PHP148
SELF- ASSESMENT OF HEALTH PROFESSIONALS' COMMUNICATION SKILLS WITH PATIENTS
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OBJECTIVES: Effective communication helps us to clearly understand patients or situation and enable us to make differences, build trust and respect. If a health professional does not have communication skills, it may reduce compliance and decrease the quality of health care. The aim of this study was to self-assess the communication skills during daily work in delivering care to patients by pharmacists and physicians at community settings. **METHODS:** This study is a pilot project of an ongoing Research Project aiming to investigate social and behavioral insights of pharmaciesy and physicians working in community settings in Serbia, started in November 2011. The rating scale is used to test pharmacists' skills and in-patient communication designed for the needs of the research consisted of 31 claims. **RESULTS:** The questionnaire completed 157 health professionals (physician, pharmacists) from the southeastern and central part of Serbia (75.3 % of which were females). The average age of participants were 40.42±9.38 and the average years of work experience were 12.92 ± 9.10 years.There is a correlation between the age of pharmacists and the following variables: assertiveness ($r = 0.456$, $p < 0.01$), active listening skills of patient ($r = 0.443$, $p < 0.01$), questioning patient ($r = 0.455$, $p < 0.01$), rhetoric skills ($r = 0.540$, $p<0.01$). ANOVA examined the effects of age on empathy ($F(4.64) = 1.52$, $p = 0.01$), assertiveness ($F(4.64) = 3.54$, $p = 0.01$), rhetoric skills ($F(4.64) = 2.48$, $p = 0.01$) and adherence to ethical principles ($F(4.64) = 1.53$, $p = 0.01$). **CONCLUSIONS:** Elder health professionals with greater empathy are more assertive having better rhetoric skills and adherence to ethical principles in communication. There is a need to improve the communication skills of young health professionals.

PHP149
REGULATORY AND GENERAL EPIDEMIOLOGICAL KNOWLEDGE ABOUT RARE DISEASES AND ACCESS TO TREATMENT FOR RARE DISEASES: HEALTH PROFESSIONALS' VIEW IN SERBIA
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OBJECTIVES: To assess the knowledge of health professionals about epidemiological and national regulatory issues concerning rare diseases (RD) and access to orphan drugs. **METHODS:** This paper reports some of the results from an ongoing KAP study on rare diseases and orphan drugs in the Republic of Serbia (RS). A prospective cross-sectional study was conducted from May to June 2013, on a convenient sample of licensed pharmacists and physicians from two, large cities' and its suburbies in the central parts of RS. A specially designed KAP instrument in a form of three-part questionnaire was applied and these results were related to the assessment of concerning knowledge (8 multiple-choice questions) and self-assessment of the participants (one question). **RESULTS:** The study population included 214 health workers (151 pharmacists and 63 physicians); the average age of participants was 40.80±9.45 and the average years of professional practice was 13.14 ± 9.68. Majority of the participants (57%) knew the true prevalence of RD and slightly less than third of the samples (26.2%) responded correctly to the question of the extent of European population suffering from RD. There are major differences in regulatory knowledge about access to treatment for rare diseases, as participants answered correctly in a wide range of 21% to 67.4%. Most of the health professionals self-estimated that possessed little (31.3%) or enough (43.5%) knowledge related to general epidemiological and legislative issues concerning RD and orphan drugs. The average level of overall knowledge assessment for all questions and self-assessmentin general was 3.53 ± 1.58 and 2.04± 0.87 respectively. **CONCLUSIONS:** The majority of respondents estimated that possess less knowledge on RD (general information) and drugs to treat RD, or insufficiently. The average level of respondents' knowledge on RD and drugs to treat RD was below the average.

