave-CVI) of the entire taxonomy was 0.93 and inter-rater reliability was 0.67 (multirater ?free), indicating substantial agreement. In addition, an excellent internal consistency of the taxonomy was established (Kuder?Richardson Formula 20 (KR-20) =0.92). The usability and test-retest study indicated that the new taxonomy (MedTax) performs as intended, and there was no significant difference between the healthcare professionals and the accuracy of classifying the medication discrepancies using the (MedTax). The percentage of overall agreement among nurses and pharmacists was comparable (0.81 and 0.86 respectively). The test-retest reliability of the taxonomy was high (p values > 0.05, McNemar?s test).

Conclusion Overall, the (MedTax) provides a valid and reliable approach for various healthcare professionals to be used in different care settings to classify medication discrepancies and to fill an essential void in global endeavors to reinforce standardisation of medication reconciliation practices and to improve medication safety across transitions of care. The clear and consistent reporting of medication discrepancies arising from medication reconciliation services is of value to policy makers, healthcare professionals and researchers, when evaluating such services.