Results Articles included=8, numbers of patients=2926. Only five studies used anticholinergic scales: anticholinergic drug scale (three studies), anticholinergic risk scale (two studies). Three studies correlated anticholinergic drug use with xerostomia and/or xerophthalmia. Five were cross sectional studies, one randomised controlled trial and 2 cohort studies. Mean study duration was 5 months (range 2–10 months). Only three studies found a statistical association between xerostomia and anticholinergic burden when comparing patients without an anticholinergic burden and patients with a high anticholinergic burden. No studies found an association between anticholinergic burden and xerophthalmia.

Conclusion and relevance An association was found only in those studies that compared high anticholinergic burden versus no burden for xerostomia, therefore indicating that measurement of anticholinergic burden could be a good method of predicting xerostomia in patients treated with anticholinergic drugs. However, larger studies are necessary to better corroborate this conclusion.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-369 PHARMACHECK AS A SCREENING TOOL TO INTERCEPT HIGH RISK SITUATIONS IN INTERNAL MEDICINE THAT COULD LEAD TO ADVERSE DRUG EVENTS

¹C Skalafouris*, ²JL Reny, ²J Stirnemann, ²O Groscurin, ³F Eggimann, ³D Grauser, ¹M Jermini, ¹C Bruggmann, ¹P Bonnabry, ¹B Guignard. ¹Geneva University Hospital, Pharmacy Department, Geneva, Switzerland; ²Geneva University Hospital, General Internal Medicine Division, Geneva, Switzerland; ³Geneva University Hospital, Information Systems Department, Geneva, Switzerland

10.1136/ejhp-pharm-2021-eahpconf.201

Background and importance In the internal medicine department of our hospital, medication review provided by pharmacists during medical rounds is offered to only a fraction of the 200 inpatients, due to limited resources. In order to detect high risk situations potentially leading to adverse drug events, we developed PharmaCheck, an electronic tool that screens all patient electronic health records (EHR) in real time, by aggregating drug prescriptions, laboratory values, vital signs and medical problems.

Aim and objectives To determine the impact of PharmaCheck in the identification of high risk situations and on the clinical pharmacist's interventions.

Material and methods PharmaCheck was set to screen 20 situations distributed into four risk classes: a drug prescription with an abnormal laboratory value, a contraindication, a drug–drug interaction (DDI) and an inadequate administration mode. For 150 days (February to August 2020), PharmaCheck performed a daily screen of patients' EHR, admitted to the internal medicine department. As soon as an alert was triggered, the clinical pharmacist analysed the patient's clinical context to suggest a treatment adjustment when needed. An observational prospective study was performed to assess the distribution of each risk class, the predictive positive value of each alert (PPV: proportion of situations associated with an intervention) as well as the acceptance rate by the prescribers.

Results 430 alerts were triggered for 387 patients (3.3±1.9 alerts/day) with a global PPV of 19.3% (n=83/430). Regarding

risk classes, PPVs were 25.6% (n=58/226) for abnormal laboratory value, 3.10% (4/127) for contraindications, 28.2% (20/71) for DDIs and 16.7% (1/6) for inadequate administration mode. The approval rate of treatment adjustment suggestions was 71.1% (n=59/83); rejections were related to an acceptable risk–benefit balance (n=20) or an unknown cause (n=4).

Conclusion and relevance PharmaCheck identified a significant number of high risk situations. By contextualising these alerts the clinical pharmacist selected the most relevant ones to suggest treatment adjustment, mostly accepted by physicians. Beyond the clinical context, the relevance of alerts depends on the informative quality of the triggering elements, explaining a low PPV for some risk classes (eg, contraindication, depending on unstructured textual medical problems). PharmaCheck expands the coverage of the clinical pharmacist for selected situations and we plan to transpose this strategy to other, more fragile, patient populations (eg, geriatrics, paediatrics, oncology).

