OBJECTIVES: To evaluate the effectiveness, as well as the cost-benefit of a hospital-wide physician educational programme in minimizing the spinal anesthesia (SA) failure rate. METHODS: A bupivacaine physician educational programme was initiated in June 2011 to minimize the SA failure rate in the Anesthesia Department of a tertiary-care hospital in Central Taiwan. We then used the patients recorded in the institution who underwent SA from January 2010 through December 2011, to evaluate the effectiveness as well as the cost-benefit of the programme, taking into consideration both cost of SA and the training. To minimize potential impact of seasonal change, we compare two patient cohorts, the pre-training and the post-training cohorts, that were collected during July to December in 2010 and 2011, respectively. Logistic regression model was used to evaluate how well the application of the programme will predict SA failure rate, after controlling for potential impact of seasonal change. From the payer’s perspective, the cost-benefit of the training was evaluated by calculating the cost needed under the SA failure rates before and after the training, based on the true number of patients undergoing SA after the training. The approved payments from the Bureau of National Health Insurance were used to do the calculation. RESULTS: There were 1841 and 2372 patients undergoing SA in the pre-training and post-training periods, respectively. The SA failure rate reduced from 2.66% to 1.39% in the two periods. The training is a predictor of lower SA failure. Conclusions CI 0.61–0.79, p value of 3.13% was noted, indicating the cost-benefit of the training. CONCLUSIONS: The physician educational programme was associated with a significantly lower SA failure rate, with a RR of 43%. Moreover, it had a significant cost-benefit profile from the programme’s perspective.

PHP95
FACTORS ASSOCIATED WITH PHYSICIAN PARTICIPATION IN A NATIONAL CONTINUING MEDICAL EDUCATION PROGRAM
Lai CH1, Hou YH1, Chang RE2
1National Taiwan University Hospital, Taipei, 2National University, Taoyuan, Taiwan
OBJECTIVES: To improve the quality of diabetes care and assist physicians in acquiring the knowledge base and skills required for diabetes management, the diabetes mellitus pay-for-performance program was integrated with continuing medical education (CME) and implemented in 2001. Our study examined CME’s prevalence among physicians and explored the factors associated with variations in CME participation. METHODS: This cross-sectional comparison study analyzed the National Health Insurance (NHI) claim data for the year 2008 obtained from the National Health Research Institutes. Descriptive and multiple logistic regression analyses were conducted to investigate the factors associated with differential physician participation in CME. The factors considered included the characteristics of the physician, the organization, and the regulatory body. RESULTS: A total of 43% of the NHI registry physicians in this study (n = 18,284) had diabetes patients in 2008, but only 7% were participating in DM-P4P. The factors significantly associated with participation status were as follows: 1) the physician factor, including gender, specialty, practice location, number of diabetes patients, and ratio of major provider; 2) the organizational factor, including the practice setting and ownership; and 3) the regulatory factor, including the time period for the Diabetes Shared Care Program and the NHI’s regulatory districts. CONCLUSIONS: This study revealed that under the same financial incentives, physicians had different degrees of willingness to participate in the CME, which could be attributed to the personal, and regulatory factors. Most of the physicians participating in CME were diabetic patients in Taiwan were not endocrinologists and their expertise was widely distributed among diverse specialties. The CME was a key component in developing physicians’ competencies and driving improvements on national diabetes care quality; a low level of participation would however hinder its effects. Policy makers may need to consider various arrangements for increasing physician participation.

