assessment outcomes, 2) analyze correlations between additional benefit, budget impact and negotiated rebate. METHODS: To achieve objective 1, assessments by the GBA and the IQWIG (Institute for Quality and Efficiency in Healthcare) (source: GBA website) were scanned for key trends. To achieve objective 2, list and post-negotiation prices were extracted from the Lauer-Taxe (German price database). For the countries that had long, far completed price negotiations, these were mapped against additional benefit and the budget impact (annual therapy costs as stated in GBA assessment). RESULTS: The results linked to objective 1, which were more qualitative in nature, were obtained by extraction of 5 key learnings for manufacturers to keep in mind. The results associated with objective 2 showed no link between additional benefits granted and negotiated rebate but did reveal price impacting parameters apart from budget impact. CONCLUSIONS: Concerning objective 1, the way in which manufacturers can attempt to optimize their position included: 1) Focus on comparator choice, 2) Focus on hard endpoints. 3) Make patient segmentation more solid, 4. Expect independent action of GBA and IQWIG and 5. Accept that there could be an ex-post, ex-ante standard for small molecule innovations. Regarding objective 2, we concluded that budget impact, influenced primarily by target population size, annual therapy costs and drug price, is an – if not the most important driver in the negotiation.

PH22 IS DRUG INNOVATION STILL REWARDED IN THE TOP 5 EUROPEAN PHARMACEUTICAL MARKETS?
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OBJECTIVES: To assess how drug innovation is rewarded and how it is impacted by cost-containment policies. METHODS: Manufacturer prices per unit of pack-age and strengths were compared and assessed in a basket of 97 innovative drugs approved by the European Medicines Agency (EMA) since 2000. The products were still protected by patent at the time of analysis, and differences still exist across the largest markets, enabling pharmaceutical companies to implement differential and protective pricing strategies. In Germany, time to market is comparatively fast and premium prices at launch have been granted. In future, the AMNOG reform will complicate this picture, although pricing premiums have still been achieved for drugs deemed innovative that have gone through the full AMNOG process. In France, although prices are relatively high at launch, they drop at time of renewal and discounts on generics are limited. In Italy, prices are relatively low at launch but remain constant in Italy and Spain, reflecting the fact that price cuts in those countries have often been directed towards generics, although these are still considered high-risk markets. In the UK, it remains to be seen how the value-based pricing reform will impact prices.

PH23 ACCESSIBILITY OF ORPHAN DRUGS IN FRANCE, UNITED KINGDOM AND GERMANY: DIFFERENT APPROACHES WITH REGARD TO HTA AND PRICES
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OBJECTIVES: To describe availability of orphan drugs in France, UK and Germany and to compare agencies’ assessments and prices. METHODS: All the products designated as orphan drugs by the European Commission have been considered. Data was obtained from IMS MIDAS database. Comparison of assessments is based on Transparency Committee opinions, NICE guidances and IQWIG benefit assessments. RESULTS: Sixty-two products ([53 dosages/forms]) were included in this study. 47 (76%), 84 dosages/forms) are commercialized in the 3 countries, 8 (13%) products in only 2 countries (6 both in Germany and UK and 2 both in Germany and France) and 7 (11%) only in 1 country (6 in Germany only and 1 in France only). Among the 84 products/dosage/forms available in the three countries, most of them are available at hospital (respectively 68, 70 and 77 in Germany, France and UK) but those available through retail pharmacies are much numerous in Germany (72 of them) than in France (28) or UK (38). German and UK manufacturer March 2013 retail prices more often higher than French one, despite the fact that among the 49 orphan drugs commercialized in France, 31 are innovative products (ASMR rate I to III). For instance, French assessment of panferudefone was less favorable than the Germans’ one and German price is thus +65% higher than French price. French and UK HTA assess-ments for azacitidine were both positive and led to similar prices. CONCLUSIONS: Most orphan drugs are available in the three studied countries but accessibility to them seems to be different and depends on HTA results.

