CR, SK) and insurance records (HU). Direct costs from the payer's perspective were based on published national sources (CR, SK), DRG lists (PL) and the insurance records (HU). **RESULTS:** The incidence of hospitalized bacteraemia/sepsis and meningitis per 100,000 person years were: 2.07 and 1.34 (CR), 1.2 and 0.49 (SK), 0.66 and 0.32 (PL), and 3.16 and 1.01 (HU). The case fatality rate was: 31% and 25%, 12% and 25%, 40% and 63%, and 11% and 29%. An exponential increase in both measures was apparent with advancing age. The total economic burden of IPD in adults over 50 was: EUR 666,050; 159,528; 180,015 and 140,249. Adults ≥65, who represent 41% of the combined population, account for 54% of the costs. **CONCLUSIONS:** The IPD burden in adults increases with age, and is associated with a high risk of death. Higher incidence in HU obtained from insurance records seems to more reliably reflect the reality and highlights systematic underreporting of national surveillance systems.

PHS23

DIRECT MEDICAL COSTS ASSOCIATED WITH STROKE IN NON-VALVULAR ATRIAL FIBRILLATION IN INDIA

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OBJECTIVES: To estimate the stroke related disease burden in terms of health care resource utilization and average per-patient costs among patients with a prior diagnosis of non-valvular atrial fibrillation (NVAF) in India. **METHODS:** Data were collected retrospectively in three large multidisciplinary community hospitals in three cities in India. Medical charts of 400 patients diagnosed with stroke and NVAF from June 1, 2011 to September 1, 2011 were reviewed. Data abstracted were demographic characteristics, clinical diagnosis, risk factors, comorbid conditions, date of diagnosis/admission, date of discharge, and types of inpatient procedures. Data regarding outpatient services such as physician visits, laboratory tests, INR monitoring, diagnostic tests, nursing services, and speech/physiotherapy over a three month period post-discharge were obtained via patient follow-up surveys. Costs associated with inpatient services were obtained from hospital discharge bills and the pricing menu of the three hospitals. **RESULTS:** The mean age of patients in the study was 59 (SD 10) and the majority of patients (62%) were male. Of the 400 patients, 61% had ischemic stroke and about 60% of the patients were moderate to moderate-severe disabled based on the modified Rankin Scale. The mean length of stay for patients with ischemic stroke was 16 days (SD 4). The direct medical costs for patients with moderate or more severe ischemic stroke (inpatient and outpatient) over the 3 month follow-up period was Indian rupees, Rs 130,976 (SD 3,913) with inpatient hospital costs accounting for a major portion (Rs 114,202) of the overall costs (per patient). **CONCLUSIONS:** The findings of the study indicated that the acute treatment for 3 months post ischemic stroke among NVAF patients imposes considerable economic burden (US $7,138) among patients in India. As inpatient costs are major cost drivers, clinical efforts should focus on timely management of NVAF induced strokes and use of preventive treatments.

PHS24

COST OF TRAFFIC ACCIDENTS RELATED TO LOW VISIBILITY CONDITIONS: A COST OF ILLNESS STUDY

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OBJECTIVES: To calculate the health care cost of traffic accidents occurring in night or daylight under low visibility. **METHODS:** Data on traffic accidents derive from the database of Hungarian Central Statistical Office (HCSO). We assessed the cost of both health services in kind and health services in cash. The direct cost related to traffic accidents were derived from the financial database of the National Health Insurance Fund Administration, the only health care financing agency in Hungary (Hungarian DRG point system version 5.0). Cost of benefits in cash was calculated with an average sick pay. The average recovery period of patients with traffic accidents was assumed 4 months. **RESULTS:** A total of 20635 persons were injured and 1106 persons were died on the road by traffic accident. 45 percent of casualty has been taken in night or daylight under low visibility. Average cost of restricted visibility accidents is 510886 HUF per capita (approx. 2041 EURO). We calculated an average sick pay 119365 HUF (approx. 477 Euro) per capita per month. The expenditures of the National Health Insurance Fund Administration could easily reach the 17 billion HUF (approx. 67.9 million Euro) per years. **CONCLUSIONS:** Traffic accidents and subsequent medical conditions are important burden for the Hungarian health insurance system with an annual expenditure of 17 billion HUF (97,9 million EURO). Better illumination, law regulation, appropriate education and traffic instructions might decrease the costs related to accidents on the road.

