that condition) and increases the mortality probability as time progresses (reflecting patients that entered the trial with less severe and undetected cases of the condition or who developed the condition during the trial). Mortality was phased-in for four conditions reflective of their high prevalence and consistency with exclusion criteria: CHF, malnutrition, aspiration, and hip fracture surgery. RESULTS: To statistically compare the ACAS simulated versus actual mortality survival curves, we calculated the absolute differences between the curves and performed a standard equality of probabilities test on the curves at 12, 24, 36, 48, and 60 months. For each ACAS phase-in, without mortality phase-in, at all times t before 60 months the simulated and actual curves had a statistically significant difference (P < 0.04). With mortality phase-in, there was no evidence at any time t that the simulated and actual curves had a statistically significant difference (0.62 < P < 0.95).

CONCLUSIONS: Phase-in of mortality phase-in from trial excluded conditions can simulate mortality survival curves that reflect the control arms of clinical trials.

PCV158
RARE EVENT BIAS IN RETROSPECTIVE ANALYSIS OF OUTCOMES MEASURES
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OBJECTIVES: It is well documented that standard logit regressions are biased in rare events. We wanted to illustrate how to analyze rare events in observational analysis using Medicare claims data. In particular, we compared the operational mortality for patients who underwent hip fracture surgery and who did not undergo hip fracture surgery and survived venous thromboembolism (VTE). METHODS: We applied two correction methods to address possible rare event bias. The first method involved obtaining information about the fraction of those in the population and the observed fraction of those in the sample. We estimated the adjusted constant coefficient in the logit model. In the second method, we weighted the proportion of ones and zeros in the sample to equal the true proportion in the population. We tested for differences in predicted probabilities using a non-parametric test. The Mann-Whitney U test and Kolmogorov-Smirnov two sample test can both be used on predicted probabilities of logit regression to see whether differences exist.

RESULTS: To apply the methodology, we constructed a retrospective cohort study comparing the operational death rate between patients who underwent hip replacement surgery who suffered VTE and patients who did not suffer VTE. 60,245 patients with hip fracture were identified from 2004 to 2016. Mortality was rare (0.81% vs. 3.34% for patients with non-VTE vs. VTE). Using Monte Carlo simulation, the unadjusted rate was 0.97% for non-VTE patients and 4.36% for VTE patients. The odds ratio was 3.98 for the standard model, 3.98 for the prior correction method, and 8.37 for the weighted mechanism. The prediction event probabilities were significantly different. CONCLUSIONS: Standard logit regression is prone to underestimate probabilities with rare events. We examined two correction methods. The predicted event probabilities adjusted for rare event bias were significantly different from the unadjusted ones.

PCV159
COMPARATIVE EFFECTIVENESS INDEX: A CONCEPTUAL APPROACH TO COMPARATIVE EFFECTIVENESS RESEARCH
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OBJECTIVES: The Comparative Effectiveness Index (CEI) provides a quantitative method of transforming efficacy data into effectiveness indices. In lieu of head-to-head randomized controlled trials, the CEI uses efficacy, adherence, and safety data to generate more comprehensive indices.

METHODS: Efficacy data from clinical trials serve as surrogate markers of effectiveness. In analyzing two hypothetical anti-hypertensive drugs, A and B, the efficacy of each drug is ranked on a nominal scale based on the literature: A = 10 and B = 8. The drug with the highest nominal value is the most efficacious. However, this value needs to be moderated by adherence and safety data. Adherence rates, calculated from claims databases for example, are: A = 60% and B = 90%. The formula for calculating the Modified Efficacy Score (MES) of each drug is the (adherence * efficacy score)/100: A = 6 * 10 = 60 and B = 8 * 8 = 64. Adverse events (AE) reported in the clinical trials are ranked based on severity, the scale is anchored at 0 and 100 where 0 = No AE and 100 = Death. Each AE is assigned a value depending on its severity, then multiplied by the probability of its incidence. This is repeated for each AE and summed. The inverse of the sum, the Adverse Events Score (AES), is used in the final calculation so that both MES and AES modifiers have a direct relationship with the CEI. The AES for the drugs are: A = 3.33 and B = 5.00. The MES is multiplied by the AES to calculate the CEI. Consequently, the CEI would be: A = 19.98 and B = 36.00. Although drug A was more efficacious, drug B is more effective.