HEALTH CARE USE & POLICY STUDIES - Health Technology Assessment Programs

PHP96
NATIONAL HEALTH INSURANCE CLAIMS DATABASE AS A VALUABLE SOURCE OF INFORMATION FOR HEALTH TECHNOLOGY ASSESSMENT IN TAIWAN
Wang YC, Pwu RF
1Center for Drug Evaluation, Taipei, Taiwan
OBJECTIVES: Health Technology Assessment (HTA) is developed out of the best scientific evidence in medical, organizational, social, ethical and economic aspect, to provide decision aid for health decision makers increasingly seek information on ‘real-world’ outcomes; one of such information sources is administrative claims database. The aim of this study is to explore the types of information that administrative claims database has been used in the assessment reports made by Taiwanese HTA agency (CDE/HTA). METHODS: We collected all the statistics used or analysis results estimated from health insurance database in the assessment reports that CDE/HTA produced during 2008-2011. These results were further classified by the indication of the product, type of statistics used, and sections of the report. DESCRIPTIVE ANALYSIS was performed. RESULTS: There were 34 assessment reports presented statistical data out of National Health Insurance database in 2008-2011. These included 19 New Drug Applications, 13 Comprehensive Research and 2 Medical Device Review. For the types of indications, the most frequently applied were the drugs used in the area of the musculoskeletal system and the nervous system and senses organ (18%). Of all the different types of database used, 65% used longitudinal health insurance database. Mostly used statistics were “the number of patients using drug” (47%) and “the number of patients with diagnosis” (38%). “Burdens of disease” (47%) and “impact of disease” (32%) were the report sections that presented most of these data. CONCLUSIONS: At present, most of the CDE/HTA assessments rely on the longitudinal Health Insurance Database for estimating “the number of patients with diagnosis” or “the number of patients using drug”. This study has described the frequently use of claims database in Taiwanese HTA reports. Further usage of claims data on cost-effectiveness analysis or comparative effectiveness research is expected.

PHP97
IDENTIFYING MODELING FACTORS INFLUENCING COVERAGE DECISIONS BY NICE IN 10 SINGLE TECHNOLOGY APPRAISALS (STA) OF EXPENSIVE DRUGS
Nguyen H1, Wang BM2, Garrison E1
1University of Washington, Seattle, WA, USA, 2Adulity Health, New York, NY, USA
OBJECTIVE: The National Institute for Health and Clinical Excellence (NICE) single technology appraisal (STA) process was introduced in 2005 as a rapid way to appraise new technologies for use within the NHS in England and Wales. Manufacturers are recommended to follow the NICE reference case in presenting clinical effectiveness and cost-effectiveness evidence in their submissions to NICE. The purpose of this research was to identify common modeling factors in the manufacturer’s submissions (MS) of expensive technologies. METHODS: An analysis of MS and Evidence Review Group reports was undertaken for 10 technologies (2007-2011) with similar route of administration and annual treatment cost. Data was obtained from the NICE website and extracted on key elements of the strength and weaknesses of MS. RESULTS: All STA for drugs with annual treatment costs ~ £8,000 per year and administered intravenously by injection or infusion. All drug treatments were long-term and indicated for a range of chronic diseases. RESULTS: Of the 10 STAs, 8 were recommended by NICE. The MS recommended technologies included patient access schemes (PAS). The duration of the STAs ranged from approximately 36 to 129 weeks. Delays in the STA process were due to poor quality of submissions. Economic evaluations were either cost-utility or cost-effectiveness analyses. Excel-based Markov models were commonly used to simulate long-term processes. We identified many variations in the submitted models across different characteristics, including calculation of utility values, choice of relevant model population, type of comparator, perspective and time horizon, inclusion of sensitivity analyses, use of indirect comparison methods, and availability of systematic literature review. CONCLUSIONS: MS that were comprehensive, transparent, and internally consistent experienced more efficient STA process and positive appraisal outcomes. Manufacturers with expensive drugs may consider including PAS in their economic evaluations as part of their submission.

PHP98
THE INDUSTRY SURVEY RESULTS REGARDING KOREA PE GUIDELINE REVISION USING KRPIA PE WORKING GROUP AND KPMA AS A BRIEF OF DEVELOPMENT
Bayer Korea, Seoul, South Korea, 1Korea Research-based Pharmaceutical Industry Association, Seoul, South Korea, 2Korea Pharmaceutical Manufacturers Association, Seoul, South Korea
OBJECTIVES: The National Institute for Health and Clinical Excellence (NICE) single technology appraisal (STA) process was introduced in 2005. It is developed out of the best evidence in medical, organizational, social, ethical and economic aspects of decision-making aids. Health Technology Assessment (HTA) is developed out of the best evidence in medical, organizational, social, ethical and economic aspects for providing decision aids. The purpose of this research was to identify common modeling factors in the manufacturer’s submissions (MS) of expensive technologies. METHODS: An analysis of MS and Evidence Review Group reports was undertaken for 10 technologies (2007-2011) with similar route of administration and annual treatment cost. Data was obtained from the NICE website and extracted on key elements of the strength and weaknesses of MS. CONCLUSIONS: MS that were comprehensive, transparent, and internally consistent experienced more efficient STA process and positive appraisal outcomes. Manufacturers with expensive drugs may consider including PAS in their economic evaluations as part of their submission.

