invest in RB with the aim of obtaining price reductions, and to promote the switch not only in naïve patients but also in those already being treated with an originator.

Aim and objectives The purpose of the study was to evaluate prescription adherence, safety profile and economic impact of RB.

Material and methods A retrospective analysis was conducted over two periods: 2017 (period 1: pre-switch) versus 2018 (period 2: post-switch). Clinical data were collected from the hospital prescription database, Farmasafe, to identify the number of patients receiving rituximab treatment, and the hospital pharmacovigilance's database to evaluate the safety profile. Costs considered were hospital prices, after price renegotiation.

Results In period 1, 202 patients were treated, 196 with rituximab originator (RO) and 6 with RB. In period 2, 193 patients were treated, 52 with RO and 141 with RB. The bio-similar proportion increased by 63% of the total amount of rituximab used. During period 2, the switch was performed in 47 patients, 94 were naïve and there were no switch reversions. The switch to RB was not performed in all patients as some were randomised on clinical trials and others were completing RO treatment. Analysis of adverse drug reactions showed no significant safety problems. In period 1, the total cost of RB+RO was €1 456 647, and during period 2, €721 370. RB introduction translated to a 50% cost reduction of €735 370.

Conclusion and relevance The hospital's biosimilars policy was associated with substantial and rapid incorporation and use of biosimilars. Moreover, introduction of RB resulted in significant cost savings with no major changes in safety profile. The use of rituximab will release funds that can be invested elsewhere within the healthcare setting. This is relevant for all pharmacists involved in hospital pharmacy, particularly those working in therapeutic areas where biologics are used.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

1ISG-011 ASSESSMENT OF ASTHMA DIAGNOSED POPULATION ELIGIBLE FOR NEW MONOCLONAL ANTIBODY THERAPY AND RELATED COST IN THE VENETO REGION

¹L Degli Esposti*, ¹V Perrone, ¹D Sangiorgi, ²AM Menti, ²M Andretta. ¹Clicon SRL-Health-Economics and Outcomes Research, Clicon SRL-Health-Economics and Outcomes Research, Ravenna, Italy; ²Uoc Hta-Azienda Zero-Regione Veneto, Uoc Hta-Azienda Zero-Regione Veneto, Padova, Italy

10.1136/ejhp-pharm-2020-eahpconf.11

Background and importance Novel treatment approaches for the management of severe refractory asthma include monoclonal antibodies (Mabs).

Aim and objectives The study aimed to estimate the number of the most suitable patients with severe uncontrolled asthma who are eligible for new Mabs therapy and related costs in the Veneto region (Italy).

Material and methods The regional administrative database was retrospectively analysed to identify specific eligibility and assessment criteria. All patients aged ≥ 6 years with an exemption code for asthma (007) (level 1 patients (L1)) between 1 January 2011 and 31 December 2016 were screened. The following parameters were considered in succession: spirometry

(codes: 89.37, 89.38)–(level 2 patients (L2)); inhaled corticosteroids (ICS) in combination with long acting beta adrenoreceptor agonists (LABA) and/or theophylline (ATC: R03DA04), and/or antileucotriene (ATC: R03DC), and/or anticholinergics (ATC: R03BB)–(level 3 patients (L3)); high dose ICS therapy (ATC: R03BA, R03AK)–(level 4 patients (L4)); adherence to each medication–(level 5 patients (L5)); asthma hospitalisation (ICD9: 493) or treatment with systemic corticosteroids (ATC: H02)–(level 6 patients (L6)). For each patient level, the mean annual healthcare costs per patient, based on total resource consumption, were assessed.

Results For a total of 4.6 million beneficiaries, aged ≥ 6 years, 103 138 (2.2%) patients were screened (L1). Spirometry tests were prescribed in 28 611 patients (27.7%) (L2), of whom 13 432 (46.9%) had a prescription for ICS with LABA or other agents (L3). In 5782 (43%) patients treated with previous combinations, high dose ICS therapy was prescribed (L4), and of them, 3307 (57.2%) were treatment adherent (L5) and 1136 (35.2%) had a hospital admission for asthma or treatment with systemic corticosteroids (L6). For this last level of patients, centres specialising in Mabs prescription evaluated eligibility. Total costs of the illness according to disease progression were €1279.6 for L1, €1567.7 for L2, €2045.3 for L3, €2524.2 for L4, €3233.2 for L5 and €4326.2 for L6; overall asthma related treatment and hospitalisation costs were €274.2 for L1, €400.1 for L2, €598.5 for L3, €784.3 for L4, €1118.4 for L5 and €1449.9 for L6.

