ication, which increased to 53.2% by 5 years. Overall, ADHD drug use was most common in patients aged 1-5 and 6-12 years whereas antipsychotics were most common in adolescents (13-17 years) and young adults (18-25 years). The effects of age group on the use of the different drug classes were statistically significant ($p<0.0001$). We observed significant changes in drug use over time for all psychoactive drug classes (either increase or decrease), except for anxiolytics. **CONCLUSIONS:** Psychoactive medication use increased over the 5-year period among newly diagnosed ASD people, whatever the age group. Optimal use of these medications in the context of limited access to other types of support modalities is discussed.

PIH10

PRIOR USE OF LONG-ACTING REVERSIBLE CONTRACEPTION METHODS AND HEALTH PLAN TYPE PREDICTS GREATER LIKELIHOOD OF HAVING AN INTENDED PREGNANCY

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OBJECTIVES: The objective of this study was to determine if long-acting reversible contraception (LARC) use prior to pregnancy and health plan type were associated with greater likelihood of having an intended pregnancy (IP). **METHODS:** Women members of the Kaiser Permanente, Northern California (KPNC) integrated health plan aged 15-44 years who became pregnant between 1/1/2010 and 12/31/2012 were identified from KPNC databases. The last contraceptive method used within 2 years preceding pregnancy was determined. Key characteristics were compared among women with IPs vs. those with unintended pregnancies (UPs-unwanted or mistimed). Logistic regression analyses were conducted to determine if health plan type, copays or prior LARC use were predictive of IP, controlling for age, race/ethnicity, marital status, education/income, parity, and select comorbidities. **RESULTS:** Among women included in the study, 27,498 (61%) had IPs and 17,853 (39%) had UPs. Higher education (47.9% vs. 17.2%), an income ≥$60,000 (55.0% vs. 21.0%), and already having one child (39.0% vs. 21.3%) were significantly ($p<0.0001$) more common among women with IPs. In comparison to women with IPs, significantly ($p<0.0001$) larger proportions of women with UPs were ≤24 years old (33.7% vs. 6.5%), single (39.8% vs. 5.5%), and had evidence of comorbidities (7.72% vs. 7.12%). When controlling for key characteristics, women who used LARC methods prior to pregnancy vs. women using non-LARC methods were 2.3-fold ($p<0.0001$) more likely to have an IP. Women with deductible plans with health savings accounts (HSA) vs. those with non-deductible plans had greater odds of having an IP (1.16, $p=0.01$). Upon further stratified analysis, prior use of LARC methods was associated with significantly greater likelihoods of having an IP across all evaluated race/ethnicities and education/incomes levels. **CONCLUSIONS:** Women KPNC members who used LARC methods prior to pregnancy and those who had a HSA were more likely to have an IP than an UP.

PIH11

AUTISM PREVALENCE IN CHILDREN AMONG THE UNITED STATES MEDICAID POPULATION

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OBJECTIVES: The current study examined patient age, gender, race, geographic variation as well as the prevalence of autism in children using U.S. Medicaid data. **METHODS:** A retrospective study was performed among the Medicaid fee-for-service (FFS) population from January 1, 2008 through December 31, 2009. Children under age 17 years and diagnosed with autism were identified using International Classification of Disease, 9th Revision, Clinical Modification (ICD-9-CM) diagnosis code 299.0x. A 2-year period of continuous Medicaid FFS enrollment during the study period was required. Disease prevalence was stratified by region, state, age, gender and race for all patients, and measured by number and percentage in each category. Patients with managed care enrollment in any month of 2008 or 2009 were excluded from the study. **RESULTS:** A total of 23,589 children diagnosed with autism were analyzed. Children age 6-10 years had the highest autism prevalence level (4.59%), followed by those age 11-17 (3.62%) and 0-5 years (1.50%). Prevalence results according to race are as follows: Asian (6.33%), White (4.06%), Hispanic (3.29%) and Black (2.75%). Autism was more likely to be diagnosed among boys (5.01%) than girls (1.62%). Geographic variation analysis showed the highest autism prevalence in Idaho (34.06%), followed by Oklahoma (17.14%), Connecticut (14.05%), Minnesota (13.44%) and Rhode Island (11.33%). The Southern region of the United States was found to have the highest autism prevalence for children under age 17 (4.35%), compared to the Midwest (4.03%), Northeast (3.43%) and West (0.82%). **CONCLUSIONS:** Children age 6-10 years had a higher probability of being diagnosed with autism, with Asian patients most likely to be diagnosed with autism compared to other races. Children residing in the Midwestern region of the United States were shown to be at a higher risk for an autism diagnosis.

