Development of a medication discrepancy classification system to evaluate the process of medication reconciliation

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Background Medication discrepancies across transitions of care are the sole quantitative measure related to the medication reconciliation process. Our recent published systematic review about how medication reconciliation has been conducted and how medication discrepancies have been classified identified significant inconsistencies in reporting, measuring and classifying medication discrepancies and the absence of a well-designed tool to evaluate medication reconciliation outcomes (1).

Purpose The aims of this study are to evaluate how medication discrepancies have been classified in the literature and to develop a comprehensive taxonomy to classify medication discrepancies identified through the medication reconciliation process.

Method The medication discrepancy classification system was developed based on a comprehensive systematic review of the literature and the experience of our research team. We searched six different databases in accordance with the PRISMA statement up to April 2016. The studies were eligible for inclusion if they aimed to classify medication discrepancies and contained a classification system for these discrepancies. All relevant data related to the classification of medication discrepancies were extracted and were used to inform the design of a comprehensive taxonomy.

Findings Ninety-five studies were included in our review; three taxonomies for classifying medication discrepancies were identified. These tools were utilized in 11 studies (11.6%), three of which described the establishment of the tools. Most studies classified medication discrepancies empirically, based on the data collected (57/95, 60%). There were 22 studies (23.1%) that categorized discrepancies based on other relevant studies published in the literature. Five studies (5.3%) utilized a classification for (DRPs) to classify medication discrepancies. The number of classification terms ranged from 2 to 50 terms. Additionally, a small number of studies (11/95, 11.6%) stated the reasons for discrepancies in their categories and seven studies described interventions related to medication discrepancies. Our comprehensive taxonomy builds on existing frameworks for classifying medication discrepancies. It contains four sections: operational definitions, types of medication discrepancies, causes of medication discrepancies and intervention/ recommendations. The tool categorizes the types of medication discrepancies into 13 categories and 28 sub-categories. The tool is undergoing psychometric testing for content validity and inter-rater reliability.

Conclusion We believe that a well-designed comprehensive taxonomy for medication discrepancies is critical for systematically evaluating and comparing different medication reconciliation services. 1. Almanasreh E, Moles R, Chen TF. The Medication Reconciliation Process and Classification of Discrepancies: A Systematic Review. British Journal of Clinical Pharmacology. 2016.