they required longer hospitalisation over a 6-month prospective follow-up period (11.48days vs. 7.13days, p=0.04). **CONCLUSIONS:** Our results showed that patients with prominent negative symptoms experience significant burden in terms of clinical characteristics, but also require more intense healthcare management. This stresses the need for new treatments targeting negative symptoms.

PMH15

USE OF ANTIDEPRESSANT DRUGS IN ADOLESCENTS OF COLOMBIA: A PRESCRIPTION-INDICATION STUDY

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OBJECTIVES: Determine the indications for use of antidepressants medications in adolescent's population (14- 19 years) of Colombia. **METHODS:** Cross-sectional study, including adolescent patients of either sex who were receiving an antidepressant between January 2015 and June 2016, in general and psychiatric medical consultations of the health system in a follow-up period 18 months. The medical records were reviewed to assess sociodemographic, pharmacological and clinical variables, including diagnosis, approved or not indication and comedications. Multivariate analyzes were performed. The study received bioethical approval. **RESULTS:** A total of 350 adolescents treated with antidepressants were evaluated, with a mean age of 16.3±1.4 years, with slight female predominance (59.7%). Most prescriptions were made by general practitioner (n=258; 73.7%). The most commonly used antidepressants were fluoxetine (n=130; 37.1%), sertraline (n=56; 16.0%) and trazodone (n=47; 13.4%). The main indications for use were depression (n = 92; 26.3%), anxiety (n=53; 15.1%), migraine (n=48; 13.7%), control abuse of psychoactive substance use (n=34; 9.7%), and insomnia (n=20; 5.7%). Only 150 (42.9%) prescriptions were performed according to approval by regulatory agencies. Multivariate analysis of the prescription unapproved indications showed that having depression (OR:0.004; 95%CI:0.001-0.018), anxiety (OR:0.028; 95%CI:0.010-0.076) or bipolar affective disorder (OR:0.071; IC95%:0.011-0.461) were associated with lower likelihood that its use was outside the approved. **CONCLUSIONS:** The prescription of antidepressant drugs in Colombian adolescent patients is being done especially with fluoxetine, sertraline and trazodone, mainly for unapproved indications according to FDA and INVIMA. There are no guidelines for clinical practice in the country for the use of these drugs in the adolescent population. It is necessary to know more about this topic of interest because of the high frequency of use and the general lack of knowledge about effectiveness, safety and use of these drugs in the adolescent population

PMH16

NATIONAL TREND AND PREDICTORS OF ANTIPSYCHOTIC MEDICATION USE IN U.S. ADULTS WITH SCHIZOPHRENIA: ANALYSIS OF DATA FROM THE 2008–2013 MEPS

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OBJECTIVES: To examined the national trends and predictors associated with antipsychotic use among individuals with schizophrenia. **METHODS:** A retrospective cross-sectional study were conducted using 2008–2013 Medical Expenditure Panel Survey (MEPS) data. Descriptive and Chi-square tests were used to describe patterns of antipsychotic use. Multivariate logistic regression analyses were conducted to explore the relationship between the different variables in the study with antipsychotic use. **RESULTS:** Overall, antipsychotic-medication users decreased from 582,581 in 2008 to 478,553 in 2013, a 17% decrease. The multivariate analyses revealed that no antipsychotic use was associated with patients who were older than 59 [OR=0.28, 95% CI= 0.08, 0.94], female [OR=0.44, 95% CI= 0.26, 0.74], non-white [OR=0.34, 95% CI= 0.19, 0.62], previously or never married [OR=7.88, 95% CI= 3.13, 19.84], or who had prescription coverage by Medicare, Medicaid or other [OR=3.38, 95% CI= 1.38, 8.29], [OR=3.89, 95% CI= 1.74, 8.72], or [OR=7.29, 95% CI= 2.25, 23.66], respectively. Respondents who perceived themselves as having good general health were negatively associated with not receiving antipsychotic medication [OR=0.42, 95% CI= 0.23, 0.76]. **CONCLUSIONS:** During the study period, antipsychotic medication use declined for patients with schizophrenia. This finding suggests targeting subgroups for specific improvement strategies to protect high-risk patients with schizophrenia.