CONCLUSIONS: The CEI provides health care decision-makers with valuable comparisons between therapeutic alternatives. However, it requires further development and validation. Incorporating measures of dispersion for efficacy and compliance in a sensitivity analysis can generate more comprehensive indices.

INDIVIDUAL’S HEALTH – Clinical Outcomes Studies

PIH1
THE NATIONAL BURDEN OF PEDIATRIC ADVERSE DRUG EVENTS: A CASE-CONTROL STUDY USING THE 2006 KIDS’ INPATIENT DATABASE
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OBJECTIVES: Pediatric adverse drug events (ADEs) lead to substantial burden on patients, their mortality rates. The objective of the current study was to quantify the extent of the national pediatric ADE burden by determining (1) the frequency of ADE occurrence; (2) excess length of stay (LOS) and excess cost associated with hospitalization; and (3) the hospital, patient, and ADE characteristics that predict excess LOS and excess cost. METHODS: Using the 2006 Kids’ Inpatient Database, ADEs were identified using ICD-9 and supplemental Ecodes; ADE frequencies were computed. A hospitalization with an ADE was matched with 1 hospital visit without an ADE; matching criteria included the All Patient Rehined Diagnosis Related Group, weighting measures for severity of illness, and drug ADE occurrence; (2 excess length of stay (LOS) and excess cost (totals and means) were calculated for case-control pairs. An ordinary least-squares regression was run, with the case-control pairs as observations, to determine significant predictors of excess LOS and excess cost. RESULTS: In 2006, 118,779 ADEs occurred in 99,320 visits out of 7,558,812 total pediatric hospitalizations. The mean excess LOS was 0.98 days (p < 0.0001), while the mean excess cost was $2,252 (p < 0.0001). Adverse effects from benzodiazepine-based tranquillizers, certain anticonvulsants, adrenal corticosteroids, and various antibiotics led to the highest excess costs (all with excess LOS of 0.12 days and excess cost, respectively, for neonates aged 0–7 days were 6.4 days (p < 0.0001) and $26,417 (p < 0.0001). Statistically significant predictors included age, hospital region, insurance coverage, hospital size, urban versus rural hospital location, major diagnostic category for hospital admission, and severity of illness. CONCLUSIONS: A substantial share of the pediatric ADE burden is accounted by adverse effects from benzodiazepine-based tranquillizers, certain anticonvulsants, adrenal corticosteroids, and various antibiotics. The highest excess costs were seen among neonates.

PIH2
THE PREVALENCE AND USE OF POTENTIALLY INAPPROPRIATE MEDICATION IN ELDERLY POPULATION USING NATIONAL NURSING HOME SURVEY
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OBJECTIVES: The aim of the study is to determine the prevalence and use of potentially inappropriate medication in elderly population according to the Beers criteria.

METHODS: Data for the present study was obtained from the National Nursing Home Survey (NNHS) 2004. Patients of the age 65 and above were taken as sample. The use of potentially inappropriate medication was assessed by ranking the rate of usage of the 48 medications listed in the Beers’ criteria that should be avoided in elderly patients and assessing the medication usage across demographics like gender and age. Descriptive statistics were carried out using SPSS 17. RESULTS: The total number of cases of the age 65 and above using the potentially inappropriate medication was 2209. The top 5 most used drugs were ferrous sulfate (54.3%), Clonidine (7.8%), Loratadine (6.8%), Bisgudy (6.5%), and Amiodarone (5.7%). Other more used drugs were Nifedipine (2.6%), Amitryptiline (2.5%), Alopredosin (2.2%), Fluoxetine (1.6%), Naprofen (1.4%), Temerazepam (1.1%), Diazepam (0.95%) and Nitrofurtoin (0.90%). The usage was more in female (73.7%) as compared to male (26.3%), it was more in the age group 85 to 100 (43.1%) compared to 65 to 74 (17.9%) and 75 to 84 (39.1%). There were 2208 (91.8%) elders using at least one of the 48 medications and 181 (8.1%) elders using two of these 48 medications. CONCLUSIONS: The use of potentially inappropriate medication listed under Beers’ criteria is highly prevalent among the elderly. There is more usage in females compared to males and more in the age group 85 to 100. Among the top 12 drugs used, accept for Ferrous sulfate and Clonidine which has the low Beers’ severity rating, all other drugs have a high Beers’ severity rating and carries Adverse Drug Events.