PH24 COMPARISON RETAIL PRICES OF DRUG PRICES BETWEEN TURKEY AND EUROPEAN COUNTRIES
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OBJECTIVES: The reference pricing system is used for setting drug prices in Turkey since 2006. There are 5 reference countries including, Spain, Italy, Germany, France and Greece. Except for Greece, manufactured or imported companies can use references as reference countries. Reference prices are reviewed by time and may be subject to certain alterations, but evaluation of box prices may be different if evaluation model used on milligram. The aim of this study is to evaluate differ-ences of average milligram sales prices of some generic medicines between Turkey and European countries. METHODS: Comparison of milligram based prices analysis between European countries done by Intelligent Health System(IHS) was used. The analysis of IHS included Germany, France, United Kingdom(UK), Spain and Italy(UIS). Comparison was done with taken row data of analysis EUS and Turkey average milligram retail prices of Ceftriaxone, Clofopred, Esmeprazole, Fentanyl, Lamotrigine, Levofloxacin, Metformin, Venlafaxine, Letrozole and Olanzapine molecules. RESULTS: It has been reported that compared 10 molecules highest average milligram based prices of Esmeprazole(0.043 €), Levofloxacin(0.058 €) and Clofopred(0.009 €) molecules belong to Turkey, Lamotrigine(0.01 €) belongs to Turkey, The highest average milligram based prices of other 6 molecules belong to UK with following, Ceftrixone(0.0196 €), Fentanyl(0.186 €), Letrozole(0.24 €), Metformine(0.0013 €), Venlafaxine(0.0074 €), Olanzapine(0.261 €). CONCLUSIONS: It has known that because of UK used free pricing mechanism, in UK prices of drugs are higher than other compared countries. This situation established on the analysis. But despite of Turkish Government policy decision, it is important indica-tion that Turkey does not come out 10 drugs price indexes. Regarding the second objective, we concluded that the evaluation of box prices may be different if evaluation model used on milligram. Better control mechanism may achievable if milligram based pricing apply in Turkey. On the other hand because of the study only consist retail sales the evaluation should be done from point of reimbursement prices on future studies.

PH25 CONSUMPTION OF BIOSIMILAR DRUGS IN CAMPANIA REGION IN THE YEARS 2009-2012
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OBJECTIVES: The expiration of biotech drugs patent has led to the creation of drugs copies of originator products, defined ‘biosimilars’. No European country allows automatic substitution of the originator products and therefore, it is necessary that standards be developed in order to ensure the security of the health system and the correct use of the medicines. The European Commission has defined the biosimilars as: “Drugs which are highly similar to an existing biologic, with no clinically meaningful differences, and for which there is no additional data showing a lack of equivalence.” The main role of the National Health Agency (Agenzia del Farmaco, AF) in Italy is the product registration and its control. The lack of a national legislation, some Regions have issued directives to encour-age the use of biosimilars, recognizing a potential saving of resources. Campagna region is one of the first Regions in Italy to take a step in this direction, approving the prescription of biosimilars to the naive patient. The aim of our study is to describe trends in biosimilars consumption in Campania region and evaluate how biosimilar products are replacing the originators in the respective markets. METHODS: IMS Health regional database was used to evaluate biosimi-lar drugs consumption patterns (erythropoietins, G-CSF, somatropin) in the years 2009-2012. Information was retrieved about different distribution channels (retail, direct distribution, hospital). Consumeric are expressed in Country Units (CU) and trends have been calculated using Compound Average Grow Rate (CAGR). The study especially focused on consumption trends of erythropoietin (ATC B03KA) in the years 2009-2012. RESULTS: In 2012 the penetration rate of biosimilars was 40.1% (versus 68.7% of total erythropoietin (ATC B03KA) market). These values are double than those at national level, that are estimated to be 19.7% of consumption. Focus on erythropoietin trends showed a strong increase in biosimilars consumption (451 CU in 2009 vs 140,327 CU in 2013) after the introduc-tion of regional measures to promote the prescription of biosimilars to the naive patient. In 2012, biosimilar erythropoietins and reference drugs show similar market share (37.0% and 33.7% of the total erythropoietins market respectively) showing a high substitution effect. Conclusions: Our study outlines the significant effects of regional measures on market penetration rates of biosimilars.

