has allowed the implementation of measures to ensure authenticity and a high level of traceability, providing greater patient safety.

**Aim and objectives** To assess the impact of the implementation of the falsified medicines directive 6 months after introducing the new legislation.

**Material and methods** Elaboration of a form (MS-Excel) with the purpose of systematising the data was performed. Of all products prescribed between 18 and 27 September 2019, products not covered by the requirement of a unique identifier code were excluded. The following parameters were analysed: presence of the unique identifier code, start time and end of code scan, and appearance of problems with the scanning procedure.

**Results** A total of 201 products were analysed. About 69% of the products had a unique identifier code. Of the products intended to be dispensed for outpatients, only 70% had a unique identifier. After reading 10 935 packages, it was found that, on average, reading of 12.9% of the products with a unique identifier code had at least one scanning issue. The average time for reading a unique identifier code was 9.5 s (includes connecting the software, verifying the safety device, positioning the packaging for the scan read and waiting for scan read confirmation).

**Conclusion and relevance** Six months after introducing the counterfeit medicines directive, about 31% of the products received in the hospital pharmacy did not have a unique identifier code. This includes products for outpatients where scanning at dispensing could be a relevant added value. Reading time of the unique identifier code represents around 29 working hours in 8 working days, or 0.5 ETC (7 hour working day). Implementation of this directive required investments in software, material and human resources, and the internal work procedures were also reorganised. Direct advantages for patient care are not yet evident as the unique identifier is still not fully implemented.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**


No conflict of interest.

### Abstract 25PD-018

**Table 1**

<table>
<thead>
<tr>
<th></th>
<th>Purchasing group</th>
<th>University hospital</th>
<th>Neighbouring hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of unavailable drugs</td>
<td>1016 (80.71%)</td>
<td>678 (80.38%)</td>
<td>620 (79.68%)</td>
</tr>
<tr>
<td>shortages; quotas; issues</td>
<td>12.89%</td>
<td>18.88%</td>
<td>15.81%</td>
</tr>
<tr>
<td>Median duration in weeks</td>
<td>4.71 (4.57; 8.28;</td>
<td>8 (6.28; 19.21;</td>
<td>7.64 (6.54;</td>
</tr>
<tr>
<td>(shortages; quotas; issues)</td>
<td>4.42)</td>
<td>5.57)</td>
<td>11.57; 20.14)</td>
</tr>
<tr>
<td>Presence of an alternative drug</td>
<td>67.39%</td>
<td>33.19%</td>
<td>33.44%</td>
</tr>
</tbody>
</table>

**Background and importance** Drugs shortages are becoming a public health issue. Public hospitals are meant to buy drugs through purchasing groups which give relevant data on shortages.

**Aim and objectives** Data from a national purchasing group were analysed to build a national view of shortages and their evolution regarding therapeutic area.

**Material and methods** A 4 year retrospective study (1 June 2014 to 31 May 2018) was undertaken using data from a national purchasing group and consolidated with data from an adherent hospital. Different indicators were calculated using the anatomic, therapeutic and chemical (ATC) classification: unavailability profiles (shortage; quota—quantitative or qualitative—limitation of delivery; and issues), number of recurrences, median durations and unavailability rates (number of shortages divided by number of drugs available in an ATC class).

**Results** Each ATC class was studied (1305 drugs); 5 had the most impact (table 1).

A peak occurred in 2017 for all classes, except V class. In J class, there was a lack of penicillin combinations (seven drugs) in the first quarter of 2017, and at the end of the
quarter there were shortages of third generation cephalosporins.

Conclusion and relevance All classes were affected. Rippling effects in J class may be assumed regarding the evolution of drug shortages. That may lead to worse consequences, such as antibiotic resistance or disruptions to patient care.

REFERENCES AND/OR ACKNOWLEDGEMENTS
No conflict of interest.

### 2SPD-020 IMPACT OF MEDICINE SHORTAGES ON AN OUTPATIENT CLINIC OF A GENERAL HOSPITAL
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10.1136/ejpharm-2020-eahpconf.39

**Background and importance** The incidence of medicine shortages (MS) has increased in the past few years, causing difficulties for clinicians, patients and regulators. MS can occur for many reasons, including manufacturing and quality problems, regulatory issues and business decisions. The role of the pharmacist is essential in their management.

