

eight percent would consider the information when prescribing. Seventy-five percent of the profiled physicians who responded agreed that the profiles were informative and useful, and 67% would consider the information in their prescribing decisions. **CONCLUSION:** Providing antibiotic prescribing profiles for physicians may influence prescribing patterns and maintain cost in a managed care setting.

PIN28

MEDICOECONOMIC EVALUATION OF OUTPATIENT MANAGEMENT OF INFANTILE BRONCHIOLITIS IN FRANCE

Vainchtock A¹, Trichard M², Chaufferin G², Duru G³, Nicoloyannis N⁴, Stagnara J⁵

¹GYD Institut Groupe IMS Health, Lyon, France; ²BOIRON Laboratories, Sainte-Foy-Lès-Lyon, France; ³Claude Bernard University, Villeurbanne, France; ⁴Lyon 2 University, Bron, France; ⁵Paediatrician, Lyon, France

OBJECTIVES: To compare—in terms of effectiveness and costs—outpatient management of infantile bronchiolitis by homeopathic GPs vs allopathic GPs vs paediatricians. **METHODS:** A 6-month prospective, “real-world” study was carried out by setting up 3 observatories with: homeopathic GPs, allopathic GPs and paediatricians recruited by sample-drawing. Patients aged between 3 and 24 months, consulting for first bout of acute bronchiolitis since birth, who had not yet received treatment and who did not require immediate hospitalisation were included. Effectiveness (number and duration of bouts, number of complications, persistence of bronchial obstruction), direct medical costs (from the French Health Insurance and societal perspectives) and indirect costs (sick leaves) were assessed. The statistical analysis was performed after matching patients to have comparable patients. **RESULTS:** One hundred seventeen, 150 and 253 patients were respectively included by 38 homeopathic GPs, 59 allopathic GPs and 95 paediatricians. At the end of the study, there were: no significant differences between the management by homeopathic GPs vs allopathic GPs on effectiveness criteria; no significant differences between the management by homeopathic GPs vs paediatricians in terms of number of bouts, persistence of bronchial obstruction but significant shorter duration of bouts (4.4 vs 6.6 days) and less complications (0.20 vs 0.40 complication/patient) in the homeopathic group. In Health Insurance perspective, the management by homeopathic GPs was significantly less expensive than the management by allopathic GPs and paediatricians (116, 146, 217 €/patient respectively). In the societal perspective, the management by homeopathic GPs was significantly less expensive than the management by paediatricians (215 vs 361 €/patient) but equivalent to the management by allopathic GPs. Homeopathic GPs prescribed equivalent number of sick leaves to paediatricians but significantly less than allopathic GPs. **CONCLUSION:** These results could help public policy makers and practitioners in providing new available data concerning the outpatient management and cost of infantile bronchiolitis, that is a public health concern in France.

PIN29

THE ECONOMIC EVALUATION OF INFLUENZA VACCINATION IN THE ELDERLY POPULATION: A MODEL BASED ON BAYESIAN NETWORKS

Baio G¹, Pammolli F¹, Baldo V², Trivello R²

¹University of Florence, Florence, Italy; ²University of Padua, Padua, Italy

OBJECTIVES: Influenza infection is a major cause of illness, morbidity and mortality throughout the world, mainly among the elderly. Since vaccination has proven to be effective in the

reduction of all acute complications, deciding whether to implement a vaccination campaign, and which vaccine(s) to prescribe is an important task. The aim of this work is to build a decision model, which allows the decision-makers to evaluate the possible results under different scenarios, and to choose the decision associated to the highest expected utility, in terms of incremental cost effectiveness ratio (ICER). **METHODS:** The analysis is based on the Bayesian Networks. We developed a network that combines information from an observational study conducted in Pianiga (Italy) from a group of GPs (Family Medicine Group), with literature and experts data. This information was used to create a graph model, which encodes the set of conditional independencies among the variables. The probabilities of the relevant events (mortality and resources consumption) are calculated using the network. A (dis)utility function, represented by direct costs, is associated to the decision of implementing or not the vaccination campaign with a given vaccine. The ICER is then derived for several possible scenarios. **RESULTS:** The MF59 vaccine proves to be more cost-effective, as compared to both the non-vaccination and the standard vaccine. This result is consistent through several scenarios, built upon varying parameters such as coverage and attack rates. In the basic scenario, obtained by observed data, MF59 allows a saving of 16,444€ per death averted, with respect to standard vaccine, and a saving of 2718 € per death averted as compared to non vaccination. **CONCLUSIONS:** Using Bayesian Networks can help structure the decision problem and allow for a direct multivariate stochastic sensitivity analysis. The use this tool is in our opinion highly valuable, yet not established, in health economics.