PH26 INDIRECT AND DIRECT SAVINGS RESULTED FROM PARALLEL TRADE OF PHARMACEUTICALS IN POLAND – RESULTS OF VALUATION SALES DATA FROM PHARMACIES
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OBJECTIVES: Estimation of the direct and indirect savings generated by parallel importing (PI) of pharmaceutical products in public pharmacies in Poland, and esti-mation of the savings for the payer in the case of reimbursed drugs. METHODS: IMS Health Poland National Sales Data (2005-2012) and data from respective reimburse-ment lists were used for all calculations. Direct savings were estimated considering all PI products sold in public pharmacies (433 products, 1550 SKUs). To avoid oves-timation, only 18 products that passed restrictive criteria were used for calculations of indirect savings. Twenty-seven reimbursed products were used for the payer savings calculations. Direct savings were calculated as a difference between PI and reference product prices multiplied by the number of packs of PI product. Indirect savings were calculated as a difference between the reference product price and the theoretical reference product price (i.e. prices in a hypothetical situation where there is no price pressure caused by PI – calculated using linear regression). Indirect savings considered only those products which met the criteria of the reference product price’s decrease of at least 5% within 3 months prior to, or after, the appear-ance of the PI product. RESULTS: Study revealed that the savings generated by the PI of pharmaceuticals in Poland between 2005-2012 may be estimated at the level of EUR 346m (direct savings EUR 46m and indirect savings EUR 100m). Savings for the pharmacy were estimated at reimbursed products between 2005-2012 at the level of EUR 0.06m. CONCLUSIONS: This is the first study estimating direct and indirect savings coming from PI phenomena covering all years since PI was reinforced by the new legislation. The PI access to the public system has been shown. Indirect sav-ings tend to be substantially higher that direct ones. This indicates that high price pressure is created by PI, and affects the prices of reference products.

PH27 PRICING OF "FOLLOW-ON" DRUGS AND COMPETITION WITHIN PHARMACEUTICAL CLASSES: EVIDENCE FROM GERMANY 1993-2008
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OBJECTIVES: Competition within therapeutic drug classes from “follow-on” drugs has been a matter of great concern in recent years. Market access for new molecules in existing drug classes have often been criticized for inflating health system’s expenses, but it has been argued that such drugs increase therapeutic options. Economic theory suggests that follow-on drugs induce price competition. We contribute to this debate by addressing two key questions: 1) how the therapeutic quality of a new product influences pricing; 2) how price development in the German market with the distinct focus on competition within existing drug classes. METHODS: We measure determinants of price strategy in a large-scale study using IMS manufacturers’ drugs data. All new small molecules launched in the German market in the period from 1993-2008. Prices of products are standardized on Defined Daily Dosages controlling for sales volumes based on data from the IMS Health DMSP database, a census audit of pharmaceutical sales in Germany, and for the therapeutic quality of a new product using Fricker/Klaus as a proxy for innovation. RESULTS: We identify price correlations with therapeutic use at entry point. While the first two molecules engage in similar price strategies, new therapeutic molecules, price decreases below the market price can be observed from the third entrant on. Price discounts are even more distinct in development races with several drugs entering the market within two years and in classes with a low degree of therapeutic differentiation. Prices remain relatively constant over time CONCLUSIONS: This study contributes to assessments of competition in pharmaceutical markets focusing on price strategies of new market entrants. After an initial phase of market building, further follow-on products induce price competition. Largely unchanged prices after 4 years may be interpreted as quality competition and can be attributed to prices in Germany being anchor point for international price referencing.

PHP28 THE IMPACT OF GENERIC SUBSTITUTION ON HEALTH OUTCOMES AND COSTS: A SYSTEMATIC REVIEW

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OBJECTIVES: Although generic drugs are considered to be therapeutically equivalent to their off-patent (branded) counterparts, the overall impact of generic substitution on clinical and economic outcomes has not been comprehensively evaluated. The goal of this study was to test whether 1) generics and branded products yield the same health outcomes, and 2) generic therapies save economic resources versus branded therapies for de-novo patients and patients on maintenance therapy. METHODS: We conducted a systematic review in Medline, Embase and Cochrane Database of Systematic Reviews and Embase (2000-2012) to identify original research studies on clinical or economic outcomes with either independent or pre-post comparator groups. Data were aggregated using a standardized extraction form. For each included study, outcomes were categorized as favoring or opposing generic drug substitution. As we compared different outcomes, one publication could contribute to multiple outcome comparisons. RESULTS: We included 40 studies that evaluated 56 comparisons. Similar clinical effects were found in 74% of all studies in which patients were initiating therapy (de novo) and 64% of all studies involving maintenance therapy comparisons. 100% of the economic analyses reported similar clinical outcomes and 64% suggested that generic therapies save economic resources versus branded therapies for de-novo patients and patients on maintenance therapy. CONCLUSIONS: Our analyses suggested that clinical effects were nearly similar whereas economic savings of brand to generic drug substitution may be overstated, particularly in sensitive therapeutic areas such as anti-epileptic drugs or immunosuppressives. More systematic research comparing clinical and economic outcomes with or without generic substitution is needed to inform policy on the use of generic substitution. ACKNOWLEDGMENTS: We would like to thank Anke-Peggy Holfot and Zoltan Kalos for their scientific input.

