**PHP55**

**EXCLUSIVE LICENSES FOR NON-COMMUNICABLE DISEASES: IMPLICATIONS FOR PHARMACEUTICAL PRICING IN LOW-INCOME COUNTRIES**

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**OBJECTIVES:** The signing of the TRIPS agreement in 1995 and Doha Declaration in 2001 have allowed low and middle-income countries to issue compulsory licenses (CLs) for medicines in times of national emergency. While normally for infectious diseases, the epidemic situation occurring in 2009 for non-communicable diseases (NCDs) was different. In cases of NCDs, along with the development of insurance systems, it is likely that the trend in the next decade will be towards a higher demand for more expensive medicines to treat non-communicable diseases (NCDs). We sought to determine the impact of CLs for medicines to treat NCDs and how pharmaceutical companies and governments can work together in the future. METHODS: We analysed a series of cases where a CL was issued, or the manufacturer successfully negotiated to retain patent rights for drugs treating NCDs to determine the relative impact of the CL or negotiations, prices were benchmarked and compared before and after CL issuance in 2012 US dollars using the medical commodities consumer price index and relevant exchange rates. RESULTS: Of nine CL cases identified, six resulted in an licensed, two were withdrawn, and one was negotiated and resulted in a discount and cost sharing agreement. For licensed issued, the average price reduction was 86.2% and supply was issued to a generics manufacturer. ROCe recently decreased the prices of three of its products by an average of 91.0% in India - indicating there may be a trend to reduce price in order to protect patent rights. Conclusions: CL issuance increases significantly using CLs to obtain lower prices for medicines to treat NCDs. Price negotiation tended to result in a greater price decrease than issued CLs, highlighting the importance placed on retaining patent rights. Pharma companies could consider proactively seeking cost-sharing arrangements to provide access to low-income patients and maintain market exclusivity.

**PHP52**

**THE CARDIOVASCULAR DRUG UTILISATION IN CROATIA IN THE PERIOD 2007-2010, TRENDS AND PERSPECTIVES**

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**OBJECTIVES:** An extensive insight into drug utilization as an economic and a public health issue can only be obtained when related to the integrated health state of the respective population. Our target is to investigate the utilization trends of cardiovascular drugs in Croatia during the period 2007-2010, thus focusing on the most common pharmacological/therapeutic subgroups. This allows us to make direct comparisons with the number of patient’s hospital admissions connected to cardiovascular events. The data of drug utilization in Croatia is collected and analyzed by the Croatian Agency for Medicinal Products and Medical Devices HALMED. By applying the Anatomical-Therapeutic-Chemical methodology (ATC), the given data is used to calculate the number of defined daily doses (DDD) and DDD per 100 inhabitants per day (DDD/1000/day) between 2007-2010, whereas the data of hospital statistics is analyzed by The Public Health Institute. RESULTS: The utilization of all cardiovascular drugs indicate an increase of 47.55% (from 248.88 DDD/1000/day in 2007 to 367.23 DDD/1000/day in 2010), while the total cost increased for 13.09% (from 863,601,721 KN in 2007 to 976,657,904 KN in 2010). The utilization of the lipid modifying agents (C10) increased the most (78.93%), followed by agents acting on the renin-angiotensin system (57.51%) and succeeded by calcium channel blockers (28.46%). The total number of hospital admissions related to cardiovascular diseases decreased from 84,413 in 2007 to 81,575 in 2010. CONCLUSIONS: During the period 2007-2010 the utilization of cardiovascular drugs increased significantly. In the same period the number of hospital admissions of the patients with main cardiovascular events (3.4%) indicated a decrease. It is necessary to undertake further analysis of these co-founders.

**PHP53**

**IDENTIFICATION OF FACTORS AFFECTING THE MEDICINE EXPENDITURES IN PUBLIC HOSPITAL IN MALAYSIA**

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**OBJECTIVES:** In Malaysia public sector, medicines spending in Ministry of Health health facilities has increased by 428% from 1998 to 2008. The ultimate aim of this research is to examine the trend of medicine expenditure and to identify the factors associated with the changes in medicine expenditure. METHODS: This was a cross-sectional study. It studied prescriptions from 2007 to 2009 at the Pharmacy Department of SMS Hospital in Johor State. Simple linear regression and multiple linear regression analysis were conducted. RESULTS: Total medicines expenditures for outpatient and inpatient rose every year. In outpatient, volume of medicine utilization increased over the years. Medicine expenditure declined in 2009 despite the continuous rise of medicines utilization. Median cost per medicine declined throughout these three years. Inpatient had a continuous rise in medicine expenditure. Median cost per medicine was fluctuating between 2007 and 2009 and was about 35% lower than outpatient. In outpatient, median cost per medicine was significantly different between years 2007, 2008 and 2009 for all variables except for hospital discipline Paediatric and X-ray. Meanwhile in inpatient, the exception was for Dermatology, Ophthalmology and Radiotherapy. The increase in medicine utilization, which includes the number of medicines, number of medicines per prescription and duration of supply, contributed significantly to the increase of medicine expenditure. Demographics, price and new medicine approval factors were found to have a significant impact on the increase of medicine utilization rate. CONCLUSIONS: The increase of medicine utilization rate could be due to the increase of population, the increase of the elderly population and new treatment guidelines and treatment which was previously not available. Other factors include off-label prescribing, irrational prescribing and poly-pharmacy. These three factors can lead to medication wastage and higher cost of treatment. Duration of medicine supply must be carefully monitored as longer duration might result in medication wastage.