PHP99
IMPLEMENTATION OF A FORMULARY MANAGEMENT PROGRAM IN SINGAPORE
Zhou Y1, Teng M, Khoo AL, Lim BP
1National Healthcare Group, Singapore, Singapore
OBJECTIVES: To improve the quality of diabetes care and assist physicians in acquiring the knowledge base and skills required for diabetes management, the diabetes mellitus pay-for-performance program was integrated with continuing medical education (CME) and implemented in 2001. Our study examined CME’s prevalence among physicians and explored the factors associated with variations in CME participation. METHODS: This cross-sectional comparison study analyzed the National Health Insurance (NHI) claim data for the year 2008 obtained from the National Health Research Institutes. Descriptive and multiple logistic regression analyses were conducted to investigate the factors associated with differential physician participation in CME. The factors considered included the characteristics of the physician, the organization, and the regulatory body. RESULTS: A total of 43% of the NHI registry physicians in this study (n = 18,284) had diabetes patients in 2008, but only 7% were participating in DM-P4P. The factors significantly associated with participation status were as follows: 1) the physician factor, including gender, specialty, practice location, number of diabetes patients, and ratio of major provider; 2) the organizational factor, including the practice setting and ownership; and 3) the regulatory factor, including the time period for the Diabetes Shared Care Program and the NHI’s regulatory districts. CONCLUSIONS: This study revealed that under the same financial incentives, physicians had different degrees of willingness to participate in the CME, which could be attributed to the personal, and regulatory factors. Most of the physicians participating in CME were diabetic patients in Taiwan were not endocrinologists and their expertise was widely distributed among diverse specialties. The CME was a key component in developing physicians’ competencies and driving improvements on national diabetes care quality; a low level of participation would however hinder its effects. Policy makers may need to consider various arrangements for increasing physician participation.
OBJECTIVES: To develop best practices, tools, capacity and capability for an effective formulary management system for five public health care institutions in Singapore. A cross-sectional survey was conducted to assess practitioners' knowledge and attitude towards formulary management. Endorsement from participating institutions' stakeholders was obtained before the implementation of the programme. RESULTS: The four key areas assessed were 1) methods for evidence review and synthesis, 2) formulary decision making, and 3) capacity and capability building especially in pharmacoeconomics. A set of tools that facilitate evidence review and synthesis including guidelines for pharmacoeconomics was published to support formulary management. Clinical need, safety, efficacy, cost-effectiveness, budget impact and opinion from subject matter experts were deemed as important decision-making criteria. A decision-making form incorporating these criteria was created to facilitate the consistency and transparency of the decision making process. Worksshops focused on HTA were conducted to equip pharmacists supporting formulary management for participating institutions the knowledge and skills to appraise clinical and economic evidence. In addition, a team comprising personnel trained in pharmacoeconomics was set up to provide support to institutions pharmacists on the application of HTA via joint review on selected new drug applications. CONCLUSIONS: Support from participating institutions formulary committees and senior management are keys for the successful implementation of this programme. Moving forward, the challenge is to integrate the proposed changes into current practice.

HEALTH CARE USE & POLICY STUDIES - Prescribing Behavior & Treatment Guidelines

PHP104 HYPERTENSION CONTROL AND DOCTORS’ KNOWLEDGE, ATTITUDE AND PRACTICES ON MALAYSIAN CLINICAL PRACTICE GUIDELINES ON MANAGEMENT OF HYPERTENSION (CPG 2008) AT A TERTIARY HOSPITAL

Ahmad N1, Hassan Y2, Tangiisuran B3, Meng O1, Aiz A4, Ahmad PUD1

1Universiti Sains Malaysia, Pulau Pinang, Malaysia, 2Universiti Teknologi MARA, Puncak Alam, Selangor, Malaysia, 3Universiti Sains Malaysia, Pulau Pinang, Malaysia, 4Universiti Hospital, Pinang, P. Pinang, Malaysia, 5Universiti Teknologi MARA, Subang Jaya, Selangor, Malaysia, 6Universiti Sains Malaysia, Pulau Pinang, Malaysia

