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 logistic regression analyses. Likelihood of gaining weight with combination therapy was higher against both SSRI monotherapy (OR = 1.88; 1.69–2.10) and SGA monotherapy (OR = 1.52; 1.37–1.68). Long-term combination therapy (>60 days of treatment overlap) resulted into increased risk of weight gain (OR = 1.64; 1.30–2.07) as compared to short term uses (> = 14 days and <60 day). **CONCLUSIONS:** The effect of combination therapy on increased risk of weight gain was suggested in the study, especially when the combinations were used for long term maintenance. Comprehensive evaluation of other psychotropic combinations on risk of other adverse events is needed to be conducted in future.

PIH4

ASSESSMENT OF MATERNAL MORBIDITY DURING LABOR AND DELIVERY: EVALUATION OF LENGTH OF DELIVERY HOSPITALIZATION STAY OF WOMEN WITH PRE-EXISTING MEDICAL CONDITIONS

Patel A[1], Wu WK[2]
[1]St. Johns University, Fresh Meadows, NY, USA, [2]St. John's University, Queens, NY, USA

OBJECTIVES: Monitoring maternal morbidity is essential as per Healthy People 2010 objectives. Maternal morbidity due to pre-existing medical conditions (PEC's) is found to be an important determinant of delivery complications. With limited literature for the influence of PEC's on obstetric hospitalization, the objective of this study was to assess the effects of PEC's on length of stay (LOS) during child delivery. **METHODS:** The 2006 National Hospital Discharge Survey (NHDS) was used as the data source. PEC's included diagnosis of chronic hypertension, diabetes mellitus, anemia, asthma, thyroid disorder or cardiac disease before conception. Cox Proportional Hazards Model was performed to ascertain the relationship between PEC's and LOS in the presence of other covariates. The data analysis was conducted using SAS 9.1. **RESULTS:** The 2006 NHDS included records of 39,751 women hospitalized for child birth; of which 15.25% (N = 6,063) had diagnosis of one or more PEC's in contrast to 4.9% in early 2000's. PEC's group had higher proportion of older women (≥35years) (20.32% vs. 16.43%, $p < 0.0001$) and African-Americans (23.50% vs. 15.79%, $p < 0.0001$) compared to the non-PEC's group. Presence of PEC's was found to be associated with prolonged LOS (hazard ratio = 0.840, $p < 0.0001$). Among hospital characteristics, women delivering in large hospitals (≥500beds) (hazard ratio = 0.880, $p < 0.0001$) and northeastern and southern regions (hazard ratio = 0.813, $p < 0.0001$) had extended LOS. In addition, African-American race (hazard ratio = 0.863, $p < 0.0001$) and cesarean delivery (hazard ratio = 0.383, $p < 0.0001$) were also associated with longer LOS. **CONCLUSIONS:** Women with PEC's impose significant health care burden in terms of length of stay during child birth. Access to appropriate pre-conception and prenatal care should be ensured to childbearing women, especially due to the rising prevalence of PEC's. Racial and geographical disparities need to be examined by policy-makers while framing prophylactic strategies. Future research should assess the health care resource utilization due to maternal morbidity from pre-conception to postpartum period.

PIH5

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

Johnson BH[1], Palmer L[2], Foley D[3]
[1]Thomson Reuters, Washington, DC, USA, [2]Thomson Reuters, Washington, DC, USA, [3]Boehringer-Ingelheim, Ridgefield, CT, USA

OBJECTIVES: The goal of this study is to describe the timing of the Hypoactive Sexual Desire Disorder (HSDD) diagnosis with that 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 this subgroup. **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 957 (24.1%) of 3,975 women identified with HSDD also had a diagnosis of anxiety or depression in the study period. In this group, 34.7% (n = 332) 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 on or 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 = 156) and sixty-five percent (n = 351) of these women went on to discontinue use of the same. **CONCLUSIONS:** Over 24% 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 that of 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.