PIH12

PREVALENCE OF TASTE DYSFUNCTION IN THE ADULT UNITED STATES POPULATION: A STUDY OF THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY

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OBJECTIVES: There are no current nationally representative estimates on taste dysfunction for the US population; the last estimates based on the 1994 National Health Interview Study indicated population prevalence reports of taste problems of 0.6%. The purpose of this study is to provide current estimates of the prevalence of taste dysfunction and identify the relationship between taste dysfunction and health perception in the US population. **METHODS:** Data from the 2011-2012 National Health and Nutrition Examination Survey (NHANES) was used to assess the prevalence of self-reported taste dysfunction as assessed by the Taste and Smell Questionnaire; completed by participants ages 40 – 80. After exclusion of persons with negative sample weights and missing data, the final sample was 3437. Chi-square and ANOVA were used to make statistical comparisons and all analyses were weighted to account for the sampling design. **RESULTS:** The prevalence of taste dysfunction was 5.3% (95% CI 4.6, 6.1). Taste dysfunction was higher in older adults compared to younger adults (6.9% and 4.2%, respectively, $p < .01$), and in those reporting problems with smell compared to those with no problem (21.2% and 3.4%, respectively, $p < .0001$). Persons with taste dysfunction reported significantly more days of poor physical health (mean = 6.4, SE = 1.1) and mental health (mean = 6.2, SE = 1.1) than those without problems with taste mean = 3.9, SE = .24, $p = .04$; mean = 3.7, SE = 0.24, $p = .03$, respectively). **CONCLUSIONS:** Based on self-reported data, taste dysfunction affects 5% of the weighted sample. Discrepancies between reported prevalence from 1994 are likely due to differences in the operationalization of taste dysfunction. The association of problems with taste and the increase in reported days of poor physical and mental health should be investigated further.

PIH14

INAPPROPRIATE ANTICHOLINERGIC MEDICATION USE IN THE ELDERLY

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OBJECTIVES: Drugs with anticholinergic properties are associated with central and peripheral adverse effects in the elderly. The purpose of this study was to determine the prevalence and predictors of inappropriate anticholinergic medication use among the elderly as per 2012 American Geriatrics Society (AGS) Beers' criteria. **METHODS:** A retrospective cross-sectional study design was conducted using 2009-2010 Medical Expenditure Panel Survey (MEPS). The study sample included individuals aged ≥65 years. Inappropriate anticholinergic drugs were identified using the MEPS prescription files. Weighted descriptive statistics were used to estimate the prevalence of inappropriate anticholinergic medication use in elderly patients. Multivariable logistic regression within the conceptual framework of Anderson Behavioral Model was used to identify predictors associated with the use of inappropriate anticholinergic medications in the elderly. **RESULTS:** Analysis of the 2009-2010 MEPS data revealed that an estimated 78.6 million members of the US population were elderly. (12.78%) It was estimated that 7.51 million (95% CI: 6.64 to 8.38) of elderly individuals used potentially inappropriate anticholinergic medications, resulting in an overall prevalence of 9.56%. The most frequently used inappropriate anticholinergics were cyclobenzaprine (2.08%), promethazine (1.75%), amitriptyline (1.47%), hydroxyzine (0.95%), and dicyclomine (0.84%). Multivariable analyses revealed that female gender (OR: 1.37; 95% CI: 1.06-1.77), South region (OR: 1.88; 95% CI: 1.25-2.84) and anxiety disorder (OR: 2.15; 95% CI: 1.57-2.94) increased the likelihood of receiving inappropriate anticholinergic medications; whereas age between 75 to 84 years (OR: 0.64; 95% CI: 0.49-0.85), age >=85 years (OR: 0.52; 95% CI: 0.33-0.81) and >15 years of education (OR: 0.54; 95% CI: 0.35-0.84) decreased the likelihood of receiving inappropriate anticholinergic medications. **CONCLUSIONS:** The study found that approximately one in ten elderly patients used inappropriate anticholinergic medications. Several predisposing and need factors were associated with the use of inappropriate anticholinergic medications. Efforts are needed to improve inappropriate prescribing practices to optimize medication use in the elderly.