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-370 PHARMACISTS' INTERVENTIONS BEFORE AND AFTER THE USE OF A CLINICAL DECISION SUPPORT TOOL TO DETECT DRUG RELATED PROBLEMS

O Urbina*, P Martin, MD Martinez, A López De Torre, C Blanco, Y Llorens. Hospital Universitario Álava, Pharmacy Department, Vitoria-Gasteiz, Spain

10.1136/ejhp-pharm-2021-eahpconf.202

Background and importance Drug related problems (DRP) and medication adverse events occur in hospitalised patients. Computer provider order entry (CPOE) systems with clinical decision support systems (CDSS) are a key process for the pharmacist's routine prescription validation to improve medication prescribing and patient safety.

Aim and objectives To evaluate the type and number of pharmacist interventions (PI) before and after the use of a CDSS tool added to the CPOE system.

Material and methods A retrospective observational study was carried out in a 300 bed hospital between January 2019 and May 2020. Data collected were: DRG type, PI and detection method. First period (January–August 2019): pharmacist validation using CPOE and electronic health records (EHR) was performed. The CDSS was introduced in August 2019. The CDSS includes drug information related to dose adjustment according to renal function, monitoring of analytic parameters susceptible to being altered by the drug, and drug–drug/drug–food interactions that are continuously updated by pharmacists. When EHR and CPOE containing demographic, anthropometric and clinical data of the patient as well as pharmacological treatment are integrated with the CDSS, alerts are generated (potential DRP) in real time that are evaluated by pharmacists. When the alerts are considered relevant, pharmacists write a PI in the patient's chart. Second period (August 2019 –May 2020): CDSS alerts were available for prescription validation.

Results First period: 1574 PI. Second period: 1687 PI (1451 using the first period method and 236 using the CDSS alerts). PI as a result of the CDSS were about 14% of total PI, and their type and number comparing both periods are presented in table 1.

Abstract 4CPS-370 Table 1

Type of PI	Second period (n (%))	First period (n (%))
Dose adjustment according to renal function	141 (8.3)	8 (0.5)
Recommendations about drug–drug or drug–food interactions	91 (5.4)	1 (0.06)
Monitoring of analytic parameters susceptible to being altered by the drug	17 (1)	0

Conclusion and relevance The number of PI made in the two periods was similar but the CDSS tool allowed pharmacists to detect certain types of DRP that use of the CPOE alone did not allow. Moreover, the use of this tool optimised the pharmacist's medical prescription review time and facilitated the PI registration task. To increase the usefulness of the CDSS it is necessary to increase the number of relevant alerts introduced in this application.

REFERENCES AND/OR ACKNOWLEDGEMENTS

None.

Conflict of interest No conflict of interest

4CPS-371 USABILITY EVALUATION OF A PERSONALISED HEALTH RECORD FOR DETECTING MEDICATION DISCREPANCIES

¹D Van Der Nat*, ¹M Taks, ²VJB Huisjes, ²BPH Pouls, ²BJF Van Den Bermt, ¹H Van Onzenoort. ¹Amphia Hospital, Department of Clinical Pharmacy, Breda, the Netherlands; ²St Maartenskliniek, Department of Pharmacy, Nijmegen, the Netherlands

10.1136/ejhp-pharm-2021-eahpconf.203

Background and importance An online personalised health record (PHR) is a valid tool to reduce medication discrepancies (MDs), defined as unexplained differences among medication regimens. The success of a PHR depends on the usability and patient's experienced utility of the PHR.

Aim and objectives The aim of this study was to explore the usability and utility of an online PHR for the identification of MDs, and to describe the association between the usability and patient, setting and medication related factors.