Conclusion and relevance This analysis allowed estimation of the number of asthma patients eligible for Mabs therapy in the Veneto region. Our findings on healthcare costs highlighted that the average cost per patient increased by severity level. Post marketing, it will be possible to assess the appropriateness of Mabs prescriptions through indicators such as over- and under-use.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

1ISG-012 NATIONAL REPORTING SYSTEM FOR DRUG SHORTAGES: CLASSIFICATION AND TRENDS IN REPORTED CAUSES FROM 2015 TO 2018

^{1,2}A Benhabib*, ^{1,3}P Maison. ¹French National Agency for Medicines and Health Products Safety, Health Products Survey, Saint-Denis, France; ²Strasbourg Faculty of Pharmacy, Hospital Pharmacy, Strasbourg, France; ³Ea 7379- Paris Est Creteil University Upec and Chic Hospital, Epidemiology Department, Créteil, France

10.1136/ejhp-pharm-2020-eahpconf.12

Background and importance Drug shortages are a major public health threat worldwide, occurring across all therapeutic classes. We focussed our study on the trends in reported causes of drug shortages in our country.

Aim and objectives The aim of the study was to propose a classification and trends in reported causes of drug shortages.

Material and methods Data from the national reporting system from a health product agency were analysed. This database contains information regarding the causes of shortages of major therapeutics of interest (MTI) (ie, drugs where a shortage represents loss of a treatment opportunity for patients with a severe disease) which are mandatory reported by marketing authorisation holders to the agency. Data are presented as numbers or percentages of pharmaceutical products (ie, the

product name and its formulation) reported as shortages between 2015 and 2018.

Results The classification work identified two major categories of causes of drug shortages: causes related to the manufacturing process and those related to the drug distribution system. Causes related to manufacturing dysfunction were divided into five subclasses: 83 types of causes allowed the building of a systematic classification related to the manufacturing circuit. Material issues use ranked first (31%), followed by manufacturing issues, pharmaceutical market and regulatory issues, and inventory and stockage practice (30.4%, 23.5% and 9.89%, respectively). The number of reported pharmaceutical market causes of shortages showed a 3.5-fold increase between 2015 and 2018. In 78% of reported shortages, only one dysfunction caused the shortage. The number of multiple causes of shortages increased by 2.4 during the study period.

Conclusion and relevance To our knowledge, there are no studies with the same results. Drug shortages are increasingly reported in this country. Precise knowledge of the causes of the shortages can identify short term solutions to reduce their severity and long term solutions to reduce their numbers.

REFERENCES AND/OR ACKNOWLEDGEMENTS

The authors thank the drug shortages team and the pharmacosurveillance division. They also thank the professor team of Strasbourg Faculty of Pharmacy.

No conflict of interest.

1ISG-013 SMARTPHONE APPLICATIONS FOR PATIENTS DIAGNOSED WITH GENITOURINARY TUMOURS: ANALYSIS OF THE QUALITY USING THE MOBILE APPLICATION RATING SCALE

MÁ Amor*, R Collado-Borrell, V Escudero-Vilaplana, A Ribed-Sánchez, A Melgarejo-Ortuño, FJ García-Moreno, S García-Sánchez, Á Narrillos-Moraza, P Ruiz-Briones, A Herranz-Alonso, M Sanjurjo-Sáez. *Servicio De Farmacia, Hospital General Universitario Gregorio Marañón, Madrid, Spain*

10.1136/ejhp-pharm-2020-eahpconf.13

Background and importance The large number of health apps for genitourinary cancers means a transparent and objective evaluation by app experts and healthcare professionals is needed.