PIH6

PREVALENCE AND PREDICTORS OF POLYPHARMACY AMONGST ELDERLY PATIENTS: A POPULATION-BASED COHORT STUDY

Slabaugh SL[1], Maio V[1], Abouzaid S[2], Templin M[1]
[1]Thomas Jefferson University, Philadelphia, PA, USA, [2]Ortho-McNeil Janssen Scientific Affairs, LLC, Titusville, NJ, USA

OBJECTIVES: We sought to evaluate the prevalence of polypharmacy, and to determine patient characteristics that are predictive of exposure to polypharmacy in the elderly population of Emilia-Romagna, Italy. **METHODS:** We conducted a retrospective cohort study of the 2007 Emilia-Romagna outpatient pharmacy database linked with patient information available from a demographic file of approximately 1 million Emilia-Romagna residents aged ≥65 years. The cohort was comprised of 887,165 elderly patients who had at least one prescription filled during the study year. Using the World Health Organization's Defined Daily Dose (DDD) to determine the duration of treatment for a given drug, we defined a polypharmacy episode as overlapping treatment with 5 or more medications occurring for at least one day. The prevalence of polypharmacy was measured together with patient characteristics found to be predictive of polypharmacy exposure. **RESULTS:** A total of 349,689 elderly in the population (39.4%) were exposed to at least one episode of polypharmacy. The prevalence of polypharmacy substantially increased with age, (32.7% for those ages 65–74, over 45% for those ages 75+). Over 35% of those exposed to polypharmacy were exposed for 101 or more days of the year. The top three classes of medications involved in polypharmacy were antithrombotics, peptic ulcer disease and gastroesophageal reflux disease agents, and angiotensin-converting enzyme inhibitors. Compared to unexposed subjects, elderly exposed to polypharmacy were older, were more likely to be male, and had a greater number of chronic conditions. **CONCLUSIONS:** This study provides evidence that the prevalence of polypharmacy in the elderly in Emilia-Romagna is substantial. Educational programs targeting primary care physicians should be developed to make them aware of the magnitude of polypharmacy phenomenon, as well of patient characteristics associated with polypharmacy to ensuring safe, effective, and appropriate use of medication in the elderly population.

PIH7

PREDICTORS OF NON-MEDICAL USE OF PRESCRIPTION DRUGS AMONG PREGNANT WOMEN IN THE UNITED STATES

Bali V[1], Raisch D[2], Moffett M[3], Khan N[4]
[1]Univesity of New Mexico, Albuquerque, NM, USA, [2]University of New Mexico College of Pharmacy, Albuquerque, NM, USA, [3]University of New Mexico School of Medicine, Albuquerque, NM, USA, [4]University of New Mexico Health Sciences Center, Albuquerque, NM, USA

OBJECTIVES: Non-medical use of prescription drugs (NMPUD) is a serious problem in the US. This problem is even more concerning among pregnant women since non-medical use of prescription drugs has the potential to harm both mother and fetus. However, our knowledge about the prevalence of NMPUD among pregnant women and its predictors is limited. This study attempted to fill these gaps. Objectives of this study were: 1) To estimate the prevalence of NMUPD among pregnant women, and 2) To determine various predictors of NMUPD among pregnant women. **METHODS:** This study used data from 2007 National Survey on Drug Use and Health (NSDUH). Sample consisted of non-institutionalized, pregnant women who were 12 years or older. Multiple logistic regression analyses which adjusted for the complex survey design were conducted to estimate the relationship between NMUPD among pregnant women and demographic characteristics. **RESULTS:** The sample consisted of 956 respondents out of which 92 (9.62%) had engaged in NMUPD in the past year. Among different categories of prescription drugs, prevalence of non-medical use was highest for pain relievers (5.27%), followed by tranquilizers (1.65%), stimulants (1.93%), and sedatives (0.51%). Results from the logistic regression showed significant relationships between past year NMUPD and poor health status (O.R. = 5.28, 95% CI: 1.37–20.28), past year use of tobacco (O.R. = 2.28, 95% CI: 1.003–5.226), and African American race (O.R. = 0.19, 95% CI: 0.06–0.52) or other nonwhite races (O.R. = 0.08, 95% CI: 0.02–0.29) at $\alpha = 0.05$. **CONCLUSIONS:** Pain relievers are used most frequently non-medically by pregnant women when compared to the other prescription drugs. Pregnant women, who are white, have poorer health and those who smoke are more likely to engage in NMUPD than the others. This study highlights the group of pregnant women that are more vulnerable to NMUPD. Physician need to be careful while prescribing medication to these high risk groups.