PHP29 PRICING AND REIMBURSEMENT ANALYSIS OF LIFESTYLE MEDICINES IN SERBIA

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OBJECTIVES: To determine whether there was a difference between wholesale prices, utilization and market share, as well as to explain Rx-OTC switches and reimbursement possibilities of “lifestyle medicines”, in 2009 and 2010, before and after the adoption of new Medicines Law, in Serbia. METHODS: We investigated how many potential “lifestyle medicines”, satisfying the previously determined criteria, were available for purchase in Serbia. Utilization and market share status were monitored. Price index and margin index were calculated using the formula: I=QxP (index) = quantity x price. To compare the differences in prices and utilities of “lifestyle medicines” in Serbia, a test was used. The test was applied in market shares, T-test of proportion was used. RESULTS: There were 21 registered “lifestyle medicines”. Five medicines (oral contraceptives) were listed. In 2009, there were 1,763,030 units dispensed worth 16,074,922 €. In 2010, 1,814,405 units were dispensed with a total value was 19,306,502 €. The average sales price increased by 18% higher in 2009, which is not in line with the expected growth trend, but observed difference was not statistically significant. The wholesale price-index 2009/2010 was -1.5%. This means that prices were 13% lower in 2010. In fact, during 2010, prices remained the same in national currency, which weakened against euro.

The margin index was 21% in 2009 and 20% in 2010. Since all drugs were Rx medicines, it was set up to 12%, VAT was fixed to 8%), this was completely expected. At the end of 2010, two medicines: levonorgestrel (1.5mg) and orlistat (60mg), were authorised as OTC medicines (free pricing, margin 25%, VAT 18%). CONCLUSIONS: “Lifestyle-medicines” are difficult to define. Market success depends on product characteristics, effects, simple dosing regimen, good safety profile, first-to-market position, premium prices, sustained media attention, Rx-OTC switch potential and reimbursement potential. Although more medicines labeled “lifestyle-medicines” will be authorised in Serbia, market share is expected to decrease because of low purchasing power and low reimbursement potential.

PHP30 IS EXTERNAL PRICE REFERENCING AN APPROPRIATE DRUG POLICY APPROACH FROM AN EFFICIENCY, EQUITY, AND QUALITY PERSPECTIVE?

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OBJECTIVES: Different external price referencing (EPR) configurations are applied by countries worldwide. Depending on how EPR schemes are implemented, they may have varying effects on short- and long-run prices, market dynamics, key stakeholders, and other relevant endpoints. This research evaluated the merits and demerits of EPR from an efficiency, equity, and quality perspective. METHODS: A theoretical and empirical analysis of the effectiveness of EPR was conducted, based on a systematic review of the literature and stakeholder interviews. As EPR has been most common in Europe, the study focused on this region. RESULTS: The systematic review identified 107 relevant articles. The methodologies were categorised into studying characteristics and if major themes were identified; these findings were confirmed by the interviewees. The evidence suggests that EPR schemes often generate disproportionate price levels as well as contribute to national biases for particular drugs. EPR is competitive or discriminatory for brands and OTC alternatives. In addition, the bureaucratic complexity of many EPR schemes may undermine the objectives of EPR use (i.e. cost containment and macroeconomic efficiency). Finally, widespread EPR application may stifle pharmaceutical and biomedical innovation. CONCLUSIONS: A national pricing policy should provide an effective, predictable, transparent, and stable price environment for pharmaceutical products. It should internalise national priorities for health and industrial policy, including outcomes assessment, employment, innovation, and trade promotion. EPR is associated with important short- and long-term issues. If EPR is going to continue to be applied by EU Member States and other countries, then it is necessary to establish guiding principles to govern EPR use across jurisdictions. Still, different national thinking and risk-sharing agreements may represent more sustainable policy options.

PHP31 DOES EUROPE REWARD REFORMULATIONS? A DATA DRIVEN ANALYSIS OF VALUE PRESERVATION THROUGH REFORMULATION

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OBJECTIVES: Reformulating existing drugs can improve patient convenience, compliance and safety. However, reformulations cost millions and are likely to experience significantly less value erosion than for non-reformulated products (P=0.01). Cross-country analyses, discussing clinical and economic outcomes with or without generic substitution is needed to inform policy on the use of generic substitution.

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PHP32 CONSTRUCTING AN INDEX OF INTERNATIONAL PHARMACEUTICAL PRICES: A COMPARISON OF PHARMACEUTICAL PRICES IN 56 COUNTRIES

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OBJECTIVES: To construct a number of pharmaceutical price indices for a broad set of countries, covering a range of regions, including countries with different levels