PIH15

PROMOTING MEDICATION SAFETY IN THE WARDS OF A PUBLIC TEACHING HOSPITAL

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OBJECTIVES: Health care risk epidemiology identifies medication error as the commonest cause of adverse effects on patients. Errors can occur at any phase of the medication process, so incidence rates should be estimated along with their clinical outcomes at each stage. The aim of this study was to assess and analyze the medication errors for determining their nature, types, incidence and clinical significance in an Indian setting. **METHODS:** This prospective observational study was conducted in 3 medical wards of a public teaching hospital. All the information was collected in a standard data collection form. Medication errors were identified and analyzed from patients' records using Current Index of Medical Sciences (CIMS) and Micromedex Drug-Reax database. **RESULTS:** Of the 450 studied, 87 patients were found to have 113 medication errors. The 3 most common errors were drug interactions followed by inappropriate frequency and overdose (35%, 23% and 8%, respectively). Other errors were underdose, incomplete prescription and duplication of therapy. Nitrofurantoin, domperidone & cefixime were common drugs administered at inappropriate frequency. Drugs involved in overdose were enoxaparin, gentamicin, azithromycin & domperidone. The incidence of medication error was 26%. Antimicrobial agents (34%) had contributed maximum to the error followed by GI agents (20%), anticoagulants (11%) and CNS agents (8%). All the errors were category B error (NCC MERP medication error index) **CONCLUSIONS:** The availability of such evidence will help in improving patient safety in Indian setting and to promote medication safety.

PIH16

CAUSALITY ASSESSMENT OF ADVERSE DRUG REACTIONS IN WARDS OF AN INDIAN PUBLIC TEACHING HOSPITAL

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OBJECTIVES: Causality assessment is the evaluation of the likelihood that a particular treatment is the cause of an observed adverse event. The aim of this study was to

compare the different methods adopted for the detection of the ADRs. **METHODS:** A prospective observational study was carried out at the three general wards of medicine department of an Indian public teaching hospital. The three different scales for causality assessment used were Naranjo's ADR probability scale, WHO-UMC causality category and, Karch and Lasagna scale. **RESULTS:** Only 60 ADRs were identified in 520 patients studied. All the identified ADRs were assessed for causality using different causality assessment scales. According to Naranjo's ADR probability scale, 52 of the reactions were 'probable', 8 of the reactions were 'possible. 28 ADRs were 'probable' and 32 were 'possible', according to WHO-UMC causality category. According to Karch and Lasagna scale, 45 ADRs were 'probable' and 15 were 'possible'. A comparison between three scales showed that there is a closer match in the 'probable' ADRs between Naranjo and Karch & Lasgna scales (87% & 75%), 45% ADRs were probable (WHO-UMC method). Out of these three methods WHO-UMC method was found to be simple to use. **CONCLUSIONS:** Causality assessment helps to assess the link between the drug and the ADRs. There is a disagreement between the outcomes of the study when three methods were used for causality assessment of reported ADRs.

INDIVIDUAL'S HEALTH – Cost Studies

PIH17

BUDGET IMPACT OF UTILIZING VARIOUS TYPES OF ADVANCED BIPOLAR ENERGY (ABE) DEVICES VERSUS CONVENTIONAL BIPOLAR ENERGY (CBE) IN TOTAL LAPAROSCOPIC HYSTERECTOMY IN CANADIAN HOSPITALS

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OBJECTIVES: Electrosurgical instruments have proven to be effective at achieving hemostasis in laparoscopic hysterectomy and in Canada, their usage is increasing. ABE devices have several advantages over conventional bipolar energy (CBE) including decreased thermal damage to tissue, improved ease-of-use and greater physician control. While all ABE devices have advantages over CBE technology, each of the 3 available ABE systems impact procedure time and length of stay differently. One disadvantage of all 3 ABE systems is the premium pricing as compared to CBE. This study was conducted to determine the budget impact of switching from CBE to 3 different ABE systems for benign laparoscopic hysterectomies in Canadian hospitals. **METHODS:** The budget impact model considers the inpatient and procedural costs incurred by a Canadian hospital performing 100 procedures annually. CBE is utilized as a baseline for efficacy and each of the 3 ABE systems are compared to CBE individually. Data on the use of health care resources was obtained from published prospective randomized/non-randomized controlled trials. Additional costing data was obtained from the Ontario Case Costing Initiative and a large Canadian hospital. The device costs were collected from market research. A multivariate sensitivity analysis using a Monte Carlo simulation was completed to ensure scientific rigour. **RESULTS:** When comparing the 3 forms of ABE to CBE, EnSeal was the only technology that significantly reduced both OR time and length of stay. This reduction in health care resources offsets Enseal's premium price resulting in an equivalent budget impact to CBE. However, the other 2 ABE systems do not show a reduction in OR time or length of stay and as a result, cost a Canadian hospital on average $30,239.93 and $93,091.44 more than CB or EnSeal per annum for laparoscopic hysterectomies. **CONCLUSIONS:** EnSeal is as cost-effective as CBE for benign laparoscopic hysterectomies in a Canadian hospital.

