Perceptions of a pharmacist-lead medication reconciliation process in a preoperative consultation at a urological ward

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Background and Objective

Medication reconciliation (MR) at hospital admission helps identifying unintended medication discrepancies and preventing medication errors. At the University Hospital Basel, patients undergoing an elective urological surgery are routinely invited to a preoperative consultation. Before urologists reorganized the process, with the aim to improve efficiency, the collection of medication history was mainly based on medication lists from general practitioners or previous hospital stays. With the aim to ameliorate the efficiency and satisfaction of medication management, as well as to reduce potential medication errors, a pharmacist-lead MR process was established at the urological ward of the University Hospital Basel.

Methods

During nine weeks clinical pharmacists performed a MR for all elective patients at the urological ward using at least two different sources (structured patient interview, medication lists, or medication which was brought along). In case of uncertainties, outpatient community pharmacies or general practitioners were contacted. To improve medication management, suggestions for substitutions to the in-house formulary were documented. Discrepancies between the different sources were identified and discussed directly with the attending physician. In collaboration with a clinical pharmacologist, these discrepancies were categorised according to their potential of causing harm (high, moderate, low risk or very low risk) using a risk matrix [1] which takes into account consequence of risk and probability of recurrence (cf. table 1 and 2).

Table 1: Risk matrix

Probability	Consequence category				
	Negligible (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Almost certain (5)	5	10	15	20	25
Likely (4)	4	8	12	16	20
Possible (3)	3	6	9	12	15
Unlikely (2)	2	4	6	8	10
Rare (1)	1	2	3	4	5

Table 2: Classification of risk

Classification of risk	Risk matrix score
High risk (red)	15, 16, 20 or 25
Moderate risk (orange)	8, 9, 10 or 12
Low risk (yellow)	4, 5 or 6
Very low risk (green)	1, 2 or 3

Discrepancies resulting from on-demand or irregular medication, missing or incomplete medication lists were not further analysed.
Satisfaction of physicians and nurses with the process was explored using a self-created questionnaire, containing five questions about quality of medication management and time optimization.

Results

Out of 94 performed MRs, 588 prescribed drugs were documented and 334 discrepancies evolved. A total of 129 discrepancies resulted from additionally identified drugs (cf. figure 1) and 106 discrepancies from listed but already completed drug therapies (cf. figure 2).

Further 99 (29.7%) discrepancies resulted from dosage errors or incomplete information on the medication lists which could be resolved through the structured patient interview or by consulting outpatient community pharmacies or general practitioners.

For 140 drugs a suggestion for substitution to the in-house formulary was documented.

In collaboration with a clinical pharmacologist 141 discrepancies were categorised according to their potential of causing harm. As shown in figure 3, 10 discrepancies (7.1%) were identified as posing a high risk to patient safety, for example listed anticoagulants despite completed therapies, missing antidepressants or a differing dosage of an antiepileptic drug. Further 50 discrepancies (35.5%) posed a moderate and 81 (57.4%) a low risk to patient safety. None of the discrepancies were classified as very low risk to patient safety.

All physicians and nurses reported an improvement of quality and saving of time in the process of collecting medication history (60% >10 minutes/patient, 40% 5-10 minutes/patient) and overall medication management (62.5% >20 minutes/patient, 37.5% 10-20 minutes/patient).
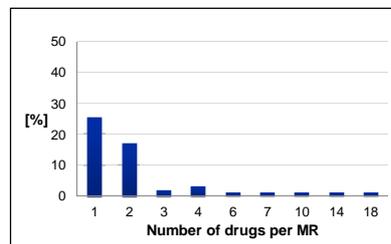

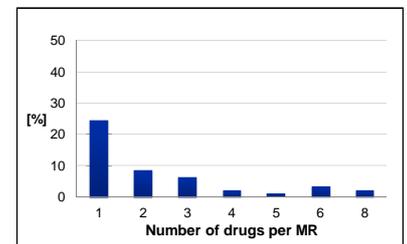**Figure 1:** Additionally identified drugs during MR

Figure 2: Completed drug therapies still listed on the medication list, identified during MR
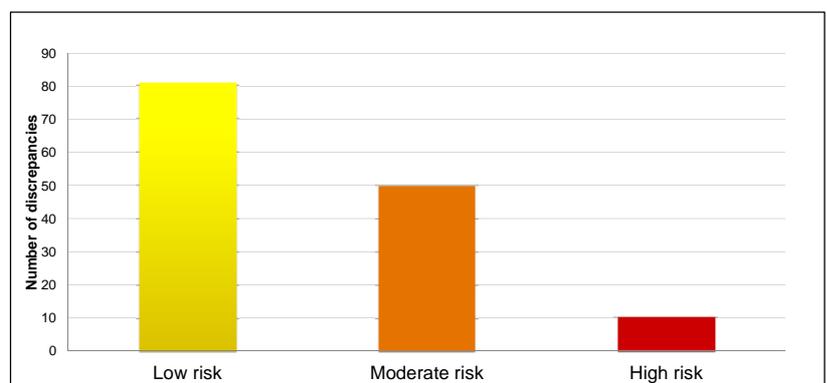

Figure 3: Discrepancies with a risk to patient safety

Conclusion

A pharmacist-lead MR process is useful to identify medication discrepancies, partially with a high risk to patient safety. The interdisciplinary work supports physicians and nurses in their routines and improves quality as well as efficiency in the preoperative consultation.

Reference:
[1] Guide to the Health Information and Quality Authority's Medication Safety Monitoring Programme in Irish Public Acute Hospitals,October 2016; p. 36, 37

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