PHP150
TIMING OF DISCHARGE MAKES A DIFFERENCE: THE EFFECTS OF LENGTH OF STAY AND DAY OF DISCHARGE ON 30-DAY READMISSIONS
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OBJECTIVES: The evidence on the influence of timing of discharge on readmission risk is inconsistent, showing that both increased length of stay (LOS) and early discharge are associated with an increased risk of readmission. We aimed to test whether LOS and day of discharge (i.e., weekend vs. work days) are associated with the risk of 30-day emergency readmission. **METHODS:** Data on first admission to internal medicine departments during January – March 2010 was retrieved from Clalit Health Services' data warehouse. Inclusion criteria: LOS of >= 2 nights, age 18+, readmitted to an internal medicine demartment or ICU. Predictors: LOS, ACG morbidity categories, age, socioeconomic status, and prior health care use. Logistic regression was used to model the effect of discharge day and LOS on 30-day emergency readmission, controlling for known risk factors. **RESULTS:** After adjustment for morbidity, clinical and demographic factors, there is an increased risk for 30-day readmissions associated with increased length of stay (OR=1.56 when LOS is 8+ days vs. 2-3 days, p<0.001). Focusing on 2-7 day hospitalizations, the same association is found (OR=1.47 for LOS > 5 days, p<0.001). Being discharged over the weekend increases the odds of readmission by 11% (p=0.04), controlling for all known risk factors. Modeling for an outcome of readmission or death, or for a 7-day readmission outcome, resulted in similar findings. **CONCLUSIONS:** Our study showed that contrary to some of the evidence, longer hospital stays were associated with increased risk of unplanned readmission. Being discharged over the weekend incurs mild additional risk for readmission, especially at shorter LOS. These findings suggest that despite short LOS in Israel, increasing LOS as a readmissions reduction strategy may be ineffective, unless the specific need and care content of these additional days is assured.

PHP151
MEDICATION ERRORS-INCIDENCE, CAUSES AND POSSIBLE PREVENTION STRATEGIES IN INDIAN HEALTH CARE SETTING
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OBJECTIVES: Medication errors (MEs) frequently contribute for patient's morbidity and mortality in health care settings. The present study was aimed to identify and assess the pattern of occurrence of MEs and to develop strategies to prevent these MEs. **METHODS:** It was a prospective study conducted in a teaching hospital over a period of 6 months. Trainee clinical pharmacists followed the patients admitted to general surgery (GS) wards. MEs occurred and the cause for ME was identified by reviewing medical records, interviewing patients and concerned health care professionals (HCPs). All identified MEs were documented electronically and were evaluated for its nature, extent, cause and outcome. Prevention strategies were developed accordingly. **RESULTS:** A total of 417 MEs were identified in 313 patients from 1125 patients followed. Calculated incidence of MEs in GS wards was 27.8%. The majority of them were prescribing errors (60.4%), followed by administration errors (38.6%) and dispensing errors (9.8%). The common reasons observed for MEs were omission error (25%), incorrect drug selection (14%), wrong frequency (10%), poor patient adherence to medicines (7%), drug use without indication (7%), improper dose (6%), wrong administration (4%) and wrong time (3%). Pantoprazole (27.5%), Ceftriaxone (9.8%), Piperacillin-Tazobactum (6.7%), Diclofenac (6.4%) and Tramadol (6.2%) were drugs commonly involved in MEs. Majority of MEs (96%) that reached to patients were not harmful but 32% of them needed monitoring/intervention to ensure patient safety. Around 60% of MEs were due to inappropriate prescribing by clinicians followed by patient non-adherence to therapy (14%), improper follow up by ward clinical pharmacists (15%) and nursing workload (11%). Strategies were designed to prevent commonly identified MEs. **CONCLUSIONS:** MEs can be minimized if patients are monitored correctly on time. Appropriate team work from all HCPs can certainly reduce the occurrence of MEs.