PIH8

DOES TRIAL PARTICIPATION IMPACT ON THE PSYCHOMETRIC PROPERTIES OF SELF-REPORT DEPRESSION IN POSTNATAL WOMEN?

Rankin J[1], Martin CR[2]
[1]University of the West of Scotland, Paisley, UK, [2]University of the West of Scotland, Ayr, UK

OBJECTIVES: It is assumed within the context of clinical trials that the measurement characteristics of self-report outcomes are equivalent. However, little work has been conducted to determine if this assumption is supported. The goal of the current study was to determine trial allocation may significantly impact on the psychometric properties of a commonly used self-report postnatal depression screening questionnaire. **METHODS:** Utilising data from a prospective randomised controlled trial (RCT) investigating the impact of antenatal exercise on psychological well-being, postnatal depression was assessed using the Edinburgh Postnatal Depression Scale (EPDS) at the 12–16 weeks following birth. Structural equation modeling approaches were used to investigate the assumption of measurement invariance of the EPDS using a two-

dimensional model of the instrument with group type (exercise or control) as the criterion variable to assess model invariance. **RESULTS:** A total of 89 participants completed the trial of which 48 were in the exercise group. Evidence of variation in the factorial structure of the EPDS between groups was found suggesting the invariance assumption may not be supported. **CONCLUSIONS:** The assumption that the outcome measure (EPDS) is invariant between groups within an RCT was not supported. Further investigation is required to evaluate the impact of outcome measure variance on treatment effects in clinical trials where self-report measure data is used as primary and/or secondary outcomes.

INDIVIDUAL'S HEALTH – Cost Studies

PIH9

TRENDS IN IUD INSERTIONS AND RELATED MEDICAL EXPENDITURE IN THE UNITED STATES: THE POPULATION WITH EMPLOYER-SPONSORED INSURANCE

Xu X, Macaluso M, Ouyang L, Grosse S
Centers for Disease Control and Prevention, Atlanta, GA, USA

OBJECTIVES: The prevalence of intrauterine device (IUD) use is low among women of reproductive age in the United States. The objective of this study was to examine the trend in IUD insertions and related medical expenditures between 2002 and 2007 in a population of women covered by employer-sponsored health insurance (ESI). **METHODS:** We conducted a population-based study using the MarketScan Commercial Claims and Encounter Enrolled Population database. We identified women, 15–49 years old who filed a claim for the insertion of an IUD or IUS (the Levonorgestrel-releasing IUD) between January 1, 2002 and December 31, 2007. We adopted the MarketScan national weights in order to generate nationally representative estimates. **RESULTS:** The number of new IUD/IUS patients in the ESI-covered population doubled, from 70,851 (2/1,000 eligible women) in 2002 to 154,366 (8/1,000) in 2007. Meanwhile, the market share of the IUS increased from 35% to 80% of all IUD insertions. The mean copayment for IUD (IUS) devices decreased from $13.0 ($14.6) in 2002 to $3.5 ($3.6) in 2007 after adjusting for inflation (in 2007 dollars), and the percent of patients with zero copayment for the device and for the insertion procedure increased from 65% to more than 80% and form 58% to 73%, respectively. The average net reimbursement for the IUD increased 17.5% between 2002 and 2007, from $311.92 to $366.64, while that for the IUS increased 7.5%, from $405.36 to $435.49. **CONCLUSIONS:** The increase in medical expenditures associated with IUD/IUS insertions from 2002 to 2007 was driven by the growth in IUS insertions. IUDs have lower contraceptive failure rates than other reversible contraceptive methods, and higher rates of IUD use should lead to fewer unwanted pregnancies. Additional research is needed to understand whether the recent growth in IUS insertions is related to changing provider attitudes and more favorable insurance coverage.