PIN30

OBSERVATIONAL STUDY ON THE “REAL LIFE” PRACTICE AND COST OF ANTIBIOTIC (AB) MEDICATION IN PNEUMOCOCCAL PNEUMONIA PATIENTS: PARENTERAL VERSUS STEP DOWN THERAPY (SDT)

Verplanken P¹, Van Wilder P²

¹IMS Health Belgium, Brussels, Belgium; ²S.M.A.R.T, Zaventem, Belgium

OBJECTIVES: In this observational study, we analyzed the minimum basic data sets (MBDS) together with the associated medication costs, relating to stays from 11 hospitals. We focused on Pneumonia stays considering the effect of antibiotic treatment (SDT versus parenteral therapy), stay parameters and patient characteristics on length of stay (LOS) and the resulting antibiotic national insurance cost. **METHODS:** Belgian hospitals register case mix data for admissions in MBDS: we extracted anonymous medical data and prescribed drug cost data from stays of 11 peripheral Flemish hospitals (during 2001). MBDS contains ICD-9-CM codes and performed procedures as well as other stay parameters (severity, risk of mortality, LOS), patient characteristics (age, gender) and drug utilization data. Data were stored in MS Access 2000 and analyzed in SPSSWIN 12.0. Stays were considered independent; LOS and cost data were log transformed to obtain homoscedasticity. **RESULTS:** The database contained 302,704 patient stays: 6742 relate to pneumonia. Pneumococcus pneumonia was reported in 472 stays (461 patients). Mean (SD) LOS was 16.3 (21.9) days; 89 % of the admissions were unscheduled. Mortality was 8.1%. The frequency of antibiotic use was: Amoxicillin-Clavulanate 63.9%, cephalosporins third generation 30.8%, quinolones 16.8%, cephalosporins second generation 15.7%, macrolides 15.7%, aminoglycosides 15.3%. In 48.9% one, in 25% two and in 12% three AB-classes were administered. 37.7% SDT therapy was used. LOS was unaffected by SDT but there was a significant effect ($p < 0.001$ Anova) of age, stay severity and the

number of AB's used. The mean (median) cost for parenteral AB-therapy was 624.2 (275.3) Euro versus 504.4 (169.1) Euro for SDT ($p < 0.001$ Anova). **CONCLUSIONS:** MBDS through ICD-9-CM yields valuable information on "real life practice". The antibiotic-related cost in SDT is significantly lower than full parenteral treatment; LOS corrected for age, gender, reason for admission and departure was unaffected.

INFECTIONS

INFECTIONS—Quality of Life Studies

PIN30

SUBSTITUTION TO LOPINAVIR/RITONAVIR (LPV/R) IS ASSOCIATED WITH IMPROVED PATIENT-REPORTED FATIGUE IN HIV+ PATIENTS EXPERIENCING SIDE EFFECTS RELATED TO THEIR PROTEASE INHIBITOR (PI)/NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITOR (NNRTI)

Luo MP, Shen Y, Rode R, McMillan F, Tressler R, Ashraf T
Abbott Laboratories, Abbott Park, IL, USA

OBJECTIVES: Fatigue is a common, distressing symptom in HIV+ patients. This analysis evaluates whether substitution to LPV/r, a generally well tolerated and efficacious PI, affects fatigue in HIV+ patients experiencing Grade 2 side effects (SE) attributed to their PI/NNRTI. **METHODS:** In the open-label PLATO trial, patients experiencing Grade 2 PI/NNRTI-associated SE were randomized (4:1) to immediate substitution (IS) of their PI/NNRTI with LPV/r at baseline or deferred substitution (DS) at Week 4 (Wk4). The MOS-HIV and ACTG Symptoms Distress Module, with 2 additional items for nephrolithiasis (ASDM), were administered at baseline, Wk4 and Wk8. Fatigue was measured by MOS-HIV fatigue-domain and ASDM fatigue/bothersomeness-item. Sleep-disorder was measured by ASDM sleep-disorder-item. The Center for Epidemiologic Studies-Depression (CES-D) questionnaire was administered at baseline and Wk8. **RESULTS:** Eight hundred twenty-seven patients previously on nelfinavir ($n = 291$), indinavir ($n = 170$), indinavir/ritonavir ($n = 182$), efavirenz ($n = 136$) or another PI/NNRTI ($n = 48$) were analyzed (80% male, mean age 42 yrs, 75% with baseline HIV RNA < 50 copies/mL). At baseline, mean MOS-HIV fatigue-domain score was 56.7, with 62.3% rating fatigue as bothersome. Baseline fatigue scores were correlated ($p < 0.05$) with presence of depression (CES-D ≥ 16), sleep-disorder, and years since HIV diagnosis. At Wk4, improved fatigue scores were seen in IS vs. DS groups (MOS-HIV fatigue-domain: +8.711 vs. +0.068, $p < 0.001$; ASDM fatigue/bothersomeness-item: -0.486 vs. +0.074, $p < 0.001$), irrespective of prior PI/NNRTI regimens. At Wk8, fatigue improvement remained for IS group, while DS group began to improve. Improved fatigue scores were associated ($p < 0.05$) with IS, reduced prevalence of depression, and improved sleep-disorder scores. Improvement in fatigue and IS were significant predictors of improved MOS-HIV physical health summary score at Wk4 ($p < 0.05$). **CONCLUSIONS:** Fatigue scores were improved following substitution with LPV/r, and were associated with reduced prevalence of depression and improved sleep-disorder scores. Improvement in fatigue was independent of prior PI/NNRTI and was a predictor of improved physical health.