PIH18

COST ANALYSIS OF THE ROBOTIC SURGERY IN ITALY

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OBJECTIVES: The purpose of the study is to determine the cost of robotic surgery in comparison with traditional surgery, both in the NHS and societal perspective, in the Italian setting. **METHODS:** The prospective multicentre study performed a cost analysis on about 700 patients enrolled for the period February 2011 - December 2013 in 8 Italian Hospitals. The interventions were general, thoracic and gynaecological surgery performed with open, laparoscopic or robotic technique. The model was developed considering both direct and indirect costs in the various phases of the intervention: patients enrollment and hospitalization, first follow up one month after discharge, next follow up. The model used tariffs for direct health care costs as laboratory, instrumental tests and specialist visits. For all other health care direct costs, non health care direct costs and indirect costs the model used real costs and resources data. **RESULTS:** In NHS perspective all specialties of robotic and open interventions cost 9,471€ vs 7,232€, p<0.01. Indirect costs are lower in robotics versus open: 928€ vs 872€, p<0.05; this could be explained by lower length of stay of robotic vs open (7.78 days versus 6.41, p<0.01). In the societal perspective, costs for all specialties (robotics: 10,909€; open: 8,681€; laparoscopic: 8,303€), show differences between robotic and traditional surgery, as open and laparoscopic interventions present the same level of total costs. **CONCLUSIONS:** Robotic surgery is more expensive than traditional techniques, the operating times decrease with increasing experience of the surgeon in the use of the robot. It is important to highlight the benefits of the use of the robot in terms of ease of execution of complex interventions by both surgeon and experienced assistant. This should also have a positive impact on the quality of life of patients who should receive a level of postoperative pain in the lower robotic interventions.

PIH19

COST-EFFECTIVENESS OF ENDOMETRIAL ABLATION WITH THE NOVASURE® SYSTEM VERSUS OTHER GLOBAL ABLATION MODALITIES AND HYSTERECTOMY FOR TREATMENT OF ABNORMAL UTERINE BLEEDING (AUB): UNITED STATES COMMERCIAL AND MEDICAID PAYER PERSPECTIVES

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OBJECTIVES: Abnormal uterine bleeding (AUB) interferes with physical, emotional, and social well-being, impacting the quality of life of more than 10 million women in the US. Hysterectomy, the most common surgical treatment of AUB, has significant morbidity, low mortality, long recovery, and high associated health care costs. Global endometrial ablation (GEA) provides a surgical alternative with reduced morbidity, cost, and recovery time. The NovaSure system utilizes unique radiofrequency impedance-based GEA technology. This study evaluated cost-effectiveness of AUB treatment with NovaSure ablation versus other GEA modalities and versus hysterectomy from US commercial and Medicaid payer perspectives. **METHODS:** A health state transition (semi-Markov) model was developed using epidemiologic, clinical, and economic data from commercial and Medicaid claims database analyses, supplemented by published literature. Three hypothetical cohorts of women receiving AUB interventions were simulated over 1-, 3-, and 5-year horizons to evaluate clinical and economic outcomes for NovaSure, other GEA modalities, and hysterectomy. **RESULTS:** Model analyses show lower costs for NovaSure-treated patients than for those treated with other GEA modalities or hysterectomy over all timeframes under commercial payer and Medicaid perspectives. By Year 3, cost savings versus other GEA were $930 (commercial) and $3,000 (Medicaid); cost savings versus hysterectomy were $6,500 (commercial) and $8,900 (Medicaid). Coinciding with a 43%-71% reduction in need for re-ablation, there were 69%-88% fewer intervention/reintervention complications for NovaSure-treated patients versus other GEA modalities, and 82%-91% fewer versus hysterectomy. Furthermore, NovaSure-treated patients had fewer days of work absence and short-term disability. Cost-effectiveness metrics showed NovaSure treatment as economically dominant over other GEA modalities in all circumstances. With few exceptions, similar results were shown for NovaSure treatment versus hysterectomy. **CONCLUSIONS:** Model results demonstrate strong financial favor for NovaSure ablation versus other GEA modalities and hysterectomy from commercial and Medicaid payer perspectives. Results will interest clinicians, health care payers, and self-insured employers striving for cost-effective AUB treatments.

