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

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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
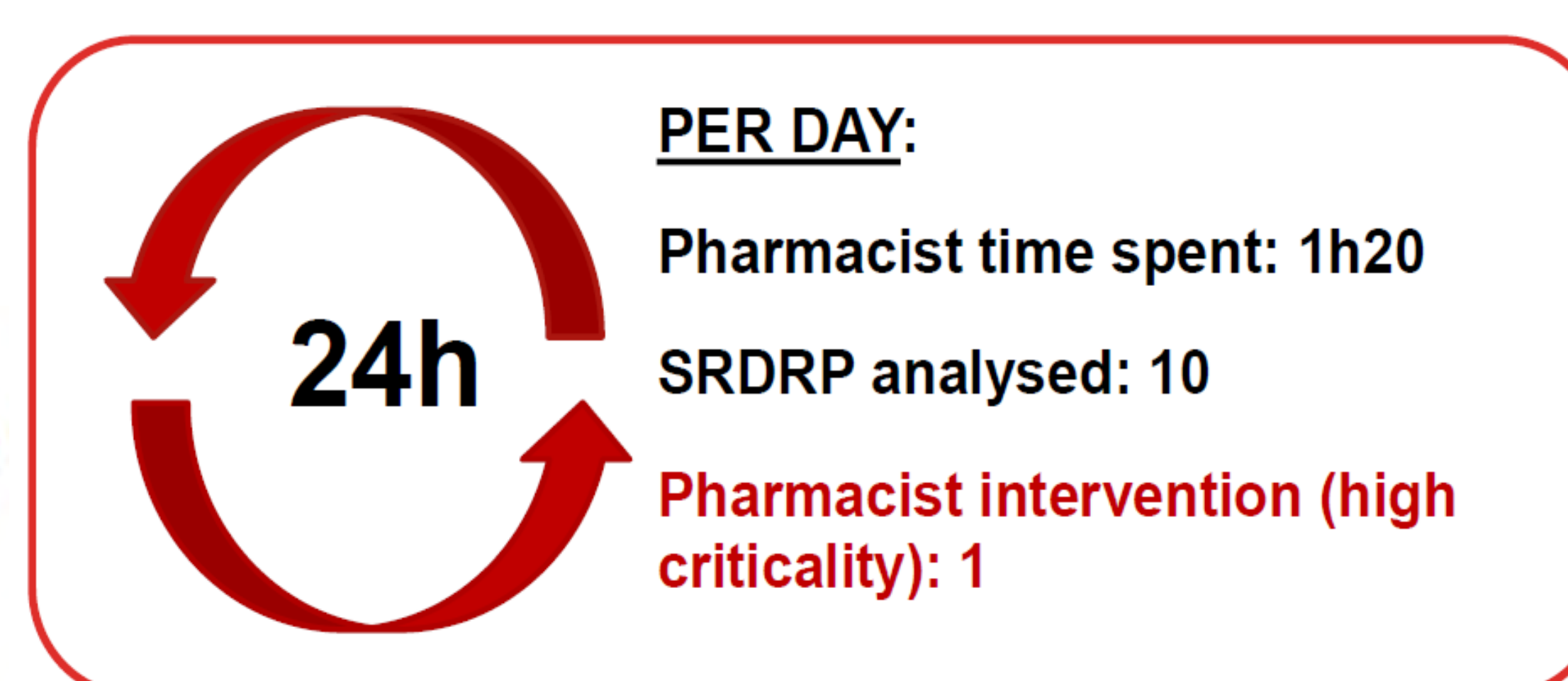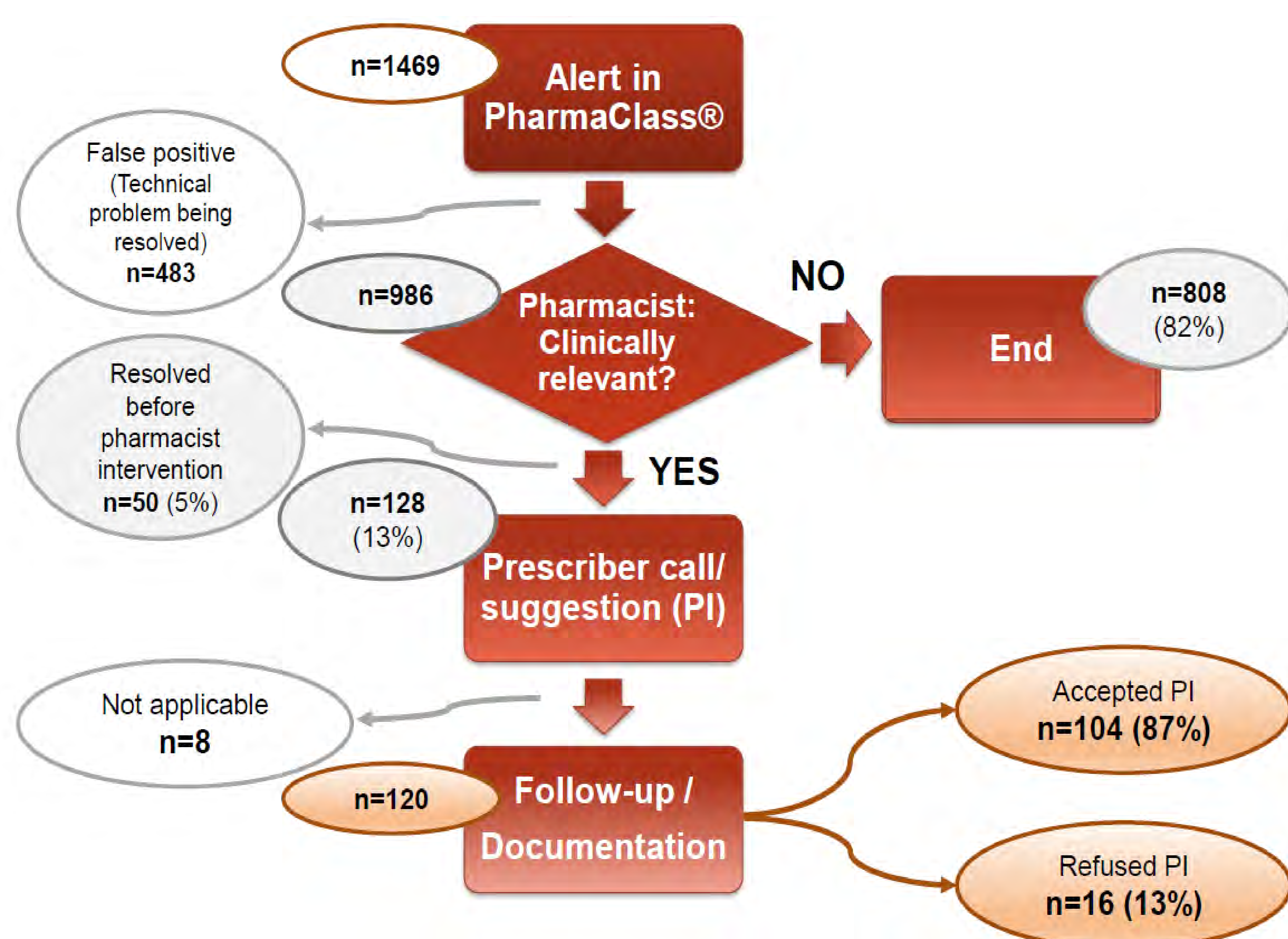 • To estimate the time required for pharmacists to analyze and manage SRDRP

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

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.

RESULTS

PER DAY:
Pharmacist time spent: 1h20
SRDRP analysed: 10
Pharmacist intervention (high criticality): 1

24h

REFERENCES

[1] Bochatay L, Jordan-von Gunten V, Turini P, Beney J.; MediScreen: Détection de patients à risque d'événements indésirables médicamenteux: élaboration de règles pour les dossiers patients informatisés; oral communication and poster prensented JFSPH, Belfort, March 2018

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