OBJECTIVES: To evaluate doctors’ knowledge, attitude and practices on Malaysian CPG 2008 along with factors predicting guidelines adherence and hypertension control. METHODS: This was a cross-sectional study conducted at Hospital Pulai Pinang, Malaysia. A total of 26 doctors were enrolled. Doctors’ knowledge and attitude on CPG (2008) were evaluated through a valid and reliable questionnaire. In order to evaluate doctors’ actual prescribing practices, prescriptions written by 26 enrolled doctors to 650 established hypertensive outpatients (25 prescriptions per doctor) were noted on visit one. The noted prescriptions were classified either as compliant or noncompliant to CPG (2008). Five hundred and twenty enrolled patients (20 patients per doctor) were followed for one more visit. Blood pressure noted on 2 and 3 visits were used to predict the prescription adherence on visit 16 was used for data analysis. RESULTS: Nineteen doctors (73.07%) had adequate knowledge of CPG (2008). Doctors were highly positive towards CPG (2008) with mean attitude score of 23.15 ± 1.34 points on a 30 point scale. Statistically significant correlation (r = 0.635, p-value = 0.001) was observed between doctors’ knowledge and practice scores. The majority (67.1%) patients received guidelines compliant therapy. In multivariate analysis hypertension clinic (OR=0.384, p-value <0.001) and age of CPG (2008) was the strong predictor of poor adherence with guidelines. On visit Two 51% patients were at goal BP. In multivariate analysis, Angiotensin converting enzyme inhibitors (OR=2.100, p-value=0.001) and guidelines adherence (OR=1.745, p-value=0.022) were the strong predictors of hypertension control, while renal disease (OR=0.283, p-value=0.001), diabetes mellitus (OR=0.598, p-value=0.025) and diabetiic clinic (OR=0.384, p-value=0.024) were the strong predictors of poor control of hypertension. CONCLUSIONS: An overall fair level of doctors’ knowledge, adherence with guidelines and control of hypertension was observed. The gaps between what guidelines recommended and clinical practice was especially seen in the pharmacotherapy of uncomplicated hypertension and hypertension with diabetes mellitus, practice approaches differ across the region.

PHP105 GUIDELINE IMPLEMENTATION IN LONG TERM ASTHMA MANAGEMENT: AN AUDIT USING A MEDICATION ASSESSMENT TOOL IN SELAYANG HOSPITAL

Shaharudin E1, Che Hasan MH2, Hashim R1

1 UiTM, Bandar Puncak Alam, Selangor, Malaysia, 2CUCMS Main Campus, Cyberjaya, Selangor, Malaysia

OBJECTIVES: To assess the current practice for the management of long term asthma in Malaysia and the prescribing pattern among asthmatic patients by using medication assessment tools (MAT). The MAT was developed according to guideline used by the physicians in Selayang Hospital. METHODS: The development and validation of asthma MAT had undergone a process that involved selection of guideline on long term asthma management in adults. The recommendations were focused on pharmacologic management. Updated version of GINA guidelines was used as GOLD guidelines is known to be used in the management of long term asthmatic patients in Selayang Hospital. The MAT tool was then discussed and validated together with practising pharmacist. Pilot sampling was done and data was then collected from patient medical record in Selayang Hospital. These data were then assessed and analysed. RESULTS: The result showed that level of adherence towards guidelines used was 86.3% for 73 asthmatic patients that were selected. If magnification was made, however, the reduction of current medication dose had not been made after the symptoms of asthma. Only 39.4% had their dose according to the guideline. CONCLUSIONS: The adherence of guidelines seem to be high, however, improvement needs to be made in reducing the dose once patients' asthmatic symptoms have decreased.