PHP152
THE RELATIONSHIP BETWEEN SCIENTIFIC RESEARCH, CLINICAL TRIALS AND FDA DRUG APPROVAL
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OBJECTIVES: An important aim of medical research is often to identify potential novel therapeutic targets for disease treatment. Here we investigated whether the amount of scientific research (measured as papers published) in a given disease area correlated with the number of clinical trials, and whether an increased amount of research in a disease area resulted in a higher number of FDA approved drugs. **METHODS:** FDA drugs approved between 2000-2013 were identified using the online database 'CenterWatch', and the number of papers and clinical trials for each disease area was established by running comprehensive searches on PubMed from 1975-2013, and ClinicalTrials.gov from 1999-2013, respectively. The total numbers of approved drugs, published papers and clinical trials were compared for each of 17 disease areas and, to analyse the correlations between these factors, simple regression analyses were performed. **RESULTS:** Analysis for correlation between the number of papers published and the number of clinical trials per disease area revealed a strong correlation between these two variables (R square: 0.69, $p<0.001$); thus, increasing numbers of published papers were associated with increasing numbers of clinical trials. Further analyses were carried out to investigate the relationship between the number of papers published, or clinical trials, and the number of drugs approved by the FDA. Interestingly, these analyses revealed that both clinical trials (R square: 0.05, $p=0.41$) and published papers (R square: 0.09, $p=0.25$) correlated poorly with the number of FDA approved drugs per disease area. **CONCLUSIONS:** These data suggest that the amount of research significantly correlates with the number of clinical trials in a given disease area. However, neither research nor clinical trials correlated with the number of drugs approved by the FDA. This may suggest that some disease areas could face a bottle neck at the drug approval stage, perhaps through difficulties in demonstrating efficacy.

PHP153
EFFECTS OF CHANGING HEALTH POLICY ON PHARMACOECONOMICS AND HEALTH OUTCOME STUDIES FROM 2000 TO 2012 IN TURKEY
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OBJECTIVES: Health policy chances may effect the conducted studies in all fields. Pharmacoeconomics dossiers for the reimbursement applications for new medicines were not mandatory before year 2008. New molecules need to show cost-effectiveness and possible budget effect with their applications for reimbursement to Social Security Institution from 2008. This policy changing may effect pharmacoeconomics and health outcome studies in Turkey. The aim of the study is to evaluate the improvement of pharmacoeconomics and health outcome studies which are specific for Turkey in years. **METHODS:** Database of ISPOR Outcome Research Digest were searched online from the begining of database (1998) to 2011 with the key words "Turkey" and "Turkish". The inclusion criteria were taken as study must be specific for Turkey and first author must be from Turkey. Included abstract evaluated for increasing in years, distribution in study topics and diseases areas. **RESULTS:** 121 abstracts were matched with inclusion criteria. First abstracts were published in 2000. There were only 16 abstracts in total until 2008. After year 2008, published abstracts numbers were increased year by year and reached up to 40 per year in 2012. 58.7% of all abstracts were Cost Studies(CS). It was followed by Health Care Use & Policy Studies(HP) (15.7%) and Patient Reported Outcomes & Preference-Based Studies (PRO) (12,7%). 49.3% of all Cost Studies were Cost-Effectiveness studies.

17.4% of all abstracts were in the Alergy diseases area. It was followed by Multiple Diseases (14%). **CONCLUSIONS:** It was shown that the policy changing in 2008 as to require pharmacoeconomics dossiers in the reimbursement application effected Turkey specific pharmacoeconomic and health outcome studies positively. In other words, pharmaceutical ýndustry and the government started to invest in pharmacoeconomics and health outcome studies after 2008.

PHP154

LONG TERM ANALISYS OF THE HUNGARIAN HOSPITAL BED CAPACITIES

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OBJECTIVES: To provide a long term analysis of the Hungarian hospital bed capacities. **METHODS:** During the preparation we performed bibliographic review including research of related statistical data collections, historical hospital works. Data were derived from the database of the Hungarian Central Statistical Office and from historical documents. The study covered the period between 1800-2010. The following indicators were used: number of hospitals and hospital beds. **RESULTS:** The first data available for hospital statistics dates back to 1800 and showed that there were 34 hospitals and 1590 hospital beds in Hungary. For 1867 the number of hospitals and hospital beds increased up to 46 and 4684 respectively. Shortly after the introduction of compulsory health insurance in 1891, the number of hospitals was 344 and the number of hospital beds was 16497 in 1895. After the First World War hospital number decreased to 183, and bed number increased to 26451. Since 1945 to 1990 the number of hospitals varied between 147-287, while the number of hospital beds continuously increased from 33162 to 105097. After the social and political changes in 1990, hospital bed number showed strong decrease to 71216 in 2010 with varying number of hospitals between 148-174. As a consequence in the changes of numbers of hospitals and hospital beds, the average bed number per one hospital continuously increased from 47 in 1800, 107 in 1915, 182 in 1950 and 710 in 1990. **CONCLUSIONS:** The definition and function of hospitals significantly changed during the past 200 years in Hungary. The former old fashioned small poor houses of the early 19th century have been replaced by hospitals with large number of hospital beds by 1990. After social and political changes in 1990, the number of hospitals beds in Hungary decreased and got closer to EU average.

