

# Prevention of drug related problems: the added value of a clinical decision support system for daily practice.

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**Background** DRP's are often the cause of hospitalization and increasing morbidity and mortality (HARMstudie, 2006). Pharmaceutical care can prevent this. Unfortunately there are many clinical guidelines and ? by the high number of possible drug related problems (DRP?s) ? it's hardly achievable to apply them all in daily practice. A clinical decision support module can help the community pharmacist to prevent or solve more DRP?s and to offer better and tailored medicines services.

**Purpose** 1. Selection of high-impact DRP?s. 2. Development, try out and launch of a clinical decision support module in pharmacy software. 3. Evaluation of the clinical decision support module. 4. Development quality indicators.

**Method** 2014 ? 2018: A working group consisting of 8 pharmacists and 1 IT programmer selected 11 use cases, according to following criteria: 1) high impact, 2) feasibility, 3) evidence based guidelines. The guidelines were implemented in pharmacy software. All available and convenient individual data, stored in the patient pharmaceutical software dossier are used. Each implemented use case was evaluated by 10 pharmacies. Based on this evaluation the use cases were adapted before roll out. 2018 - 2019: 59 pharmacists gave their informed consent to participate in a study to evaluate the results of working with these clinical decision support system. Following DRP?s will be evaluated : 1) Methotrexate and folic acid, 2) NSAID use and gastric protection, 3) QT prolonging drugs. The results will be presented at the PCNE working Conference 2019.

**Findings** Following topics were implemented in the software : 1) Methotrexate and folic acid, 2) NSAID use and gastric protection, 3) Acetylsalicylic acid use and gastric protection, 4) Isotretinoin, 5) Opioids use and laxatives, 6) Osteoporosis, 7) Flu vaccination, 8) QT prolonging drugs, 9) Antiplatelet medication for diabetic patients, 10) HPV vaccination, 11) Pneumococcal vaccination. The software uses all available and convenient data of the software system such as age, gender, drug history,.. This makes that a pop-up only occurs when the patient needs extra pharmaceutical care. Pharmacists can one by one put on or put off the use cases in their software.

**Conclusion** During 5 years 11 guidelines have been implemented in pharmacy software. As a next step we want to investigate if pharmacists using the pop-ups deliver better pharmaceutical care. These results will be presented at the PCNE working Conference 2019. Later we will broader register the actions taken by the pharmacist in order to develop quality indicators based on these high-impact use-cases.