PHS25

DIRECT MEDICAL COSTS OF MEDICAL CARE OF GASTROINTESTINAL BLEEDING IN MEXICO

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OBJECTIVES: Gastrointestinal bleeding is one of the most common causes of medical attention in-hospital demand, with high impact on morbidity, mortality and costs of care. The aim of this study was to evaluate from the public payer perspective in Mexico, the cost of care of patients with gastrointestinal bleeding. **METHODS:** Through review of medical records of patients with gastrointestinal bleeding from January to March 2012 in a hospital in the Mexican Social Security Institute (IMSS) we evaluated the length of hospital stay, laboratory tests, endoscopy and pharmacological treatment prescribed. We used as reference the 2011 database of the institution and expressed the cost in U.S. dollars (USD) at an exchange rate of 13.72 Mexican pesos/USD [June 2012] and calculated the average cost per patient, we identified the component of major cost and identify the factor associated with higher cost. **RESULTS:** We included 70 patients with mean age 68 ± 14 years, 61% were women. 80% of cases had a comorbidity, the most frequent was systemic arterial hypertension (90%). On average hospital stay was 8 ± 4 days. The average cost per patient was 3.776 USD (1.490 USD- 8.180). The major cost component was hospital stay accounting for 81% of total costs. In patients Age over 85 years, the presence of comorbidities or gender were no associated with higher cost ($p > 0.05$). **CONCLUSIONS:** Gastrointestinal bleeding is a major cause of resource utilization for the IMSS, the main component are the days of hospital stay which cause a high economic impact on accessibility to other hospital claims.

PHS26

ECONOMIC BURDEN OF SEASONAL INFLUENZA B IN FRANCE DURING WINTER 2010-2011

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OBJECTIVES: In France, 4-10% of the population is annually affected by influenza. This represents direct and indirect costs, which vary according to the dominant influenza virus strain circulating. Policy makers are interested in its burden, for better allocating resources for prevention and control measures. As international literature regarding seasonal influenza B is rare and not entirely applicable in France, our study aims to assess its costs in 2010/2011 under the French Health Insurance perspective. **METHODS:** Cases: patients of all ages, consulting for an acute respiratory infection a physician, member of an influenza surveillance network in France (GROG network), completing the routine clinical form and whose nasopharyngeal swab was lab confirmed positive for influenza B. Physicians completed follow-up questionnaires 7 and 28 days after swabbing. Costs (consults, drugs, exams, hospitalization and daily allowances) were assessed for each patient. Treatments costs were modelled using linear, tobit and probit regressions (variables: costs, risk factor, vaccination, age group). Total costs estimation for the French Health Insurance were calculated by multiplying total costs per patient, flu attack rate and population. **RESULTS:** N=201 patients were included. Influenza B mean cost was 90.63€ (SD 132.76) per patient. Risk factors or influenza vaccine status did not impact the mean cost. In children and older people these costs were very similar (0-4 yo=76.74€, 5-14 yo=75.45€, ≥65 yo=72.50€). Main cost items were follow-up consults and antibiotics. For adults, costs almost doubled, reaching approximately 141.25€ per patient, due to work absenteeism. Total influenza B costs for the National Health Insurance were estimated on almost 400 million Euros in France during 2010/11. **CONCLUSIONS:** The results show that in a season where influenza B is dominant, it causes an important economic impact. Further investigations of strategies (vaccines) for reducing influenza B cases, providing evidence for policy-makers' decisions are in progress.

