treated with antibiotics were excluded. Analysis was restricted to those patient visitation cared by physician specialty with general practice, family practice, and internal medicine. Multivariate logit regression analysis was performed to assess the relationship between patient insurance status and the prescribing of broad-spectrum antibiotics controlling for specialty, gender, race and ethnicity, physician specialty, and comorbidities. RESULTS: Of 851 adults patients care for ARTI, 38% were prescribed one or more broad-spectrum antibiotics. In multivariate regression analysis, compared to those with private insurance, those with Medicare, a public insurance program for Lowest Income Americans, was associated with lower likelihood of prescribing of broad-spectrum antibiotics (adjusted odds ratio (OR) 0.496, p = 0.003), so were those without health insurance (adjusted OR 0.499, p = 0.028), and those with Medicare, a public insurance program for the elderly or disabled adults (adjusted OR 0.666, p = 0.01). CONCLUSIONS: In the case of ARTI, those with private insurance were substantially more likely to be prescribed with broad-spectrum antibiotics, where the society may be better off if such overuse of antibiotics could be reduced.

**RESPIRATORY-RELATED DISORDERS – Conceptual Papers & Research on Methods**

**PSR45 COMPARING RISK ADJUSTMENT MODELS: PROPENSITY SCORE MATCHING, STANDARD REGRESSION ANALYSIS AND INSTRUMENTAL VARIABLE METHOD**

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**OBJECTIVES:** To compare three common risk adjustment models when estimating significant only in those diagnosed within a year of death (HR > 1.5; p = 0.0162), whereas the heparinization/regulation effect was found only in those diagnosed over a year ago (HR > 1.6; p = 0.0163). CONCLUSIONS: To adequately adjust for comorbidity influence in outcome studies, we recommend stratification of each comorbidity on the basis of its duration (at start of follow-up for a cohort, or at time of outcome for a case-control study) to test for possible time-dependent effect. Adopting such an approach as part of the exploratory analysis may improve the model and lead to more accurate estimations.

**ASSESSING THE TIME-DEPENDENT NATURE OF COMORBIDITY INFLUENCE IN COPD**

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**OBJECTIVES:** In most outcome studies, comorbidity influence is modelled as constant with independent assumptions that the duration of the comorbidity does not affect the prognosis and the effect persists. We challenge these assumptions as we demonstrate the time-dependent nature of the influence of certain comorbidities on patient survival. METHODS: A retrospective cohort of 23,881 patients aged 50+ in the UK-GPRD at time of incident COPD diagnosis between 1990 and 1998 provided an appropriate setting. Each death patient was matched to as many survivors from the same practice as possible, of same age, sex and COPD duration. Some 18 binary comorbidities measured at the time of death were analysed in relation to mortality. Using conditional logistic regression model, we estimated hazard ratio (HR) for each comorbidity, adjusted for key baseline characteristics in two different models. In model A, we treated comorbidities as constant variables, whilst in B, we stratified each into two time-dependent categorical variables. We retained interactions between comorbidities which were significant. RESULTS: Some 2938 dead patients were matched to 5792 survivors. We found evidence of time-dependent effects on risk for all but peripheral vascular disease and diabetes. Only in model B did we find evidence for peptic ulcer, moderate/severe liver disease and heparinization/regulation. The liver disease effect was statistically significant only in those diagnosed within a year of death (HR > 1.5; p = 0.0162), whereas the heparinization/regulation effect was found only in those diagnosed over a year ago (HR > 1.6; p = 0.0163). CONCLUSIONS: To adequately adjust for comorbidity influence in outcome studies, we recommend stratification of each comorbidity on the basis of its duration (at start of follow-up for a cohort, or at time of outcome for a case-control study) to test for possible time-dependent effect. Adopting such an approach as part of the exploratory analysis may improve the model and lead to more accurate estimations.

**PRSR48 COMPARISON OF RISK ADJUSTMENT METHODS FOR COVARIATE ADJUSTMENT WHEN ASSESSING HEALTH OUTCOMES IN THE U.S. HOSPITAL INPATIENT SETTING**

