**MediScreen: Implementation of a tool for detecting patients at risk of adverse drug events via the electronic medical record**

**INTRODUCTION AND OBJECTIVES**
- Medication errors, including **prescription errors**, are a major source of patient harm. Pharmacists at the Valais Hospital (HVS), are not able to validate all prescriptions daily (2,100 medical orders per day).
- A project called “MediScreen” was launched to detect situations at risk of drug related problems (SRDRP), in order to fill this gap.
- **25 queries of high criticality** were developed based on a literature review and consensus with physicians from different medical disciplines. The queries were then programmed with the software PharmaClass® that is **interfaced with the electronic medical record (EMR)** of our hospital.
- **Objectives:**
  - To evaluate the impact of this screening on drug therapy
  - To estimate the time required for pharmacists to analyze and manage SRDP

**METHODS**
- 6 months prospective interventional study (1 Feb. 2018-31 July 2018) on all hospitalized adult patients (approx. 900 beds)
- Intervention: **real-time** detection of SRDRP by PharmaClass®, followed by **analysis** by the clinical pharmacist who calls the prescriber to suggest treatment modifications if necessary.
- **Measured indicators:**
  - Number of SRDRP detected
  - Number of pharmacist interventions (PI)
  - Number of accepted PI (and acceptance rate), refused or not applicable
  - Required resources quantified in pharmacist time per day

**RESULTS**

**DISCUSSION, CONCLUSION**
- **Treatment adaptation and prevention of the occurrence of adverse drug events in 104 situations** that would not have been identified without MediScreen.
- **Reassignment of time** spent on clinical activities due to this novel activity is needed.
- **Two types of queries:**
  - Identification and prescription validation of a specific drug at risk
    → **Sensitivity** is a more appropriate endpoint than specificity
  - Identification of a particular drug related problem
    → **Specificity** needs to be improved to reduce the rate of non-clinically relevant SRDRP
- **High acceptance rate of PI (87%)** explained by focus on queries of high criticality and the pharmacist’s verification of the clinical relevance of SRDP
- **Perspective:** alerts for less critical situations will be developed in order to optimize the treatment of patients seen during interdisciplinary visits.

**REFERENCES**
[2] Definitions: Manuel descriptif de documentation des activités en pharmacie clinique. GSASA (Swiss association of Public Health Administration and hospital pharmacists) 2014