PMH17

THE PREVALENCE, PREDICTORS, AND ECONOMIC IMPACT OF DRUG-DRUG INTERACTION INVOLVING ANTIPSYCHOTIC MEDICATIONS IN UNITED STATES

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OBJECTIVES: To estimate the national prevalence, socio-demographic and health characteristics, and direct incremental expenditures of of drug-drug interactions (DDIs) involving antipsychotics among adult in united states. **METHODS:** A retrospective database analysis was conducted and individuals who were exposed to any DDI were identified from the 2010-2014 Medical Expenditure Panel Survey. The prevalence of DDI was evaluated by four international drug interaction compendia. The predictors and expenditures were estimated by employing multiple regression models and the propensity score method. **RESULTS:** From 2010 to 2014, the national prevalence of DDIs was 4.7 million (36%) with incremental costs of $4,563 per person annually. Adults exposed to DDIs cost 55% more annual total health care expenditures than those are not exposed (RR = 1.55, 95% CI [1.25, 1.92]). Likewise, cost of office-based (RR = 1.78, 95% CI [1.34, 2.38]), and prescription drugs (RR = 2.08, 95% CI [1.55, 2.78]) were significantly associated with exposure to DDIs. Factors associated with greater odds of DDIs exposure were age, sex, race, type of health insurance, general health, and polypharmacy. **CONCLUSIONS:** The prevalence of DDIs is substantially high among adults using antipsychotics. A significant relationship between the exposure to the DDI and higher total health care expenditures were found. This finding can help policy makers in implement intervention strategies that are effective in lowering the DDI incidence and in reducing the overall cost of care.

PMH18

PSYCHOTROPIC POLYPHARMACY IN THE TREATMENT OF CHILDREN AND ADOLESCENTS WITH MENTAL DISORDERS: PREVALENCE AND DETERMINANTS

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OBJECTIVES: To evaluate the prevalence and determinants of long-term multiclass psychotropic polypharmacy (PP) among children and adolescents with mental disorders. **METHODS:** A retrospective cross-sectional study was conducted using the 2013-2015 administrative claims data from Texas Children's Health Plan. PP was defined as the receipt of ≥ 2 psychotropic medications from different drug classes concurrently for 60 days or more. Based on the number of prescribers involved in the treatment, the patients were categorized into two groups: a) single prescriber (SP) and b) multiple prescribers (MP). Logistic regression models and the Farilie decomposition method (extension of Blinder-Oaxaca [BO] decomposition) were conducted to assess the relative importance of determinants of PP based on the Andersen Behavioral Model. **RESULTS:** A total of 24,147 children and adolescents with a diagnosis of mental disorder and prescription of psychotropic medication were identified. The prevalence of PP was 20.09%. Logistic regression analyses revealed that patients with specialist involvement (enabling factor) had 5.3 and 3.6 times higher likelihood of receiving PP in the SP (OR=5.32; 95% CI 4.62-6.14) and MP (OR=3.57; 95% CI 3.20-3.99) groups, respectively. Other significant factors associated with PP were patient race (predisposing factor) and diagnosis of bipolar disorders and depression, as well as the number of mental disorders diagnosed (need factor) and number of prescribers involved in treatment (MP group only). The Farilie decomposition analysis estimated that the observed need factors explained only 25% of the difference in the receipt of PP between patients seen by PCPs and specialists within both SP and MP groups. **CONCLUSIONS:** The most prominent enabling factor associated with PP was involvement of a specialist in the treatment of mental disorders. Only one-fourth of the difference between PCPs and specialists' prescribing of PP was explained by observable need factors, underscoring the importance of evaluating different prescribing practices by PCPs and specialists.