**Aim and objectives** To analyse the MS that have affected the outpatient clinic (OC) between January 2018 and September 2019, and to evaluate their economic impact and effect on the daily work of a hospital pharmacist in a general hospital (280 beds).

**Material and methods** A descriptive, observational and retrospective study was carried out analysing data between January 2018 and September 2019. Data were retrieved from official notifications received by email, the Spanish Medicines Agency (AEMPS) online platform and the Farmatools programme. Variables collected were: drugs with shortage problems, medicines available through the application for management of medicines in special situations (AGMSE) of the AEMPS, MS emails received, orders of foreign medicines and dispensions and time dedicated to managing MS.

**Results** During the study period, 1162 emails about MS were received and revised (average 55 per month). Forty-seven times in the past 6 months. The top five ATC groups included B (blood and blood forming organs (52.4%)), C (cardiovascular system (50%)), L (antineoplastic and immunomodulating agents (47.6%)), J (anti-infectives for systemic use (38.1%)) and N (nervous system (38.1%)). Active pharmaceutical ingredients highlighted were immunoglobulins, digoxin, sodium ferric gluconate, phytomenadione, idarubicin and sodium ferric gluconate, phytomenadione, idarubicin and amoxicillin/clavulanic acid. Original and generic drugs, and parenteral and oral dosage forms were equally affected. According to 53.7% of participants, drug shortage situations usually lasted for months. The main reasons noted were 5.1% dispensed from inpatient stock. A total of 122 medicine orders were done, 6 per month, resulting in a total cost increase of 7643.73 €.

According to Spanish law, foreign medicines must be provided by hospital pharmacies; therefore, 280 new outpatients who usually collect their medication at the community pharmacy attended the OC (a total of 739 dispensations, 35.19 per month).

The average time devoted to shortages in the OC was 10.13 hours per month, 5.15 hours for dispensation and pharmaceutical care activity and 4.85 hours for executing orders, and reception and administrative tasks.

**Conclusion and relevance** MS are time consuming and imply a significant increase in the hospital pharmacist’s activity, mainly focused on administrative responsibilities, adding new drugs in formulary and planning for strategies to maintain the medication supply. Furthermore, this problem implies a higher number of patients attending the OC to collect their medication.

**REFERENCES AND/OR ACKNOWLEDGEMENTS**
No conflict of interest.

### 2SPD-021 SURVEY OF DRUG SHORTAGES IN HUNGARIAN HOSPITALS
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10.1136/ejpharm-2020-eahpconf.40

**Background and importance** Drug shortages pose an enormous challenge to healthcare systems globally. However, the data available are limited, as there are 53 surveys in the literature and only 54.7% (29) contain any information regarding the prevalence of drug supply issues.

**Aim and objectives** Our aim was to develop a questionnaire based on the available surveys and collect evidence of drug shortages in Hungarian hospitals.

**Material and methods** With an extensive literature search between 1 and 15 April 2019, we identified the relevant surveys and questionnaires, and then developed a Hungarian version with 45 questions categorised into 5 main sections: (1) institutional data and demographics; (2) prevalence and background; (3) management of drug shortages; (4) information sources; and (5) consequences of drug shortages. Data were collected between 15 May and 30 June 2019, with an online survey among hospital pharmacists.

**Results** A total of 42 hospital pharmacists completed the survey: 36 women and 6 men, mainly >36 years of age (73.8%), from various institutions and scope of activities. We found that 52.4% experienced drug shortages more than 10 times in the past 6 months. The top five ATC groups included B (blood and blood forming organs (52.4%)), C (cardiovascular system (50%)), L (antineoplastic and immunomodulating agents (47.6%)), J (anti-infectives for systemic use (38.1%)) and N (nervous system (38.1%)). Active pharmaceutical ingredients highlighted were immunoglobulins, digoxin, sodium ferric gluconate, phytomenadione, idarubicin and amoxicillin/clavulanic acid. Original and generic drugs, and parenteral and oral dosage forms were equally affected. According to 53.7% of participants, drug shortage situations usually lasted for months. The main reasons noted were