PHS27

EVALUATION OF THE CLINICAL AND ECONOMIC BURDEN OF THE HUMAN IMMUNODEFICIENCY VIRUS IN UNITED STATES VETERAN PATIENTS

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OBJECTIVES: To assess the clinical and demographic characteristics, utilization, and cost patterns of human immunodeficiency virus (HIV) patients in the U.S. veteran population. **METHODS:** A retrospective analysis was performed using the Veterans Health Administration (VHA) Medical SAS Datasets from October 1, 2007 to September 30, 2011. All U.S. veteran beneficiaries diagnosed with HIV were identified using International Classification of Disease 9th Revision Clinical Modification (ICD-9-CM) diagnosis codes 042.xx and V08.xx. Descriptive statistics were calculated as means ± standard deviation (SD) and percentages to measure demographic, cost, and utilization distribution in the sample. **RESULTS:** A total of 2,432 patients were diagnosed with HIV, who were most frequently designated as Caucasian (n=1,201, 49.38%) and often lived in the southern parts of the United States (n=905, 37.21%). Common comorbidities included hypertension (n=1,531, 55.55%) and diabetes (n=558, 22.94%). Survival rates were high for all age groups (age ≤39: 98.21%; 40-64 years: 93.48%; ≥65: 87.11%). Outpatient services were utilized by 99.92% of HIV patients, followed by inpatient (20.44%) and outpatient emergency room (ER) visits (7.11%). An average number of 0.39 inpatient visits and 21.01 outpatient visits per patient occurred during the 1-year follow-up period. Outpatient office ($10,558, SD=$12,856), outpatient ER ($36, SD=$240), and inpatient ($8,371, SD=$35,444) values contributed to follow-up health care expenditures. **CONCLUSIONS:** U.S. veterans with HIV experienced a high average number of outpatient visits during the follow-up period as well as frequent comorbidities and high survival rates. These may have translated to the high outpatient expenses evident in the study.

PHS28

THE COST OF MANAGEMENT OF PATIENTS WITH ATRIAL FIBRILLATION : AN OBSERVATIONAL STUDY IN UK NHS PRIMARY CARE

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OBJECTIVES: The management of atrial fibrillation (AF) represents a significant and increasing burden on the UK National Health Service (NHS). Understanding this

burden is important in informing health care planning and policy development. This study was conducted to describe the NHS costs associated with AF management in routine UK clinical practice. **METHODS:** A retrospective observational study of 825 patients with AF was undertaken in 8 UK primary care practices in 2010. Data were collected from the clinical records of all eligible, consenting patients, for a period of up to 3 years. The first 12 weeks following diagnosis was defined as the 'initiation phase'; the period after week 12 was defined as the 'maintenance phase'. **RESULTS:** Mean (SD) total cost of AF management was £947/€1,153/1,476USD (£1,098/€1,337/$1,711) per patient in the initiation phase and £469/€571/$731 (£597/€727/$930) per patient year in the maintenance phase. Inpatient admissions and secondary care attendances accounted for 83% of total initiation phase and 64% of total maintenance phase costs. Significant variables contributing to high cost in the initiation phase were co-morbid hypertension and lower patient age, although only accounting for 5% of cost variability. Significant variables in the maintenance phase (18% of cost variability) were co-morbid congestive or structural heart disease and diabetes, and day-care attendances, ECGs and hospitalisations in the initiation phase. Mean maintenance phase costs were higher for patients managed by practices providing anticoagulation services (£555/€676/$865) than patients receiving secondary care anticoagulation (£421/€513/$656, p=0.002). **CONCLUSIONS:** The study confirms that inpatient admissions and secondary care attendances contribute most to total AF management costs. None of the variables analysed accounted for much variability in the total cost of AF management, suggesting that it is often not possible to predict which patients will be high NHS resource users. Future work should focus on how to safely reduce avoidable hospital admissions.

