associated with hospital readmission. RESULTS: Six percent of Medicaid recipients had at least one 90-day readmission and account for almost 12% of total Medicaid hospitalizations. Major diseases for readmission were diabetes mellitus (17%), hypertension (14%), non-dependent drug abuse (10%), and heart failure (10%). Non-readmitted patients are most likely to be hospitalized for pregnancy-related conditions. The odds ratios of risk for hospital readmission within 90 days were estimated as: 1.17 (95% CI: 1.11–1.23) for African American; 1.1 (CI: 1.05–1.16) for urban; 1.76 (CI: 1.59–1.96) for disabled or blind recipients; 1.4–1.8 times higher for recipients with ages 0–64 compared to elderly persons (age 65+); 1.51 (CI: 1.44–1.59) for recipients with emergency admission; 1.27 (CI: 1.19–1.36) for recipients with diabetes mellitus; 1.33 (CI: 1.22–1.44) for recipients with heart failure; and 1.26 (CI: 1.15–1.38) for recipients with asthma. In addition, readmitted patients were more likely than non-readmitted patients to not receive any outpatient prescription drugs. CONCLUSIONS: Efforts to reduce the number of hospitalizations should focus on high-risk recipients with disabled/blind, living in urban, younger or middle-age, and who had diabetes mellitus, heart failure, hypertension, asthma, and other severe conditions through appropriate drug utilization review and disease management programs.

**PHP47**

**PHYSICIAN HABIT AS A DETERMINANT OF MEDICATION CHOICE**

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OBJECTIVES: Retrospective pharmaceutical outcomes studies require controlling observable factors that influence physician choice and patient heterogeneity to minimize selection bias. However, most studies neglect the assessment of physician prescribing habit as a contributor to this choice. This study provides evidence that the physician prescribing habit is an influential factor in determining medication choice. METHODS: A Medicaid claim database was used to study the factors determining the initial prescription choice among 3 classes of asthma controller medications: inhaled corticosteroids, theophylline, and cromolyn. A total of 4748 pediatric asthma patients with an 8-month washout period were selected. A total of 834 different physicians prescribed controllers to this population. Thirty-five covariates were selected to model initial prescription choice, including patient demographics, comorbidities, previous drugs, health costs, seasonality, provider prescribing habit and volume. Physician prescribing habit was defined as the most frequently prescribed controller medication. To ensure exogeneity, physician prescribing habit and volume were defined from a separate population of 24,260 patients with controllers prescribed by the same cohort of physicians. We compared different multinomial logit (MNL) regressions according to the percentage of correct predictions generated from each model. A non-parametric data-partitioning tree (by SPSS/AnswerTree®) with Chi-square Automatic Interaction Detector (CHAID) method was applied to confirm the findings. RESULTS: The MNL model containing only one factor, physician prescription habit, correctly predicted 57.4% of the medication choices, while the MNL model with all other covariates only predicted 52.3% correctly. A combination of all 35 covariates achieves a prediction rate of 59.9%. The data-partitioning tree with CHAIM method selected prescribing habit as the first variable to classify the outcome tree (chi-square = 1367, df = 6). Additional covariates identified by the CHAIM method included race, prescription volume, and prescription volume squared. CONCLUSIONS: Physician prescribing habit is an influential factor in prescription decision choice in this case, and should not be neglected in retrospective pharmaceutical outcomes studies.

**PHP48**

**HOSPITAL PERFORMANCE EVALUATION METHODS IN A REGIONAL MANAGED CARE ORGANIZATION: RANDOM-EFFECT OR FIXED-EFFECT MODEL?**

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OBJECTIVES: Clinical risk-adjustment is important in evaluating hospital performance. However, the choice of risk-adjustment models may impact evaluation results. This analysis of the Hospital Quality and Service Recognition (HQSR) program evaluated the performance of 15 hospitals in a regional managed care organization. Two common estimating procedures were used to determine differences between hospitals in risk-adjusted complication rates and length of stay. METHODS: The HQSR program employs a multi-dimensional scoring algorithm that includes, among other measures, clinical complications and length of stay (LOS) of common maternity and surgery inpatient episodes. Both a fixed-effect model and a random-effect model were applied to calculate risk-adjusted complication rates and risk-adjusted LOS, by making the patient case-mix constant for all hospitals. The fixed-effect model treated patients from different hospitals as distinct groups, and estimated the hospital effect in a traditional regression framework. The random effect (mixed) model, on the other hand, assumed hospitals were sampled from a normally distributed population, and estimated effects based on an empirical Bayesian method. RESULTS: For maternity, mean risk-adjusted complication rates by fixed-effect and random-effect models were 9.02% (S.D. = 4.6%) and 8.60% (S.D. = 3.60%), and the mean risk-adjusted LOS by fixed and random-effect models were 2.47 days (S.D. = 0.22) and
2.42 days (S.D. = 0.14) respectively. The fixed-effect model estimates were closer to the true mean rates (10.04% and 2.47 days), with higher standard deviations. The two models resulted in similar hospital ranks for both measures, but the fixed-effect model showed greater variability in hospital scores. CONCLUSIONS: Risk-adjustment methods with different underlying assumptions give different results and scores. Although no gold standard exists for empirical model selection, the normality assumption underlying the random effect model may underestimate the difference among hospitals.

HOSPITALIZATIONS RELATED TO DOMESTIC VIOLENCE: CHILD ABUSE BY A PARENT OR GUARDIAN

OBJECTIVES: Child abuse is a problem with clinical, societal and economic consequences. This study examines admissions by abuser type and estimates hospital costs for problems resulting from parental/guardian abuse.

METHODS: Admissions were identified by ICD-9 diagnosis and abuse-related E-codes. Based on E codes, cases were assigned to either the male (i.e., father, stepfather, male partner of mother or guardian) or female (i.e., mother, stepmother, female partner of father or guardian) abuser group. Hospital costs were estimated based on data from 5 US states for years 1997–2000. Cost estimates include all accommodation, ancillary and physician services. National physician fee schedules were also used. Charges were adjusted using a cost-to-charge ratio. Cost estimates are reported in 2002 US$. RESULTS: Of 771 parental abuse cases identified, 59% were due to a male abuser. In the male abuser group, the patient’s mean age was nine years. Mean length of stay (LOS) was 8 days (range: 1–156) and hospital case fatality rate (CFR) was 5%. Mean cost per stay was $14,878 ($205–$210,510). In the female abuser group, the mean age was six years. Mean LOS was 6 days (range: 1–285), CFR = 1%. Mean cost per stay was $8,837 ($330–$437,993). Of survivors, 83% of all parental/guardian abuse cases went home, 7% with home health care. Shaken infant syndrome was the principal diagnosis in 7% of cases. Total hospital cost over 4 years for these cases was estimated at approximately $10.2 million, roughly $2.5 million annually. CONCLUSIONS: The overwhelming majority of hospitalizations resulting from spousal or partner abuse are for women and most patients return home after hospitalization. While a hospital stay is only one level of management for this type of abuse, it represents a substantial cost and should be incorporated into any analysis that examines the economic impact of spousal/partner abuse.

MEDICAL DEVICE PROBLEMS IN INTENSIVE CARE UNITS: DETECTION, DANGERS, AND DIVERSITY OF TYPES

OBJECTIVES: To define the incidence and spectrum of problems associated with use of medical devices in intensive care units. METHODS: Adverse medical device events (AMDE) and potential patient harm (hazards)