PHP155

'BIG DATA' IN HEALTH CARE. WHAT DOES IT MEAN AND WILL IT MAKE A DIFFERENCE?

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BACKGROUND: With the evolution from data on paper into electronically available data, the term Big Data has made its entrance. This term is widely used and refers to the four V's: Volume, Velocity, Variety and Veracity. Big Data is being used in many sectors such as retail and banking, and also in the health care sector. However, within the health care sector, this term is ill defined. **OBJECTIVES:** The main purpose of this study is to get an understanding of the definition of Big Data in health care. Further, it's value and challenges will be explored. **METHODS:** : First, an attempt has been made to clarify the term Big Data in health care using the term "Big Data" in combination with 'health' in PubMed searches. Also, the internet and social media have been searched for definitions of Big Data in health care. Further, the potential use of Big Data in health care has been reviewed using these sources. **RESULTS:** In the medical literature, the term Big Data is rarely used in health care research and no standard definitions of Big Data big data are available. The term is used in combination with electronic health care records (EHR), claims data, registries, pharmacy utilization records, and linkages between these databases. On the internet and social media, various definitions for Big Data in the health care sector can be found." Values are: increased medical knowledge, improved quality of care, improved personalized medicine, better health outcome prediction, and lower costs. Challenges with Big Data in Healthcare are of technical (different data structures), ethical (patient privacy) and scientific (quality issues, biases, causality assessment) magnitude. **CONCLUSIONS:** Healthcare Big Data has poorly been defined. Use of Big Data can be beneficial in terms of better care and lower costs despite the challenges to be faced.

PHP156

DISEASE BECOMES SOCIAL. HEALTH RESEARCH CONDUCTED ON, OR USING, WEB 2.0 MEDIA: A SYSTEMATIC REVIEW

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OBJECTIVES: To assess the range and focus of health research that has involved interactive internet and mobile technology ("social media"; SM). **METHODS:** We conducted a systematic review of studies that investigated the use of SM, or used SM as a research tool, published in English since 2003 and indexed in MEDLINE and EMBASE. **RESULTS:** We identified 3,773 unique studies, of which 304 reported primary research or were systematic reviews of such studies. Of these, 192 (63%) were surveys of actual or potential users of SM, including health care professionals (20%), patients with a specific disease or problem (46%), or the general public (34%); 40 (13%) were articles describing SM tools or sites; 71 (23%) assessed the potential of SM to increase knowledge or improve clinical outcomes, of which 22 compared SM with more traditional support or information; 71 (23%) described SM users; 53 (17%) sought their views on the benefits of SM; 24 (8%) discussed the potential harm its use could do to professional-patient relationships; and 25 (8%) analysed SM content. SM were also used as a tool to recruit participants into research (85 articles, 28%), especially on topics such as sexual practices, intimate partner violence, or substance abuse, or involving groups typically underrepresented in clinical research. Of the various types of SM studied or used to recruit participants into research, Facebook was cited in 73 articles (24%); mobile apps in 40 papers (13%); PatientsLikeMe and Twitter in 13 articles (4%) each; MySpace in 3 articles (1%); and other online forums in 70 articles (23%). **CONCLUSIONS:** SM is a rich source of data on patients and health care professionals. It may be particularly useful in targeting patients with rare diseases, and studying attitudes and behaviours relating to taboo subjects. SM may also increase recruitment into research studies, especially from hard-to-reach groups.