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**OBJECTIVES:** Demonstrate the differences in results from the use of two different methods for covariate adjustment when calculating differences in outcomes between groups. METHODS: The 2006 Nationwide Inpatient Sample hospital database was analyzed to estimate the clinical and economic impact to U.S. hospitals of air leaks during post-operative pulmonary surgery. For all stays with pulmonary surgery, length of stay (LOS), total charges, and in-hospital mortality rates were compared between stays including an air leak vs. stays without an air leak, while using two different methods to adjust for covariates: 1) multivariate regression analysis (ordinary least square regression for LOS and total charges, and logistic regression for in-hospital mortality) vs. control for age, gender, and hospital region; 2) 1:1 matched case-
controls based on age, gender, and hospital region. RESULTS: The 2006 NIS contained a total of 15,748 unweighted hospital inpatient stays with pulmonary surgery; 2,412 of which included an air leak and 13,336 were non-air leak stays. Patients with pulmonary surgery stays including an air leak were older than those patients without one (24.5 ± 16.1 vs. 46.0 ± 15.2 yrs, p < 0.0002); were less likely to be from the Northeast (17.3% vs. 21.5%, p < 0.0001) and more likely to be from the South (44.9% vs. 41.9%, p = 0.001). Multivariate regressions (N = 15,748) yielded incremental LOS, total charges and odds of in-hospital mortality due to the presence of an air leak of 3.5 days (SE: 0.185), $14,272 (SE: 418.2), and 0.17% (95% CI: 0.14%, 0.2%); respectively. The 1:1 case-control matching approach (N = 2,364 matched pairs) yielded differences in LOS, total charges and odds of in-hospital mortality of 3.6 days (0.14), $14,011 ($1,207.8) and +17.2% (+0.17%, 66.2%), respectively. CONCLUSION: In conclusion, in-hospital differences in health outcomes in a U.S. hospital inpatient database, adjusting for covariates using a matching scheme yielded only a modest impact vs. multivariate regression analysis.

SYSTEMIC DISORDERS/CONDITIONS – Clinical Outcomes Studies

PSY1

CONCORDANCE IN PATIENT REPORTED MEASURES OF OPIOID-RELATED SIDE EFFECTS COLLECTED FROM CHECKLIST VERSUS OPEN-TEXT FORMAT QUESTIONS

Abdulaziz S, Bunsan C, Cho W, Kim M

OBJECTIVES: Compare two different formats—checklist and open text—of questions soliciting opioid-related side effects (OSEs) with respect to the proportion of patients reporting symptoms and the number of OSEs reported. METHODS: Data from Day 3 assessment of the oxycodone IR users registry (OUR), an ongoing, prospective, multicenter registry of patients age 18-85 with acute episodes of non-malignant pain requiring treatment with oxycodone IR for ≥3 days were used. Patients who completed ≥3 OSEs on Days 1-3 and had ≥3 OSEs were included in the analysis. The checklist format is in an open-text format allowing for identification of up to 7 symptoms. The second is in a checklist format listing 14 symptoms along with questions about the frequency and degree of distress associated with each. Correspondences between patient responses solicited through the two different formats were examined using descriptive statistics. Interim data were used for the current analysis. The entire registry patient population will be analyzed in early 2010. RESULTS: Among 182 patients examined for this analysis, mean (±SD) age was 49.3 (±12.7) years, 60.2% were female and 74.3% white, Oxycodone IR was most commonly prescribed for injury/trauma (30.5%), back/neck pain (28.8%), and arthritis (18.1%). The proportion of patients reporting any OSEs in the checklist was nearly two-fold that in the open text (98.9 vs 33.6%; p < 0.001). Patients, on average, reported 4.1 (SD = 6.3) OSEs on the checklist vs 1.3 (SD = 1.6) on the open-text question (p < 0.001). Significantly more events were reported in the checklist vs open text question for each OSE examined (p < 0.001). OSEs reported to be frequent and bothersome on the checklist were significantly more likely to appear in the open text compared to infrequent and mild symptoms. CONCLUSIONS: Frequency and extent of OSE reporting may vary by the format of questions administered. Caution is warranted in collecting, reporting, and comparing symptom data from different studies.

PSY2

PREDICTORS OF OBESITY MEDICATION USE IN AMBULATORY SETTING: NAMCS 2006–07 ANALYSIS

Math K, Parikh R, Patel J, Abogbuth S

OBJECTIVES: To determine the independent predictors of prescription of anti-obesity medication for adult patients diagnosed with obesity and to determine association of insurance status on anti-obesity medication prescription. METHODS: The data source was 2006 and 2007 National Ambulatory Medical Care Survey, a national survey of U.S. non-institutionalized population. All adult patients >=18 years diagnosed with obesity (ICD-9-CM: 278.0) were included in the study for analysis. Weighted descriptive statistics. Interim data were used for the current analysis. The entire registry patient population will be analyzed in early 2010. RESULTS: Among 182 patients examined for this analysis, mean (±SD) age was 49.3 (±12.7) years, 60.2% were female and 74.3% white. Oxycodone IR was most commonly prescribed for injury/trauma (30.5%), back/neck pain (28.8%), and arthritis (18.1%). The proportion of patients reporting any OSEs in the checklist was nearly two-fold that in the open text (98.9 vs 33.6%; p < 0.001). Patients, on average, reported 4.1 (SD = 6.3) OSEs on the checklist vs 1.3 (SD = 1.6) on the open-text question (p < 0.001). Significantly more events were reported in the checklist vs open text question for each OSE examined (p < 0.001). OSEs reported to be frequent and bothersome on the checklist were significantly more likely to appear in the open text compared to infrequent and mild symptoms. CONCLUSIONS: Frequency and extent of OSE reporting may vary by the format of questions administered. Caution is warranted in collecting, reporting, and comparing symptom data from different studies.

