

extremely dangerous and on target. Pharmacists should manage CRS by ensuring the supply of tocilizumab, a monoclonal antibody against interleukin 6 indicated as an antidote, or by using situximab, off-label.

**Results** Currently, six patients are being treated with CAR-T cell therapy and safety outcomes are ongoing. All have had CRS reactions and received tocilizumab.

**Conclusion and relevance** Based on these results, the immediate availability of antidote and timely treatment of CRS reactions (mandatory activity for the pharmacist) is necessary to ensure the therapeutic and safety benefits for patients. The study shows the essential role of the pharmacist in covering the risks of this type of therapy and in reducing the seriousness of side effects in an innovative therapy such as CAR-T cells.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

#### 5PSQ-090 PHARMACIST'S CONTRIBUTION TO IMPROVING CUSTOMER SATISFACTION AT HOSPITAL CARE UNITS

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**Background and importance** To improve the quality of its services and the satisfaction of its customers, our hospital's pharmacy has experimented with a weekly pharmaceutical presence in the operating room to collect and process pharmacy claims and complaints, which may improve communication between the pharmacy team and the operating room.

**Aim and objectives** To highlight the importance of a pharmaceutical presence at the care units through collection and processing of complaints at a pilot service: the operating room.

**Material and methods** To analyse the claims of the medical and paramedical staff collected during the weekly pharmaceutical presence in the operating room over a period of 1 month, and to assess measures undertaken for the treatment of these claims.

**Results** During the study period, 58 complaints were collected: 69% related to medical devices and 31% to drugs. Data processing revealed the following findings: most of the complaints concerned articles ordered but not yet delivered by suppliers (15%), available articles with limited quantity (14%), unavailable articles for which no requests were made (14%), articles that did not belong to our hospital nomenclature (12%), articles available at the central pharmacy but not available at the operating room pharmacy (10%) and articles for which the annual forecast quantity was already consumed (10%). Measures taken by the pharmacy team: relaunch suppliers for articles already ordered; increase endowments (within the limits of availability); propose indication limitations for articles with critical stock; ordering items whose annual forecast quantity was not totally consumed; proposed alternatives for articles that did not belong to our hospital nomenclature;

endowment of the operating room pharmacy by the articles available at the central pharmacy and making special orders, with limited quantities, for articles for which the annual forecast quantity was already consumed.

**Conclusion and relevance** The pharmaceutical presence in the staff of the operating room has helped to better understand the needs of users in order to meet these needs within the limits of what is possible. In fact, the involvement of the pharmaceutical team in care units makes it possible to improve customer satisfaction and to increase the overall quality of therapeutic care.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

None.

No conflict of interest.

#### 5PSQ-091 ANALYSIS OF POTENTIALLY INAPPROPRIATE MEDICATIONS IN CHRONIC COMPLEX PATIENTS AND IN PATIENTS WITH ADVANCED CHRONIC DISEASE IN THE EMERGENCY DEPARTMENT

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**Background and importance** The aging of the population implies a growing prevalence of chronic diseases and poly-pharmacy as well as drug related problems (DRP). Elderly patients have complex care needs that are difficult to carry out in the emergency department (ED) which may entail an increase in potentially inappropriate medications (PIM).

**Aim and objectives** To detect PIM in chronic complex patients (CCP) and in patients with advanced chronic disease (ACD) after a stay in the ED.

**Material and methods** A retrospective observational study was conducted in November 2018 in an ED of a second level hospital. Variables recorded were demographic data, cause of admission, CCP/ACD and treatment before/after the stay in the ED. STOPP-START criteria and the criteria of Chronicity Prevention and Care Programme (PPAC) of the Department of Health of Catalonia were used.

**Results** One hundred patients (50.9% men) were included with a mean age of 80.6±11.3 years: 84.7% were CCP and 15.3% had ACD. The main reasons for admission to the ED were acute bronchitis and low back pain. The average number of drugs prescribed per patient was 9.6 (3–18).

In this study, 242 PIM were detected in 90 patients (83.9% in CCP; 16.1% in ACD), an average of 2.7±1.4 per patient. Three quarters of PIM were because of chronic treatment. Sixty-three PIM were detected with the PPAC criteria, the most prevalent was '09: benzodiazepines and other hypnotics for ≥6 months'; 51 were START criteria (the most frequent being 'SA 6: ACEI in well documented heart failure') and 128 STOPP criteria (the main criterion being 'SD 5: Benzodiazepines for ≥4 weeks').

