

# Comparing findings from prospective risk analyses of the dispensing processes in Serbian and German community pharmacies

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**Background** Despite their great potential to systematically identify strategies for preventing medication errors, prospective risk analyses have so far been carried out rather infrequently in pharmacy practice of both developed and developing countries, particularly in community pharmacies.

**Purpose** The aim of this study was to identify measures for reducing safety risks associated with the dispensing of prescription medicines in Serbian and German community pharmacies by conducting prospective risk analyses. We compared the main failure modes identified, as well as the corrective actions suggested and the potential for enhancing patient safety across countries.

**Method** Failure Mode and Effects Analyses (FMEA) were performed in January-May 2016 in Serbian and in October 2016 in German community pharmacies. First, multidisciplinary teams consisting of a leader and process experts involved in dispensing employed brainstorming techniques to map dispensing processes and identify failure modes, their causes and effects. Then, the associated risks were quantified by calculating Risk Priority Numbers (RPNs) for each failure mode based on its severity, occurrence and detectability. Finally, corrective actions were developed and their potential effects were evaluated for the failure modes with the highest RPNs.

**Findings** Our FMEAs yielded 30 failure modes in Serbian and 39 in German community pharmacies? dispensing process. Despite some organizational and procedural differences across settings, the highest risk potential in both countries was assigned to the incorrect or lacking assessment of therapy appropriateness, particularly regarding dosing and drug interactions (RPN 48 in Serbia and 45 in Germany). Dispensing of wrong medicine, its dose or dosage form were also ranked high (RPN 40 and 30), as well as incomplete patient counselling (RPN 36 and 30). The main corrective actions in both countries were education and clinical pharmacy training, workload reduction by service restructuring, and introducing computerized prescribing and electronic transmission of prescriptions to the pharmacy. The potential risk reduction by implementing the proposed corrective actions for the most critical issues was estimated to be 50.3% in Serbian (sum of RPNs reduced from 583 to 293) and 26.64% in German dispensing processes (sum of RPNs reduced from 781 to 573).

**Conclusion** Our results highlight many similar safety issues related to the dispensing of medicines in Serbian and German community pharmacies, particularly those arising from assessment of therapy appropriateness. Accordingly, it is a combination of corrective actions proposed by FMEA that holds the potential of reducing these patient safety risks in both countries? community pharmacy practices.