PIH3
RISK OF WEIGHT GAIN WITH THE USE OF SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRI) AND ATYPICAL ANTIPSYCHOTICS (AAP) COMBINATION TREATMENT IN CHILDREN AND ADOLESCENTS
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OBJECTIVES: To estimate the risks of gaining weight, with the use of selective serotonin reuptake inhibitors (SSRI) and atypical antipsychotics (SGA) in combination among children and adolescents. METHODS: A retrospective cohort study was conducted using 2003–2005 Medicaid Analytic eXtract (MAX) data from four U.S. states. Combination pharmacotherapy was operationalized as the concurrent prescribing of SSRI and SGA, where at least 14 days of treatment overlap occurred. Logistic regression model was employed to estimate the risks of gaining weight during the one year follow up period. RESULTS: Among 118,126 children and adolescents received SSRI or SGA, 56,091 (12.5%) were on combination treatment and of which approximately 80% were on long-term therapy (>60 days). Vast majority (63%) of these recipients were
adolescents (13-18 years). The effect of combination therapy on risk of weight gain was observed against both SSRI monotherapy and SGA monotherapy in multivariable analysis. Results: In the group of pregnant women that are more vulnerable to NMUPD. Physician need to be careful while prescribing medication to these high risk groups.

**DIAGNOSIS AND TREATMENT OF WOMEN WITH HYPOACTIVE SEXUAL DESIRE DISORDER AND DEPRESSION/ANXIETY**

**OBJECTIVES:** The goal of this study is to describe the timing of the Hypoactive Sexual Desire Disorder (HSDD) diagnosis in women with a diagnosis of depression/anxiety in a subgroup of women suffering from both disorders and determine which diagnosis came first—depression/anxiety or HSDD. In addition it describes the use of both antidepressants and anxiolytics in these women. METHODS: Marketscan® Research Databases were used to identify women aged 18-64 with an ICD-9-CM coded diagnosis of HSDD (302.71) from January 1, 1998-December 31, 2007 who also had an ICD-9-CM coded diagnosis of depression or anxiety (293.84, 296.2x, 296.3x, 300.0x, 300.4, 309.1, 311, v79.0). The first physician visit with an HSDD diagnosis was the index date. Antidepressant and anxiolytic use was examined in the 24-month study period (12-months before and following index). RESULTS: A total of 937 (24.1%) of 3,973 women identified with HSDD also had a diagnosis of depression or anxiety in the study period. In this group, 34.7% (n = 312) had a depression/anxiety-coded claim appear after their HSDD-coded claim (after cohort), conversely, 65.3% (n = 625) had a depression/anxiety-coded claim appear before their HSDD-coded claim (before cohort). The majority of women in both the after and before cohorts were prescribed an antidepressant or anxiolytic in the study period, 78.3% (n = 260) and 86.1% (n = 538) respectively. Sixty percent (n = 116) and sixty-five percent (n = 151) of these women were prescribed on or before a discontinuation of the same. CONCLUSIONS: Two-thirds of women with HSDD also suffer with depression/anxiety. More than one-third of these women developed their depression/anxiety diagnosis after being diagnosed with HSDD. A larger proportion of women had a diagnosis of depression and/or anxiety on or before the index date. In HSDD, this may be evidence that both depression/anxiety and HSDD often present in tandem and that doctors feel competent to make such diagnoses concurrently. Additionally, intervention with antidepressants or anxiolytics appear inadequate to treat this population.