Material and methods Patients with an outpatient visit to the rheumatology department or a planned admission to the cardiology, neurology, internal medicine or pulmonary department received an invitation from an online PHR to update their medication file two weeks before their appointment. The medication file was derived from the Nationwide Medication Record System (NMRS), a digital nationwide network which exchanges medication dispensing data from all pharmacies in the Netherlands. About 1 month after the appointment, PHR users received a system usability scale (SUS) and utility questionnaire. An SUS score < 68 was classified as unacceptable usability. Descriptive analyses were performed to analyse the effect of the patient, setting and medication related factors on the SUS score.

Results The acceptance rate of the PHR ranged from 49% to 63%. 255 (34%) of the 752 invited PHR users completed the questionnaire. The median SUS score of the patients admitted to cardiology, rheumatology and other departments was 60 (IQR 10–98), 65 (IQR 28–100) and 65 (IQR 38–100),

respectively. These SUS scores indicated unacceptable usability (SUS < 68) of the PHR. Younger patients (< 54 years old) and patients with more experience with digital devices had acceptable usability of the PHR (median SUS of 69 (IQR 35–100) and 69 (IQR 43–100), respectively). When the PHR was compared with medication reconciliation (the gold standard to identify MDs), almost half of the patients preferred the PHR to medication reconciliation.

Conclusion and relevance Our results highlight that the usability and utility of a valid PHR was unacceptable. To achieve adoption and use of the PHR by more patients, the PHR should be improved and meet the patient's needs.

REFERENCES AND/OR ACKNOWLEDGEMENTS

Conflict of interest No conflict of interest

4CPS-372 PHARMACEUTICAL INTERVENTIONS IN HOSPITALISED PATIENTS DURING THE FIRST WAVE OF THE SARS-COV-2 PANDEMIC

¹A Murgadella Sancho*, ¹B Gracia García, ¹A Puebla Villaseca, ¹L Losa Lopez, ²J Loureiro Amigo, ¹E Hidalgo Albert, ¹N San Juan Martínez. ¹Hospital Moisès Broggi, Pharmacy, Sant Joan Despi Barcelona, Spain; ²Hospital Moisès Broggi, Internal Medicine, Sant Joan Despi Barcelona, Spain

10.1136/ejhp-pharm-2021-eahpconf.204

Background and importance The activity of pharmacy services increased during the first wave of the SARS-Cov-2 pandemic. An example of this was the activity carried out during the validation of inpatient treatments.

Aim and objectives To evaluate pharmaceutical interventions carried out in a second level hospital during the pandemic and compare them with those in the same period of the previous year.

Material and methods This was a retrospective study. All pharmaceutical interventions between March and May 2020 (pandemic period: P) and those between March and May 2019 (pre-pandemic period: pre-P) were reviewed. Data collected were: number of interventions, hospital stay, intervention rate (number of interventions × 1000 hospital stays), therapeutic group involved and type of intervention. Data analysis: Stata V.15.1. The χ^2 Mantel-Haenszel test was used to compare intervention rates and the χ^2 Pearson to compare proportions.

Results The number of interventions was 690 versus 115, and the number of hospital stays was 27 415 versus 27 062 for the P and pre-P periods, respectively. The intervention rate (P vs pre-P) was 25.2 × 1000 stays versus 4.2 × 1000 stays (χ^2 Mantel-Haenszel, $p < 0.0001$). Therapeutic groups involved (P vs pre-P, respectively) were: P01-antiparasitics/hydroxychloroquine (40% vs 0%), J01-antibiotics and J05-antivirals (17% vs 19%), N05-antipsychotics (7% vs 6%), B01-anticoagulants antiaggregants (6% vs 15%), N02 analgesics (5% vs 21%) and other groups (25% vs 39%). Statistically significant differences were found between both distributions (χ^2 Pearson, $p < 0.001$).

Type of interventions (P vs pre-P, respectively): drug interaction monitoring (40% vs 11%), stop treatment (26% vs 17%), dosage change (26% vs 60%) and other interventions (8% vs 12%). Both distributions (P and pre-P) were compared, and there were statistically significant differences between them (χ^2 Pearson, $p < 0.001$).