PSY3

CENTRAL VENOUS LINE INFECTIONS IN PATIENTS WITH HEMOPHILIA AND HOME CARE SERVICES

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OBJECTIVES: Patients with hemophilia require frequent administration of intravenous clotting factor to prophylactically or episodically control bleeding from injury or activity. Severe patients may require the placement of a central venous access device due to frequent frequency of intravenous access. Central venous line infections are potentially life threatening and may require hospitalization which consumes excessive health care resources. Catheter infection events cost up to $29,000 per episode for acutely ill patients and can be much higher when cost of catheter factor is included. Costs of these events include intravenous antibiotics and device replacement. The study purpose was to evaluate incidence of central venous access device infection in people receiving clotting factor in the home setting. METHODS: A retrospective, longitudinal analysis of patients receiving intravenous clotting factor using data from the Accredo electronic medical record was conducted. Inclusion criteria were the presence or placement of a central venous access device and the dispensing of at least one clotting factor prescription during the study period. Patients were followed from October 1, 2008 through September 30, 2009. The patient reported infection rate was defined as the number of bloodstream infections per 1,000 patient catheter days. RESULTS: The sample of 471 patients reviewed encompassed 131,916 patient catheter days during the study period with average catheter dwell time of 278 days. The central line infection rate was 0.53 per 1000 patient catheter days with minimal month to month variation. CONCLUSIONS: Intravenous clotting factor is an important alternative infusion option for select patients with bleeding disorders. Patients can be well managed in the home on intravenously administered factor via central venous access devices. This is an important contribution to limited literature on central line infections in the home setting.

PSY4

DAILY AVERAGE CONSUMPTION ANALYSIS OF LOW BACK PAIN AND OSTEOARTHRITIS PATIENTS USING OXYMORPHONE EXTENDED RELEASE AND OXYCODONE HYDROCHLORIDE CONTROLLED RELEASE TABLETS IN A COMMERCIALLY INSURED POPULATION

Berner T, Puupanom A, La PC, Thomson H, Harvy A

OBJECTIVES: This study assessed the daily average consumption (DACON) patterns for oxymorphone extended release tablets and oxycodone hydrochloride controlled release tablets in the treatment of low back pain (LBP) and osteoarthritis (OA). METHODS: Observational, retrospective study of a US commercially insured health plan cohort, which included pharmacy and medical claims for patients with diagnosis of LBP and/or OA. Subjects with OA and/or LBP were identified by ICD-9-CM codes following classifications previously employed. The primary outcome measure for the analysis frequency and which was calculated by dividing the total number of tablets dispensed by the total number of days supply for equivalent doses of each medication, as defined by an oxycodone ER:oxycodone HCl CR ratio of 1:2. Data were analyzed and were stratified by age, gender, and region comparing users who had claim activity for 2 or more of the medications for at least 30 days prior to and 90 days after the index date. The t-test was used to compare mean differences between the two populations for continuous variables. Multivariate analysis was conducted as a sensitivity analysis in controlling for age, gender, and region heterogeneity. RESULTS: Data analyzed encompassed approximately 25 million covered lives for the period January 2006 to March 2009. DACON across all tablet strengths for oxymorphone ER was 2.2 compared to 2.6 for oxycodone CR (p < 0.01). For each formulations maximum strength tablet, oxymorphone ER 40 mg DACON was 2.6, compared to 3.7 for oxycodone ER 80 mg (p < 0.01). All statistically significant results for patients with LBP and/or OA who had had higher DACONs for oxycodone CR than for oxymorphone ER. CONCLUSIONS: These findings imply that health plan drug policies may need to take into consideration overall usage patterns, patient demographics, and medical diagnoses for long-acting opioids in addition to tablet costs when making formulary decisions.

PSY5

A META-ANALYSIS OF EFFICACY AND SAFETY OF PARECOXIB IN ORTHOPEDICS SURGERY

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OBJECTIVES: The aim of this study was to conduct a meta-analysis of randomized clinical trials (RCTs) to determine effectiveness and safety of parecoxib as an analgesic option for adult patients in orthopedics surgery. METHODS: All meta-analysis estimations were performed with RCTs based on trials with similar parecoxib doses (20 or 40 mg) and by type of comparator (placebo or other drugs). Effectiveness was assessed with patient global treatment evaluation, consuming rescue drug rate, pain intensity at 24 or 48 h after surgery and morphine consume after surgery; safety with the frequency and type of adverse events(AE). RCT were searched in December 2008.