PHP157

PHARMACO-ECONOMIC EDUCATION NEEDS INVESTIGATED BY ISPOR CHAPTER – EXAMPLE FROM BULGARIA

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OBJECTIVES: Education in pharmacoeconomics is one of the primary goals of ISPOR. This study is aiming to explore the needs for pharmacoeconomic educations by national chapter among different pharmaceutical stakeholders. **METHODS:** Inquiry research was performed among the participants in 2 educational initiatives of the Bulgarian ISPOR chapter. In both seminars attended representatives of payers - Bulgarian government (MoH, NHIF), as well as from pharmaceutical business, non-governmental organizations and academia. On total 48 individuals left feedback from over 60 participants in both seminars. The questionnaires focused on the topics covered in the seminars, organizational matters and needs of new educational themes. Preferred themes were assessed and results are consolidated **RESULTS:** Both seminars target the same groups of individuals – institutions, academia, pharmaceutical business, and non-governmental organizations. The first seminar was focused mainly on the pricing and reimbursement of the pharmaceuticals with international lecturers, while the second one covered basic pharmacoeconomic methods with national lectures. The overall satisfaction score from both seminars was very high (25%) and excellent (55%). The most preferred topic was the pricing and reimbursement of pharmaceuticals by 53%, followed by different modeling techniques (47%). Participants wanted to know more about the way of regulatory usage of pharmacoeconomics in pricing and reimbursement (70%). Focus groups discussion (98%) and practical of pharmacoeconomic were also a matter of high preference (30%). **CONCLUSIONS:** This study proves the necessity for education in the field of pharmacoeconomic, modeling, core models explanations and pharmaceuticals assessment. They also pointed out the place of national chapters as providers of education and independent organizers able to gather different stakeholders' point of view in non-formal discussions. Having in mind that BG is in the beginning of the HTA process obviously willingness to be educated among the whole Pharma environment is definitely high.

PHP158

PHARMACOECONOMIC EDUCATION FOR HEALTH CARE STUDENTS IN BOSNIA AND HERZEGOVINA

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OBJECTIVES: In order to examine the current situation related to education in the field of pharmacoeconomics and Health-economics, we investigate which universities and colleges provide such training. The study included pharmaceutical, medical and dentistry faculties and departments as well as the health care colleges. Information on health care colleges and faculties in B&H are taken from State register of accredited higher education institutions. **METHODS:** We have analyzed the on-line availability of the curricula at official websites of health care faculties, its content for each program of study at the undergraduate and postgraduate level. All programs are qualitatively analyzed in terms if they include pharmacoeconomics/health economics as a separate subject (mandatory or elective) **RESULTS:** Twenty-two high health care institutions are identified; 5 medical, 4 dentistry, 9 pharmaceutical faculties, 13 nursing and 6 othe. Seventeen of them have on-line available curricula, 3 are not available and 2 faculties do not have available websites, so we included 77,7% of all health care faculties program. In undergraduate courses pharmacoeconomics/health-economics is included in curricula at 5 faculties. Pharmacoeconomics as separate mandatory subject is included in curricula at 1 medical and 1 pharmacy faculty while at 3 health care colleges this area is covered through health-economics or health-management courses. In postgraduate programs (master and doctoral studies) just 3 faculties included health economics in its curricula; 1 medical faculty as mandatory subject, and 2 medical colleges as elective subject. **CONCLUSIONS:** Pharmacoeconomic education for health care students in Bosnia and Herzegovina is poorly organized and not satisfactory. There is growing need to educate health care professional and stakeholders in this field to ensure proper understanding and implementation in practice and decision-making process. Limitation of this study is that detail programs and structure of courses could not be examined since it is not on-line available. Further research is recommended to get deep insight into curricula.

HEALTH CARE USE & POLICY STUDIES – Health Technology Assessment Programs

PHP159

WORKSHOP IN PHARMACOECONOMICS: AN ITALIAN EXPERIENCE OF MULTI-STAKEHOLDER HTA CONSENSUS

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OBJECTIVES: To validate an innovative experience that aims at being recognized by Institutions as a national and independent HTA assessor, thus supporting both national and regional health care decison makers. This experience consists of a multi-stakeholder working group that, in the field of new technologies proposed for critical clinical areas, discusses and develops guide-lines and decision rules and comparatively examines local data. **METHODS:** The working method consists of a series of meetings (4 per year) of a scientific board (composed by high-profile experts covering all HTA domains) that carries out a nationwide analysis of the topic under examination and focuses on the main clinical, economic, organizational, social, and ethical aspects. Questionnaire-based surveys and Delphi panel are the main operational tools. WEF adopts standard HTA pro-