PHS29

COST OF TREATING PATIENTS WITH OBSTRUCTIVE SLEEP APNEA/HYPOPNEA SYDROME IN THE SOTIRIA CHEST HOSPITAL IN GREECE

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OBJECTIVES: Studies estimating the cost of treating patients suffering from the Obstructive Sleep Apnea/Hypopnea Syndrome (OSAHS) have not been conducted in Greece. The aim of this study was to investigate the annual cost of patients with OSAHS and identify the potential economic burden to the patients treated. **METHODS:** A retrospective study was conducted in the sleep laboratory of Sotiria Chest Hospital in Athens from January 1, 2008 to December 31, 2008. A sample of 340 subjects was screened for OSAHS. Diagnosis was confirmed after polysomnography. Health resources' consumption was derived from patients' analytical records, the annual visits in the sleep laboratory and the purchase of the ventilation devices (CPAP, BiPAP). Outpatient visits' costs included labor costs, overheads, consumables related to the OSAHS patients. The bottom-up approach and the patients' perspective have been used. **RESULTS:** A total of 262 males and 78 females, mean aged 55,9 (±SD12,4) years participated in this study. Overall mean annual cost reaches approximately €1.685,90 per patient out of which 15% is paid by NHS, 64% by social funds and 21% by patients' out-of-pocket payments. The major cost driver is devices' purchase (66.55%). Patients' out of pocket spending for the purchase of the BiPAP ranges from 5% to 48.6% and of the CPAP from 0% to 33.5% depending on the social fund in which the patient belongs. **CONCLUSIONS:** Variations are found among patients' social insurance coverage related to the purchase of both devices as well as severe inequalities in patients' cost sharing among the various funds. Further research is needed in similar sleep laboratories in Greece.

PHS30

HEALTH CARE COSTS IN PSORIATIC ARTHRITIS (PSA) PATIENTS NEWLY INITIATED ON A BIOLOGIC DISEASE-MODIFYING ANTI-RHEUMATIC DRUG (DMARDS) OR METHOTREXATE (MTX)

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OBJECTIVES: To describe health care costs associated with the management of PsA in patients newly initiated on a biologic DMARD or MTX. **METHODS:** Adult patients with ≥2 PsA diagnosis (from office visits), continuously enrolled ≥6-month pre- and ≥12-month post-index date (i.e., first biologic DMARD/MTX prescription date), and no diagnosis for ankylosing spondylitis were selected from the MarketScan Commercial Claims database (2005-2009). MTX initiators were required to be both biologic and non-biologic DMARD naïve prior to index date. Biologic initiators were required to be biologic-naïve only prior to index date. All-cause and PsA-related total health care costs were estimated during the 12-month study period from a payer perspective (2011 USD). PsA-related medical cost was defined as costs associated with a claim with a PsA diagnosis or with DMARD administration by health care professionals. Office care and monitoring costs were defined as the sum of PsA-related outpatient and other medical services costs (excluding costs for drugs administration). Urgent care costs were defined as the sum of inpatient and emergency room costs. PsA-related pharmacy costs were defined as the sum of biologic and non-biologic DMARD costs. **RESULTS:** A total of 1,217 MTX initiators and 3,263 biologic initiators met the eligibility criteria. MTX initiators had an average annual total health care cost of $14,329 where $6,065 were PsA-related. Pharmacy costs accounted for 80.4% of total PsA-related costs; office care and monitoring costs for 16.3%; urgent care costs for 3.3%. Biologic initiators had an average annual total health care cost of $30,282 and 67.5% were PsA-related. Pharmacy costs accounted for 92.7% of PsA-related total costs; office care and monitoring cost for 5.1%; urgent care cost for 2.3%. **CONCLUSIONS:** PsA patients initiating a DMARD incurred substantial health care costs. Although pharmacy costs accounted for most of the PsA-related costs, office care and monitoring costs represented a significant part of the PsA-related costs.

