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: CHD, malignancies, inflammatory, chronic respiratory disease, and liver disease. 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 the 0.001 level. Any difference between the simulated and actual curves had a statistically significant difference ($p < 0.005$). 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 mortality model for trial exclusion conditions can simulate mortality survival curves that reflect the control arms of clinical trials.

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 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 surgery who were identified from the Medicare Inpatient dataset. 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 4.37 for the weighted mechanism. The predicted 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.

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 facilitate the drug evaluation process by providing a single value index for each therapeutic alternative. 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: A180, B7.2. Adverse events (AE) reported in the Adverse Events section of the reference text, specifically for the drugs sulfonate and Clonidine which has the low Beer's severity rating, all other drugs have a high Beer's severity rating and causes Adverse Drug Events. The CEI provides health care decision-makers with valuable comparisons between therapeutic alternatives, but it requires further development and validation. Incorporating measures of dispersion for efficacy and compliance in a sensitivity analysis can generate more comprehensive indices.

CONCLUSIONS: The CEI uses efficacy, adherence, and safety data to facilitate the drug evaluation process by providing a single value index for each therapeutic alternative. The CEI requires further development and validation. Incorporating measures of dispersion for efficacy and compliance in a sensitivity analysis can generate more comprehensive indices.

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 National Nursing Home Survey (NNHS) 2004. Patients of the age of 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 five most used drugs were ferrous sulfate (54.3%), Clonidine (7.8%), Lorazepam (6.8%), Biscidylin (6.7%), and Amioderon (5.7%). Other more used drugs were Nifedipine (2.6%), Amtryptiline (2.5%), Alprazolam (2.2%), Fluoxetine (1.6%), Naproxen (1.4%), Tenapan (1.1%), and Dizaprocin (0.9%). 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, except for Ferrous sulfate and Clonidine which has the low Beers’s severity rating, all other drugs have a high Beers’s severity rating and causes Adverse Drug Events.

RISK OF WEIGHT GAIN WITH THE USE OF SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRI) AND ATYPICAL ANTIPSYCHOTICS (SGA) 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. Long-term combination use is defined as an overlap beyond 60 days. Children and adolescents aged 6–18 years, and enrolled in Medicaid during 3 months prior and 1 year post the treatment initiation were selected. Multivariable logistic regression models were employed to estimate the risks of gaining weight during the on-going concurrent treatment. 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...