Abstract GRP-084 Table 1

| Prescriptions reviewed | | Initial audit February 2010 | Re-audit September 2010 | Re-audit January 2012 | |
|---|---|---|---|---|---|
| | | 384 | 387 | 387 | *Change* |
| **Standard** | **Target** | | | | |
| Prescriber identity | 100% | 18.4% | 95.2% | 98% | *+76.6%* |
| Prescriber contact | 100% | 7.8% | 77.9% | 84% | *+76.2%* |
| Additional chart(s) | 100% | 38.3% | 81.3% | 90% | *+51.7%* |
| Missed doses | 100% | 5.9% | 80.2% | 100% | *+94.1%* |

No conflict of interest.

## GRP-085 IDENTIFICATION OF RELEVANT DRUG INTERACTIONS IN NEONATAL INTENSIVE CARE UNITS

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**Background** Among the different types of medication errors, drug interactions may have serious consequences in Neonatal Intensive Care Units (NICU). However, they can be easily detected with appropriate tools, particularly in the context of a computerised prescribing system with pharmaceutical analysis.

**Purpose** The objective of this study was to calculate a theoretical criticality index, using a method inspired by the Failure Modes, Effects and Criticality Analysis (FMECA) method for each drug interactions identified in NICU in order to prioritise them to pharmacists and physicians.

**Materials and Methods** The study was a retrospective review of prescriptions in a French NICU. The study included prescriptions for preterm infants with gestational age below 33 weeks and hospitalised between January 2006 and December 2009. For each prescription, drug interactions were evaluated with the French Theriaque® medication database. The criticality index of each drug interaction was calculated by multiplying occurrence, severity and detection scores. The scales of each score had been built by a multidisciplinary group. Severity and detection scores were assessed by pharmacists and physicians. Intraclass Correlation Coefficients (ICCs) were used to compare pharmacists' and physicians' scores, and a synthesis was realised.

**Results** Among the 907 prescriptions with at least 2 prescribed drugs (4605 prescriptions written, with 109 different drugs), 47 different drug interactions were identified with Theriaque®. The 10 most critical drug interactions for pharmacists and physicians were detailed, and then a common medical and pharmaceutical synthesis was established. The ICC of detection was 0.75 (95% CI: 0.63–0.88), and the severity was 0.32 (95% CI: 0.08–0.56).

**Conclusions** This work highlights the importance of multidisciplinary collaboration in safe medication practise. This method can be used as a basis for future cooperation between medical teams and the pharmaceutical teams that make interventions. It is easily transferable to other medical specialties with the same objectives.

No conflict of interest.

## GRP-086 IDENTIFYING NEW TUBERCULOSIS CASES THROUGH PHARMACY DISPENSING RECORDS IN PROF DR FERNANDO FONSECA HOSPITAL, PORTUGAL

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**Background** Controlling and preventing tuberculosis (TB) continues to be a major public healthcare challenge. Pharmacy and clinical records can thus contribute with important information concerning newly-diagnosed inpatients, treatment regimens and resistant strains.

**Purpose** To identify new tuberculosis (TB) cases through prescription records in a Portuguese General Hospital.

**Materials and Methods** This study took place in 2012, in Hospital Prof Dr Fernando Fonseca EPE (HFF), an 800-bed hospital. Patients were identified from Pharmacy dispensing records (Hosix v7.1; SIVSA) and clinical information was collected from the electronic medical records (Soarian Clinicals 3.1; Siemens). This data covered: age, sex, signs and symptoms, risk factors, outcomes of chest X-ray, diagnosis, respiratory isolates, therapeutic and microbiology results.

**Results** To the end of September 2012 75 new cases of TB were identified. 38 diagnoses were made up to 24 h after hospital admission. The most frequent symptoms were non-productive cough 65.8%, weight loss 55.3% and fever 50%. There were 26 cases of pulmonary TB and 12 of extrapulmonary TB. 23 patients tested positive to the Ziehl Neelsen stain. 2 of the patients had resistant TB. 37 patients were diagnosed up to a maximum period of 10 weeks after hospital admission. The most frequent symptoms were non-productive cough 40.5%, weight loss 40.5% and fever 37.8%. There were 16 cases of pulmonary TB, 13 extrapulmonary and 8 strictly clinical and imaging diagnoses. 3 patients tested positive to Ziehl Neelsen. 2 of the patients had resistant TB. By the time of the congress data will be updated for the year 2012.

**Conclusions** The high rate of delayed-diagnosis TB contributes to an increase risk for the health care workers and other patients exposed to it. The hospital OHD used this study to demonstrate the importance of early diagnosis in the Emergency Department and faster microbiology results and of putting suitable isolation measures in place.

No conflict of interest.

## GRP-087 IMPACT OF AN ELECTRONIC MEDICINES RECONCILIATION PROGRAMME USED IN A GENERAL SURGERY UNIT

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**Background** Medicines reconciliation is a key tool in the prevention of adverse drug events.

**Purpose** To assess the impact of a medicines reconciliation programme for hospital admission into a general surgery unit, including an electronic tool, in the number and type of unintended discrepancies between chronic medicines and medicines prescribed upon admission.

**Materials and Methods** A quasi-experimental/retrospective study was carried out, analysing discrepancies between chronic medicines and drugs prescribed in the hospital, before and after a medicines reconciliation programme was implemented.

Patients admitted into a general surgery unit for more than 24 h who were taking ≥3 drugs chronically at home were included.