PHS31

DETERMINATION OF THE ANNUAL HEALTH INSURANCE COST OF OUTPATIENT CARE PHYSIOTHERAPY SERVICES FOR MUSCULOSKELETAL AND CONNECTIVE TISSUE DISEASES

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OBJECTIVES: To evaluate the most frequent outpatient care physiotherapy services provided for musculoskeletal and connective tissue diseases and determine the total health care expenses of them. **METHODS:** Data were derived from the countrywide database of Hungarian Health Insurance Administration (HHIA), based on official reports of outpatient care institutes in 2008. The total numbers of different physiotherapy services were determined by selecting the reported specific diagnoses codes and counting the number treatments provided for that specific diagnosis code. The different types of treatment codes are listed in the chapter of the Guidelines of HHIA for 'Physiotherapists, massage-therapists, conductors and other physiotherapy practices'. The musculoskeletal and connective tissue diseases are listed in the International Classification of Diseases (ICD) with code of M00-M99. **RESULTS:** The total number of the 151 different types WHO-classified physiotherapy services was 29045736 in the year of 2008, 17455468 (60.1%) of them with the ICD code group M00-M99. The services with highest incidence are the followings: 1) ultrasound therapy 2011189 (11.52%); 2.) iontophoresis 1586016 (9.08%); 3) massage therapy with hand l946364 (5.42%); 4) middle frequency electrotherapy 932474 (5.34%); and 5) passive motion therapy on multiple limbs 821314 (4.7%). The number of the 20 most frequent types of therapies was 14285957, which is the 81.84% of all cases. The total health insurance reimbursement of the treatments of diseases with ICD code M00-M99 was 4.713 billion Hungarian Forint (18.76 million EUR). **CONCLUSIONS:** The 60.1% of the total number of physiotherapy services were provided for the treatments of diseases with ICD code M00-M99, supporting the notion that physiotherapy is dominantly used in the treatment musculoskeletal diseases. The financial cost of the outpatient care physiotherapy of diseases with ICD code M00-M99 exceeded the 50% of the total budget provided for physiotherapy services.

PHS32

DETERMINATION OF THE ANNUAL HEALTH INSURANCE COST OF OUTPATIENT CARE PHYSIOTHERAPY SERVICES FOR TRAUMA PATIENTS

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OBJECTIVES: To evaluate the most frequent outpatient care physiotherapy services provided for trauma patients and determine the total health care expenses of them. **METHODS:** Data were derived from the countrywide database of Hungarian Health Insurance Administration (HHIA), based on official reports of outpatient care institutes in 2008. The total numbers of different physiotherapy services were determined by selecting the reported specific diagnoses codes and counting the number treatments provided for that specific diagnosis code. The different types of treatment codes are listed in the chapter of the Guidelines of HHIA for 'Physiotherapists, massage-therapists, conductors and other physiotherapy practices'. The injuries caused by trauma are listed among with all type of injuries, poisoning and other external mechanisms in the International Classification of Diseases (ICD) code group of S00-T98. **RESULTS:** The total number of the 151 different types WHO-classified physiotherapy services was 29045736 in the year of 2008; 3188650 of them with the ICD code group S00-S99. The services with the highest incidence are the followings: 1) individual physiotherapy 352406 (11.15%), 2) muscle strengthening exercises 251398 (7.88%), 3) stretching of contractures 247442 (7.76%), 4. circulation enhancing physiotherapy 230930 (7.24%) and 5) exercises against resistance 210703 (6.61%). Of all body regions, the knee and the lower leg demanded the highest number of treatments (22.4%), followed with the shoulder (22.31%), elbow (18.7%) and wrist (14.18%); while the lowest number of services was required after the head (1.71%) and neck (0.67%) traumas. The total health insurance reimbursement of diseases with ICD code S00-S99 was 962 million Hungarian Forint (3.829 million EUR). **CONCLUSIONS:** The number of treatments accompanied diseases with ICD code S00-S99 in the year of 2008 shows a relatively low percentage (~11%) of all physiotherapy services.

PHS33

COST ANALYSIS OF DIALYSIS PRACTICE IN TURKEY

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OBJECTIVES: End stage renal failure is expected to become a major health problem for Turkey due to aging population and the increasing incidence of chronic diseases with renal effects. It was reported that end stage renal failure incidence with a need for transplantation has risen from 350 to 847 per million population from 1998 to 2009. In addition, the number of patients needing dialysis treatment has also risen from 3069 to 46659 for the same years. Dialysis treatment is predominantly in