PIH10

TREATMENT PATTERNS AND ECONOMIC BURDEN OF UTERINE FIBROIDS IN A UNITED STATES MANAGED CARE DATABASE

Bapat B[1], Davis K[1], Bell KF[2], Deal LS[2], Talbird SE[3]
[1]RTI Health Solutions, Research Triangle Park, NC, USA, [2]Pfizer, Collegeville, PA, USA, [3]RTI Health Solutions, RTP, NC, USA

OBJECTIVES: To document surgical treatment patterns of uterine fibroid (UF) patients and total all-cause medical costs for UF patients in real-world practice settings using managed care claims data. **METHODS:** In this retrospective database study, women with a UF diagnosis between 15 and 51 years of age were selected between 2000 and 2006. An index date was defined as the date of first observed UF diagnosis. All patients were required to have continuous plan enrollment 6 months pre- and 36 months post-index date. Summary statistics for patient characteristics, probability of first UF-related surgery, any repeat UF-related surgery, and total medical and pharmacy costs (2007 US$) incurred 12 months post-index date were generated. **RESULTS:** A total of 109,595 patients met the study inclusion criteria. The mean age at UF diagnosis was 43 years and the mean Charlson score was 0.27. Patients with commercial insurance accounted for 91% of the population, while 75% had an HMO or PPO plan. The probability of UF-related surgery was 30.2%, 35.0%, and 38.4% within the 12-month, 24-month, and 36-month follow-up periods, respectively. Among patients with a UF-related surgery during the 36 month follow-up period, 79.6%, 7.3%, 3.3%, 13.0% had hysterectomy, myomectomy, UAE/UAO, and ablation, respectively. Mean age at first surgery (44 years) varied by surgery type with younger women more likely to undergo myomectomy. The rate of repeat surgery within one year of first surgery ranged from 1.6% (hysterectomy) to 10.5% (ablation). The mean total cost for all UF patients was $9608, 12 months post-index date. **CONCLUSIONS:** A substantial proportion of patients undergo UF-related surgeries within one to three years of diagnosis, with hysterectomy being the most common surgery. UF-related surgeries present significant clinical and economic implications that should be understood by private and public third party payers who bear the financial burden of UF surgical care.

PIH11

THE BURDEN OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (ADHD) ON PATIENTS HOSPITALIZED WITH A PRIMARY DIAGNOSIS OF OPPOSITIONAL DEFIANT DISORDER (ODD)

Meyers J[1], Classi P[2], Wietecha LA[2], Candrilli S[1]
[1]RTI Health Solutions, Research Triangle Park, NC, USA, [2]Eli Lilly and Company, Indianapolis, IN, USA

OBJECTIVES: To assess length of stay (LOS) and costs attributable to ADHD among adolescents hospitalized with a primary diagnosis of ODD. **METHODS:** Patients 12–17 years old with a primary diagnosis of ODD (ICD-9-CM code 313.81) were selected from the 2000 to 2006 Health care Cost and Utilization Project Nationwide Inpatient Sample (HCUP-NIS). Patients with a diagnosis of ADHD (ICD-9-CM codes 314.00 and 314.01) comprised the study cohort and patients without an ADHD diagnosis comprised the control cohort. Study measures included demographics, hospital characteristics, admission source, discharge disposition, LOS, and costs. Generalized linear models accounting for the HCUP-NIS survey design were undertaken to adjust LOS and cost estimates. **RESULTS:** A total of 7,404 and 18,039 patients met the inclusion criteria for the study and control cohorts, respectively. Patients in the study cohort were 6.8 months younger than patients in the control cohort (13.8 versus 14.4 years). A higher percentage of patients in the study cohort were male (71.3% versus 45.2%) or had Medicaid (57.1% versus 48.6%) compared to the control cohort. In both cohorts, the ER was the most common admission source, approximately 90% of patients had their discharge disposition recorded as routine, and most patients were treated in urban, teaching, or large bedsize hospitals. The study cohort had longer LOS and higher costs versus the control cohort (mean [SE] 9.48 [0.89] days and $8241 [$1356] versus 7.90 [0.59] days and $6466 [$709]). Regression analyses found the study cohort had significantly longer LOS and higher costs versus the control cohort (by 2.5 days and $1338). **CONCLUSIONS:** Patients hospitalized with a primary diagnosis of ODD and a secondary diagnosis of ADHD had significantly longer LOS and higher costs compared to patients with ODD but without ADHD. Clinicians and health care decision-makers should be aware of the impact ADHD has on inpatient stays among patients with ODD.