PHP106 DIFFUSION OF NON-GUIDELINE EXPERIENCE-BASED CHEMOTHERAPY CARE

Tan H1, Brooks J1, Wright K1, Link B2, Chishulias EA1

1University of Iowa, Iowa City, IA, USA, 2University of Iowa, Iowa City, IA, USA

Clinical guidelines recommend patients with Diffuse Large B-Cell Lymphoma (DLBCL) have rituximab plus anthracycline chemotherapy. During the 1990s, however, about one-third of elderly DLBCL patients did not receive chemotherapy, potentially due to intolerance of toxicities associated with ABC. With physicians choosing to use non-guideline rituximab plus non-ABC chemotherapy for patients with low toxicity tolerance. OBJECTIVES: This study assesses the diffusion of the use of non-guideline chemotherapy treatment for elderly DLBCL patients and examines the regional variation in diffusion. METHODS: A retrospective cohort consisting of 5839 Medicare beneficiaries diagnosed in 2000-2006 with primary DLBCL at age 66 or older with therapy with any chemotherapy was selected from the 2007 Surveillance, Epidemiology and End Results (SEER) Medicare linked database. Patients were excluded if physician information was not available (N=55). Patient chemotherapy was categorized using Medicare claims within five months of diagnosis. Physicians were classified if they prescribed any chemotherapy during the initial treatment period. Descriptive analyses were used to characterize variation in chemotherapy treatment across the SEER registry regions. RESULTS: Physicians prescribed ABC chemotherapy to an average 81.2% of received chemotherapy patients. A total of 19.8% of physicians, however, prescribed rituximab plus non-ABC chemotherapy to at least one patient. The percentage of physicians whom used rituximab plus non-ABC chemotherapy increased from 1.4% in 2000 to 16.1% in 2006. Louisiana, Connecticut, and Seattle were the top three SEER regions where over 25% of the physicians prescribed this alternative chemotherapy. In Hawaii, New Mexico, and Iowa SEER regions less that 14% of physician used this alternative chemotherapy. CONCLUSIONS: The percentage of physicians having adopted rituximab plus non-ABC chemotherapy as the alternative treatment increased over the years. Physicians’ adoption of non-guideline treatment varies across regions.

PHP107 OBSERVATIONS OF HEPATOCELLULAR CARCINOMA (HCC) MANAGEMENT PATTERNS FROM THE GLOBAL HCC BRIDGE STUDY: AN INTERIM ANALYSIS OF HCC BURDEN OF ILLNESS IN THE ASIA-PACIFIC (AP) COHORT

Ozawa Li1, Park YU2, Kudo M3, Chen Y1, Chen M1

1Kinki University School of Medicine, Osaka, Japan, 2National Cancer Center, Okayama, North Korea, 3Kinki University School of Medicine, Osaka, Japan, 4National Taiwan University Hospital, Taipei, Taiwan, 5Sun Yat-Sen University Cancer Center, Guangzhou, China

OBJECTIVES: The HCC bridge study is the first global, large-scale, observational study to document real-world treatment pattern and outcomes of HCC patients from diagnosis to death. METHODS: This longitudinal cohort study includes HCC patients newly diagnosed between January 2005 and June 2011 and treated at major medical centers, with data collected retrospectively and prospectively as recorded in patient charts. RESULTS: In the first interim analysis (July 2011), 8909 patients (mean age, 54 years; 83% male) were enrolled in AP (China, n = 6295; Taiwan, n = 1183; Korea, n = 1136; Japan, n = 295). The predominant risk factor was HBV in China (80%), Taiwan (67%), and Korea (7%) and HCV in Japan (69%). The predominant bCLC stage at diagnosis was stage C in China (56%) and Korea (51%) and stage A in Taiwan (55%) and Japan (47%). Variations were noted between China, Taiwan, Korea, and Japan in first recorded treatment with resection/transition (31%, 51%, 23%, 14%); TACE (13%, 27%, 5%, 24%, other locoregional therapy (9%, 18%, 8%, 52%), and systemic therapy (2%, 3%, 11%, 13%). There also were variations in treatment ever used with resection/transition (34%, 53%, 29%, 16%), TACE (61%, 37%, 65%, 28%), other locoregional therapy (9%, 13%, 8%, 13%). Improvement needs to be made in reducing the dose once patients’ asthmatic symptoms have decreased. Actual practice and expected practice according to guideline will be evaluated, including how access issues may affect treatment availability. CONCLUSIONS: The global HCC bridge study is the first large scale study of this kind (in approximately 19,000 patients), provides valuable insights into global HCC disease characteristics and patient management. Although AP has the highest HCC burden, practice approaches differ across the region.

PHP108 PATTERN OF ANTIBIOTICS USAGE IN MALAYSIAN HAJJ PILGRIM

Tran VT1, Nguyen TC1, Nguyen HT1, Le D2, Thanh TT3

1Vinh Phuc General Hospital, Vinh Phuc, Vietnam, 2Tan Chuc General Hospital, Bac Kan Province, Vietnam, 3Quang Ninh General Hospital, Vietnam

OBJECTIVES: During haj season, more than 2 million Hajj pilgrims would be occupying the holy land Makkah with area of 164,000 km². On the observation many of