INFECTIONS

INFECTIONS—Health Policy Studies

PIN32

ACUTE SINUSITIS IN MANAGED CARE: ANTIBIOTIC TREATMENT AND OUTCOMES

Singer ME¹, Jaffe DH², Coyte PC³, Asche CV⁴

¹Case Western Reserve University, Cleveland, OH, USA; ²Hebrew University, Cleveland, OH, USA; ³University of Toronto, Toronto, ON, Canada; ⁴Aventis Pharma, Bridgewater, NJ, USA

OBJECTIVE: To examine antibiotic prescribing and outcomes associated with acute sinusitis in managed care. **METHODS:** We used the PharMetrics claims database for 8 managed care organizations. Index claims were based on outpatient visits in 1999–2001 by individuals aged 45–64 with a primary diagnosis of acute sinusitis who received an antibiotic within 7 days and were continuously enrolled for 12 months prior to and 45 days after the index event. Exclusion criteria: antibiotic prescription or sinusitis diagnosis in prior 45 days, hospitalization in prior 30 days, or sinus complications in prior 12 months. Broad spectrum antibiotics (BSA) were defined as: azithromycin, clarithromycin, amoxicillin-clavulanate, second- and third-generation cephalosporins, quinolones. Sinusitis history was categorized: chronic sinusitis (HxChr), acute but not chronic sinusitis (HxAcu), no history (NoHx). Also, subjects with asthma, chronic obstructive pulmonary disease (COPD), lower and upper respiratory tract infection (LRTI, URTI), and rhinitis in prior year were identified. Multivariate models adjusted for age, sex, health plan, use of laboratory/diagnostic testing at initial evaluation (surrogate for severity and practice variation). **RESULTS:** Out of 64,277 cases, 66.1% female, met criteria. Respiratory history: 5.4% HxChr, 7.9% HxAcu, 4.5% asthma, 4.4% COPD, 24.6% URTI, 16.3% LRTI, 10.4% rhinitis. BSA accounted for 45.5% of 1st-line prescriptions. BSA use increased over 3 years ($p < 0.0001$): 43.8% (1999), 45.5% (2000), 49.2% (2001). BSA use was highest for HxChr and asthma at 54.3%. Overall, 22.4% received a 2nd prescription, highest among HxChr, 31.7%. Mean charges were \$134; highest for HxChr, \$158 and asthma, \$152. In multivariate models, respiratory histories were positively associated ($p < 0.05$) with BSA use, 2nd prescriptions and charges. **CONCLUSION:** In treatment of acute sinusitis in managed care, broad spectrum antibiotics are used almost 50% of the time as initial therapy and use is rising. Respiratory history, especially chronic sinusitis or asthma, is associated with more BSA use, 2nd prescriptions, and charges.

PIN33

UTILIZATION PATTERNS OF MEDICAL SERVICES AND PRESCRIPTION DRUGS FOR THE TREATMENT OF TINEA CAPITIS

Suh DC¹, Raut M², Chang J², Valiyeva E¹, Tavakkol A², Vo L¹

¹Rutgers University, Piscataway, NJ, USA; ²Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA

OBJECTIVES: This study was conducted to examine the utilization patterns of medical services and prescription drugs in patients with tinea capitis (TC). **METHODS:** This retrospective cohort study identified TC patients using the MarketScan® database during January 1, 1999–December 31, 2002. Patients were selected if they had primary or secondary diagnosis of TC (ICD-9 Code of 110) and had continuous health insurance and prescription drug coverage. The identified patients were defined as newly diagnosed patients if they were not diagnosed with TC or did not use any prescription drugs for TC treatment in the previous year. The frequency of medical services and the usage pat-