PIH20

LIFETIME HEALTH AND ECONOMIC CONSEQUENCES OF OBESITY-RELATED DISEASES: USING DATA FROM THE NATIONAL HEALTH INTERVIEW SURVEY, THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY, AND THE MEDICAL EXPENDITURE PANEL SURVEY

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OBJECTIVES: This study analyzed lifetime health and economic consequences of multiple obesity-related diseases (ORDs), including diabetes, hypertension, coronary heart disease (CHD), and stroke. **METHODS:** Nationally representative data of the U.S. civilian, non-institutionalized population was used. Our sample was from the National Health Interview Survey (NHIS), 1997-2000, and linked to the NHIS Linked Mortality Public-Use Files to estimate mortality risks. The sample was further linked to the Medical Expenditure Panel Survey (MEPS) to estimate annual health care expenditures. Disease risks were estimated with National Health and Nutrition Examination Survey (NHANES) data. Analyses were stratified by gender and adjusted for age, race, and BMI groups. Complex sampling designs in NHIS, MEPS, and NHANES were adjusted for. A Markov model populated by estimates of disease and mortality risks and health care expenditures was built to compute life years and lifetime health care expenditures for gender-race-age-BMI-specific subpopulations. **RESULTS:** Our sample comprised of 17,917 women and 13,928 men. For individuals age 40, life years lost associated with ORDs for women ranged from 2.7 (obese, not white or black, with CHD) to 14.6 (normal-weight, white, with all four ORDs) and for men from 2.3 (obese, not white or black, with diabetes) to 12.4 (normal-weight, not white or black, with all four ORDs). Lifetime health care expenditure increment associated with ORDs for women ranged from $27,749 (normal-weight, white, with hypertension) to $277,949 (overweight, not white or black, with all four ORDs) and for men from $41,804 (normal-weight, black, with hypertension) to $249,829 (overweight, not white or black, with all four ORDs). **CONCLUSIONS:** This study suggests that the lifetime health and economic consequences associated with ORDs are higher for women than men. And disease burden increases with increasing number of ORDs. Diabetes is the most costly ORD. Among sets of two ORDs, the combination of diabetes and hypertension is the most costly.

PIH21

ECONOMIC BURDEN ASSOCIATED WITH PATIENTS DIAGNOSED WITH PEYRONIE'S DISEASE IN THE UNITED STATES

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OBJECTIVES: Compare health care costs and resource utilization between patients with Peyronie's disease (PD) and matched controls without PD. **METHODS:** Male adults aged ≥ 65 in Medicare Advantage plans or aged 18-64 in commercial plans with ≥1 PD diagnosis (ICD-9-CM: 607.85) between 1/1/2007-12/31/2012 were selected from a national claims database comprised of 14M enrollees. The index date was defined as the observed first date with a PD diagnosis. Continuous eligibility for ≥6 months before (baseline period) and 1 year after (study period) the index date was required. PD patients (cases) were matched on age, gender, race, geographic region, plan type, index year, baseline health care costs and comorbidities to patients without PD, Dupuytren's contracture, or Ledderhose disease diagnoses in their claims histories (controls) by propensity score matching. Descriptive analyses compared baseline characteristics and post-index resource utilization between cohorts. As indicated by Box-Cox test and Park test, generalized linear models with gamma distribution and log link were used to compare risk-adjusted health care costs inflated to $2013 US dollars. **RESULTS:** 1,528 Medicare PD patients (mean age 70 years) and 768 commercial patients (mean age 51 years) met the inclusion criteria. PD patients had significantly higher comorbidities compared with their controls (e.g., erectile dysfunction (ED), other male genital organs diseases, urinary diseases, diabetes and hyperlipidemia) (all p<.05). During the study period, PD patients had