Hôpital du Valais
Spital Wallis

Institut Central des Hôpitaux
Zentralinstitut der Spitäler

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

A.-V. Luyet[1], V. Jordan-von Gunten[1], P Turini[2], J.Beney[1]

[1]Division of Pharmacy, Institut Central des Hôpitaux (ICH) [2] Medical coordinator for quality of care and patient safety, Hôpital du Valais (HVS), Sion, Switzerland

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[1]. The queries were then programed 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 SRDRP

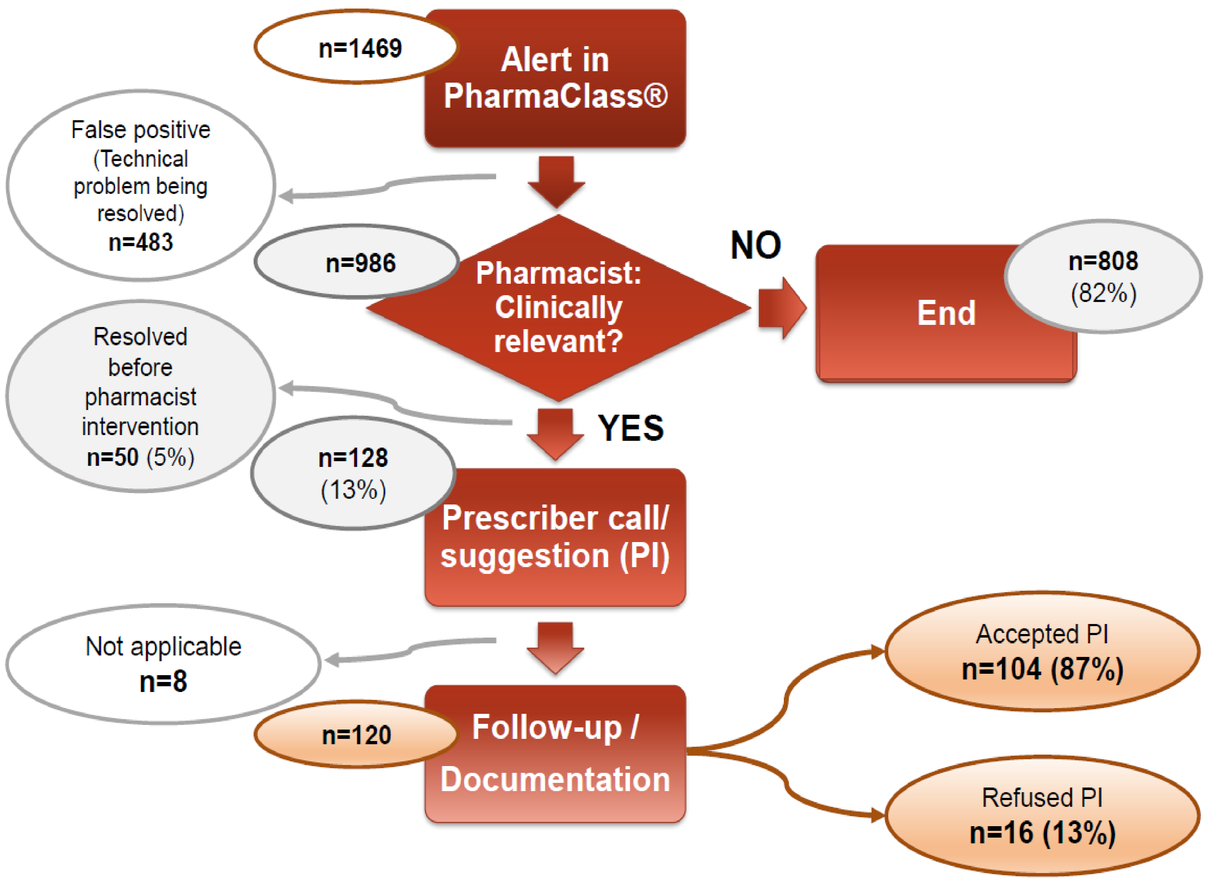
METHODS

☆ 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[2]
- Required resources quantified in pharmacist time per day

RESULTS



24h

PER DAY:

Pharmacist time spent: 1h20

SRDRP analysed: 10

Pharmacist intervention (high criticality): 1

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 SRDRP

☆ Perspective: alerts for less critical situations will be developed in order **to optimize the treatment of patients** seen during interdisciplinary visits.

REFERENCES

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Anne-valerie.luyet@hopitalvs.ch

www.hopitalvs.ch - Service de Pharmacie, ICH, Avenue du Grand-Champsec 86, 1951 Sion, Suisse