A standardised interview was conducted to record chronic medicines. Pharmacists detected and investigated discrepancies. The severity of unintended discrepancies was assessed by consensus with medical staff using the National Coordinating Council for Medication Error Reporting and Prevention 2001 classification. A computerised reconciliation tool, integrated into the electronic prescription, was implemented during the intervention phase.

**Results** A total of 191 patients were included (52.9% male, 47.1% female), 107 patients in the phase before intervention and 84 in the phase after intervention.

1,951 drugs were investigated, and 1,678 discrepancies were detected. There were 167 unintended discrepancies, 102 (10.6% of drugs investigated) in the first phase and 65 in the second phase (6.6%), p = 0.0021. Omission of drugs was the most common unintended discrepancy, being 89 (9.2%) in the phase before and 55 (5.6%) in the phase after intervention, p = 0.0027.

Unintended discrepancies were grade C severity in 79.2% of those detected, decreasing in the second phase (3.95% of total drugs investigated) compared to the first one (8.61%), p < 0.05.

**Conclusions** The implementation of the medicines reconciliation programme has shown a reduction of the rate of unintended discrepancies detected during admission into a general surgery unit. Omission of drugs was the most common type of discrepancy detected in both phases and decreased after intervention.

No conflict of interest.

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GRP-088 **IMPACT OF THE PHARMACEUTICAL VALIDATION OF PRESCRIPTIONS FOR INPATIENTS WITH RENAL IMPAIRMENT**

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**Background** The use of drugs in patients with nephropathy carries certain risks. Therefore, dosages must be adjusted.
**Purpose** To describe pharmaceutical interventions (PIs) on electronic prescriptions for patients with renal impairment (RI = creatinine clearance <50 ml/min) admitted from emergencies.
**Materials and Methods** Nine-month observational study performed with patients with RI admitted from emergencies to wards with electronic prescribing. Glomerular filtration rate was calculated with MDRD-4 IDMS. Treatments were reviewed to evaluate the suitability of doses using the data sheets Medimecum, Micromedex and Lexicomp. If the dose was not correct, a PI was written in the 'Alerts' section of the prescribing programme which was subsequently seen by the physician. Demographics, date of the PI, serum creatinine, creatinine clearance, drug, PI, acceptance or rejection and why and evolution of renal function on the seventh day of the acceptance were recorded in the database.
**Results** 5311 patients were included, 221 PIs were made for 181 patients (3.41%). Patients for whom interventions were made had a mean age of 78 (29–102) and 49.2% were male. The drug with most interventions was levofloxacin (29.9%). The PIs were: dose-related (65.6%), increase of therapeutic range (26.7%) and contraindication (7.2%). 65.6% were accepted. The clinical consequences after acceptance of the PI were: improved renal function (54.5%), deteriorated (12.4%), unchanged (11.0%) or not evaluable (22.1%). In patients whose PI was rejected, renal function improved in 57.63%, deteriorated in 16.95%, was unchanged in 6.78 and not evaluable in 18.64%.

A Chi-square test was applied to study whether the evolution of renal function depended on acceptance (p value 0.634).
**Conclusions** Electronic prescribing is a useful tool for identifying opportunities for PI in patients with RI. Differences in renal function progression between the group in which the PI were accepted and the group in which these were rejected were not statistically significant.

No conflict of interest.

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GRP-089 **IMPLEMENTATION OF A "MEDICATION SAFETY" CURRICULUM AS PART OF THE CONTINUING EDUCATION PROGRAMME FOR PHARMACISTS**

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**Background** The 'action plan for the improvement of medication safety' issued by the German ministry of health demands a culture of safety awareness. To achieve this goal, an emphasis on medication safety should be placed in the education of health care professionals. In this context the German Society of Hospital Pharmacists (ADKA) has developed a curriculum on medication safety.
**Purpose** A workshop has been developed to improve the awareness of health care professionals regarding medication errors and the risks involved. The tools allow the pharmacist to perform a self-contained failure analysis as a basis for a goal-oriented prevention strategy.
**Materials and Methods** The curriculum consists of three parts. After a brief introduction, the tools to develop strategies for error prevention are explained. These tools are then applied to real life examples of medication errors in the clinical routine or in the community pharmacy respectively. The curriculum has been presented to the local boards of pharmacy and the association of statutory health insurance physicians.
**Results** After approval by the board of pharmacy of Lower Saxony, a pilot course was conducted. Within four days of the first invitation being sent, almost 30 participants had enrolled. Finally more than 50 participants, the majority of whom were community pharmacists successfully completed the curriculum, which was evaluated by the local board of pharmacists.
**Conclusions** The rapid and strong response to the invitation is a sign that the subjects 'medication safety and medication errors' are of particular interest to community pharmacists. It also tells us that medication safety is not a substantial part of continuing education. An evaluation has shown that the time allotted for the curriculum (90 min.) is apparently too short and should be extended to at least 150 min. The participants appreciated the opportunity to develop their own strategies to prevent medication errors. The experience accumulated so far demonstrates that the basic concept of the curriculum, now available to all interested boards of pharmacists, is a promising strategy.

No conflict of interest.

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GRP-090 **IMPLEMENTATION OF GRAVIMETRIC ANALYSIS IN THE PHARMACY DEPARTMENT**

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**Background** Parenteral nutrition (PN) involves multicomponent intravenous mixtures of high complexity and is considered a high-risk medicine. Monitoring systems are needed to reduce the morbidity and mortality of patients receiving PN.