Aim and objectives To analyse the quality of apps for patients diagnosed with genitourinary cancers, using the mobile application rating scale (MARS) methodology.

Material and methods This was an observational, cross sectional descriptive study. Inclusion criteria were apps available in the 'App Store' and the 'Play Store' for genitourinary cancers intended for patients and/or careers. Inclusion period was February 2019.

Platform (Android/iOS), cost, date of the last update, type of cancer, purpose and participation of health professionals on their development were recorded. A multivariate analysis was conducted.

The quality of the apps was assessed using MARS. This evaluation includes 23 evaluation criteria clustered in five domains (engagement, functionality, aesthetics, information and subjective quality). Each evaluation criterion is rated from 1 to 5 according to its conformity (1=inadequate, 2=poor, 3=acceptable, 4=good, 5=excellent). The total mean score of MARS, which describes the overall quality of the app, was obtained by the mean score of every domain.

Results Forty-six apps were downloaded (31 Android, 6 iOS, 9 both platforms); 89.1% were free and 60.9% were updated in the last year. The most frequent cancers in the apps were prostate (30.4%), cervical (17.4%), testicular (13.0%) and ovarian (13.0%). The main purpose was informative (63.1%), preventive (23.9%) and diagnostic (13.0%). Seven apps (15.2%) were developed by healthcare organisations.

The average MARS score was 2.98 (SD=0.77), with a maximum of 4.63 and a minimum of 1.95. Functionality scores were similar among all the apps. The greatest differences were found in engagement and aesthetics criteria which showed acceptable scores only in a third of the apps. Multivariate analysis showed statistically significant differences according to the platform and participation of health professionals in the development ($p<0.001$ and $p=0.01$, respectively).

Conclusion and relevance Very few apps for patients with genitourinary cancers were focused on how to handle the disease after diagnosis, correct administration of treatment or adequate monitoring of symptoms. The participation of health professionals in the development was low but was correlated with quality. MARS is a helpful methodology to analyse app quality and make better recommendations to patients.

REFERENCES AND/OR ACKNOWLEDGEMENTS

No conflict of interest.

1ISG-014 COST EFFECTIVENESS ANALYSIS OF PATIENT SELF-ADMINISTRATION OF MEDICATION DURING HOSPITALISATION IN A CARDIOLOGY UNIT

^{1,2,3}CA Sørensen*, ^{3,4}A De Thurah, ^{3,5}M Lisby, ⁶C Olesen, ²SB Sørensen, ⁷U Enemark. ¹Hospital Pharmacy Central Denmark Region, Clinical Pharmacy-Randers Regional Hospital, Randers Nø, Denmark; ²Randers Regional Hospital, Medical Department-Cardiology Unit, Randers Nø, Denmark; ³Aarhus University, Clinical Medicine, Aarhus, Denmark; ⁴Aarhus University Hospital, Rheumatology, Aarhus, Denmark; ⁵Aarhus University Hospital, Research Centre of Emergency Medicine, Aarhus, Denmark; ⁶Hospital Pharmacy Central Denmark Region, Clinical Pharmacy-Aarhus University Hospital, Aarhus, Denmark; ⁷Aarhus University, Public Health, Aarhus, Denmark

10.1136/ejhp-pharm-2020-eahpconf.14

Background and importance Patient involvement is increasingly becoming part of clinical practice, including self-administration of medication (SAM) during hospitalisation. Previously, we have investigated the effectiveness of SAM in a randomised controlled trial (RCT). The proportion of ward level dispensing errors was considered the best way to explore safety difference between workflows. We saw that SAM was effective, and also user friendly. However, due to the scarcity of healthcare resources, a health economic evaluation is important when choosing the best, safest and most economically advantageous way to manage medication in hospital.

Aim and objectives To evaluate the cost effectiveness of SAM during hospitalisation compared with nurse-led medication dispensing and administration.

Material and methods A cost analysis (microcosting level) was performed from a hospital perspective with a short term incremental costing approach, including the costs of medication, materials and nursing time spent on dispensing, administration, SAM start and discharge preparation.

The RCT was performed in a cardiology unit and included patients ≥ 18 years that were capable of SAM. In the intervention group, patients were instructed about the medication and