PIH12

DULOXETINE DOSING PATTERNS AND HEALTH CARE COSTS AMONG ELDERLY DIAGNOSED WITH FIBROMYALGIA

Wu N[1], Chen SY[1], Rao P[2], Boulanger L[1], Peng X[3], Zhao Y[3]
[1]Abt Bio-Pharma Solutions, Inc., Lexington, MA, USA, [2]Abt Bio-Pharma Solutions, Inc, Lexington, MA, USA, [3]Eli Lilly and Company, Indianapolis, IN, USA

OBJECTIVES: This study employed a retrospective cohort design to examine patterns of duloxetine utilization and health care costs among elderly fibromyalgia patients. **METHODS:** Pharmacy and medical claims were analyzed for fibromyalgia patients aged 65+ with Medicare supplemental insurance who initiated duloxetine in 2006. The index date was defined as the dispense date of the first duloxetine prescription filled, with no duloxetine coverage in the prior 90 days. Patients were required to have at least 30 supply days of duloxetine in the 12 months post-index period. Individuals with any diagnosis of diabetic peripheral neuropathic pain or depression during the 12 months pre-index period were excluded. Five study cohorts were constructed based on the index dosage: <30 mg, 30 mg, 31–59 mg, 60 mg, and >60 mg. Patterns of duloxetine use including changes in dosage, average daily dose (ADD), adherence to duloxetine (medication possession ratio≥0.8 as high adherence) were examined across study cohorts. Regression models were performed to estimate the differences in health care costs. **RESULTS:** A total of 566 fibromyalgia patients were included, with 41, 163, 47, 294 and 21 in the <30 mg, 30 mg, 31–59 mg, 60 mg, and >60 mg cohorts, respectively. A total of 31.4% of patients experienced any dosage changes (increased dosage: 25.8%; decreased dosage: 15.7%). Among those who changed dosage, patients in the 31–59 mg cohort had the shortest time to change (81 days), and patients in the <30 mg cohort had the longest (149 days) time. ADD trended upward as index dose increased. Compared with patients in the 60 mg cohort, those in the <30 mg and >60 mg cohorts were less likely to be adherent (odds ratios 0.40 and 0.30, respectively, both $p < 0.05$). Post-index total health care costs were similar across cohorts. **CONCLUSIONS:** Dosage changes occurred most quickly in fibromyalgia patients with an index dose of 31–59 mg of duloxetine. Duloxetine ADD and adherence differ by index dosage, while health care costs remain similar.

PIH13

HEALTH CARE UTILIZATION AND COSTS FOR THE TREATMENT OF HYPOACTIVE SEXUAL DESIRE DISORDER

Palmer L[1], Johnson BH[1], Foley D[2]
[1]Thomson Reuters, Washington, DC, USA, [2]Boehringer-Ingelheim, Ridgefield, CT, USA

OBJECTIVES: Hypoactive sexual desire disorder (HSDD) is characterized by persistent/ recurring deficiency of sexual fantasies or thoughts, and/or the absence of desire for sexual activity. Despite the potentially high prevalence of the condition, few studies have evaluated the cost of treating women with HSDD. The current study describes health care utilization and costs among women suffering from HSDD relative to women without evidence of female sexual dysfunction (FSD). **METHODS:** Women aged 18–64 with a diagnosis of HSDD (ICD-9-CM: 302.71) were identified using the Marketscan® Commercial Claims and Encounters Databases from Thomson Reuters. Women were identified between January 1, 1998-December 31, 2007 and were matched 1:3 to women without FSD (ICD-9-CM: 302.7x; 306.51) based on age, health plan type and months with medical/pharmacy benefits. Utilization and costs were evaluated during the 12, 24 and 36- month periods following HSDD diagnosis.