The PIM of 14 patients may have been related to the cause of admission to the ED, in particular due to falls and fractures. All had drug related falls prescribed in their chronic treatment.

**Conclusion and relevance** The study population had a very advanced age with a high degree of polypharmacy and a high prevalence of PIM. The most frequent drugs involved were nervous system drugs, specially the benzodiazepines. The pharmacist's contribution to review chronic treatment and to detect PIM can improve the safety of patients in the ED.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

5PSQ-092

#### HOW DOES THE ON-SCREEN DESIGN OF ELECTRONIC PRESCRIBING SYSTEMS AFFECT SAFE PRESCRIBING? A QUALITATIVE STUDY USING A THINK ALOUD APPROACH

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**Background and importance** User interface design features, such as screen layout, density of information, position of messages and use of colour, may affect the usability of electronic prescribing (EP) systems, with usability problems previously associated with medication errors.

**Aim and objectives** To explore users' perspectives of the on-screen design features of a commercially available EP system and how these are perceived to affect patient safety.

**Material and methods** The study was conducted at a large London teaching hospital during 2018–2019. Participants were recruited via adverts on the intranet; all prescribers with experience using the EP system were eligible to participate. We used a mixed qualitative approach. First, prescribers were asked to conduct a prescribing task for a simulated patient using a think aloud approach. Second, we conducted a semi-structured interview with each participant to explore their views in more detail, with a focus on patient safety. Interview questions were developed based on the literature and then piloted. Think aloud and interview transcripts were analysed inductively using a thematic approach. Ethics approval was obtained.

**Results** Ten participants took part (three registrars, three foundation year 1 doctors, two foundation year 2 doctors and two pharmacist prescribers). Key themes from the think aloud and interview transcripts included: (1) EP design features and process flow; (2) benefits of EP systems; and (3) suggestions for improvement. For instance, design features such as screen features and layout were discussed with regards to impact on workflow, as well as 'information overload'. Suggestions for improvement were made in relation to embedding trust guidelines and making changes to system design (eg, colour, fonts, customisation) to increase information visibility and enhance overall attention. Lastly, a need was expressed for better support for interacting with patients while using the system, as well as making drug–drug interaction alerts more targeted to support medication safety while also avoiding alert fatigue.

**Conclusion and relevance** We identified specific interface design factors that may improve the usability and/or safety of EP systems, which can be used to inform future experimental

research in this area. Limitations include the small sample size; further work should include similar studies on other EP systems.

#### REFERENCES AND/OR ACKNOWLEDGEMENTS

**Conflict of interest** Corporate sponsored research or other substantive relationships: I supervise a PhD student who is partly funded by a supplier of a commercial electronic prescribing system.

5PSQ-093

#### EXPLORING EYE TRACKING AS A METHOD TO STUDY USERS' INTERACTIONS WITH A HOSPITAL ELECTRONIC PRESCRIBING SYSTEM: A DESCRIPTIVE STUDY

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**Background and importance** User interface design can have a significant impact on interactions with online systems. Eye tracking is generally accepted as a useful method to study performance in areas such as interpretation of medical imaging. However, there is little evidence of its use to study user interactions with electronic prescribing (EP) systems, an area in which failure to see and act on key information is particularly critical.

**Aim and objectives** To explore the feasibility of using eye tracking to study EP users' visual attention and behaviour, with a focus on safe prescribing.

**Material and methods** The study took place at a London teaching hospital from 2018 to 2019. Participants were recruited via the organisation's intranet. Any prescriber with experience of the EP system was eligible to participate. We used Tobii Pro X3-120 integrated screen monitor trackers in a simulation setting. Participants were asked to complete a prescribing task for a test patient, which included prescribing penicillin for a patient with a penicillin allergy. Data collected included videos of the screen showing the participant's scan paths. We segmented the data according to when the user switched screens, and calculated percentage of time spent looking in each of the four quadrants of the screen for each. The study was approved as a service evaluation.

**Results** Ten prescribers participated. Overall, the highest percentages of fixation points were at the top left and right corners of the screen, where information is provided on allergies and patient information, respectively. However, each prescriber initially prescribed a penicillin and was stopped only by a pop-up alert. The highest number of fixation points was observed during review of the prescription and final signature, followed by review of the allergy alert and the search for drug names and dosages.

**Conclusion and relevance** Eye tracking is a feasible method for studying EP interactions. The findings will be used to plan a larger evaluation, with the aims of understanding how screen design can help or hinder patient safety, and how type and positioning of decision support information influences the likelihood of it being acted on. Limitations include small sample size; further work should also explore how gaze patterns may differ between novices and experts.