PMH19

PREVALENCE AND PREDICTORS OF POTENTIALLY INAPPROPRIATE MEDICATIONS IN DEMENTIA PATIENTS

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OBJECTIVES: Potentially inappropriate medication (PIM) use contributes to increased morbidity and mortality in dementia patients. Prior studies have focused on specific classes of PIMs (e.g. strong anticholinergics) or on nursing home dementia patients. No study has comprehensively evaluated PIM use in community-dwelling dementia patients. The current study thus used Medicare database to examine the prevalence and predictors of PIMs in elderly dementia patients. **METHODS:** This retrospective cohort study used the 5% national Medicare data from 2011-2012. The cohort included elderly patients diagnosed with dementia in the baseline year, i.e. 2011. PIMs were defined in the follow-up year, i.e. 2012, using the American Geriatric Society Beers criteria for PIM use due to drug-disease interactions. Predictors were identified in the baseline year based on the Andersen Behavioral Model, and included predisposing (sociodemographic), enabling (dual eligibility) and need factors (Elixhauser comorbidities, medication use and healthcare utilization). Descriptive statistics was used to determine the prevalence of PIMs. Multivariable logistic regression analysis was used to determine predictors of PIMs in dementia patients. **RESULTS:** The cohort included 57,469 elderly dementia patients. The mean age was 85±8 years, and most patients were females (77%) and non-Hispanic whites (82%). Overall, 53.1% of dementia patients received PIMs. The prevalence of different classes were as follows: antipsychotics (31.3%), H2-receptor antagonists (11.3%), antihistamines (10.3%), antimuscarinic urinary incontinence (9.1%), antiemetics (6.7%), nonbenzodiazepine receptor agonist hypnotics (6.1%), tricyclic antidepressants (5.7%), antispasmodic (3.3%), skeletal muscle relaxants (1.6%), antiparkinsons (1.5%), benzodiazepines (1.1%). Mutivariable logistic regression found that females (odds ratio [OR], 1.16), Blacks (OR, 1.18), patients with Elixhauser comorbidities (twelve conditions), emergency room visit (OR, 1.1) and more than five prescription medications (OR, 3.0) were associated with higher likelihood of receiving PIMs. **CONCLUSIONS:** One out of two dementia patients received at least one PIMs. Predictors identified in the study can be targeted to reduce PIM use in dementia patients.

PMH20

EPIDEMIOLOGY OF BIPOLAR DISORDER TYPE I (BD-I) IN THE UNITED STATES: A SYSTEMATIC REVIEW OF THE LITERATURE

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OBJECTIVES: To perform a systematic literature review (SR) of studies in peer reviewed journals on 10 epidemiologic aspects of BD-I in the US: its annual

incidence, prevalence and respective trends; mortality rates and trends; associated comorbid disorders; stages, severity levels and its natural progression. **METHODS:** A literature search was performed using relevant search terms to identify articles published between 2006 and 2016. Studies were identified through electronic Embase, MEDLINE, and PubMed databases. Manual review of bibliographies allowed for the detection of complementary studies. **RESULTS:** Eleven SR and five complementary studies addressed the incidence and prevalence of BD-I. US National Institute of Mental Health (NIMH) estimated the prevalence of BD-I as 1% (lifetime) and 0.6% (12-month). Mean age of disease onset was 20 years, with over 70% of cases diagnosed at the age of 30. Available data was inconclusive for trends on prevalence and there was no incidence data available for US population. Fourteen SR and eight primary studies addressed comorbid disorders. Substance use disorder was highly prevalent with alcohol abuse over 40% and drug dependence between 18% and 30.4%. Borderline personality disorders (12.5%) and anxiety disorders (65% to 86.7%), including generalized anxiety disorder (14.4% to 38.7%) and obsessive-compulsive disorders (10.7% to 24.6%) were highly prevalent and have a negative impact over the course of BD-I. We retrieved 9 SR and one primary study regarding BD-I's staging and natural progression. Staging models identified several features in common: an earlier phase, prodromal phase, initial phase, relapsing phase and end-stage. **CONCLUSIONS:** BD is a chronic and disabling disease with onset in early adulthood. Knowledge on epidemiologic features may help increase awareness and early diagnosis, although there is a gap in our understanding of prevalence rates over time. Also, physicians must be attentive of the high comorbidity rates associated with BD-I.

PMH21

ROUTINE ELECTROLYTE MANAGEMENT AMONG ALCOHOLIC WITHDRAWAL IN HOSPITALIZED SETTING ALCOHOLIC DEPENDENT PATIENTS: ANTICIPATING A FINDING FOR BENEFITS IN CLINICAL MANAGEMENT

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OBJECTIVES: This study aimed to investigate if there is possible association of both hypomagnesemia and hypokalemia with the severity of alcohol withdrawal syndrome. **METHODS:** A prospective cohort study was conducted in alcohol dependence male patients with age >18 years, admitted in Suanprung Psychiatric Hospital, Chiang Mai Thailand during May to October, 2014. The severity of alcohol withdrawal syndrome was assessed using criteria for Clinical Institute Withdrawal for Alcohol Revised (CIWA-Ar) score which divided into mild, moderate, severe, and very severe. Hypokalemia grade was defined as serum potassium < 3.5 mEq/L meanwhile the Hypomagnesemia grade was serum magnesium < 1.4 mEq/L. The multivariable ordinal logistic regression was performed for data analysis **RESULTS:** A total of 172 male patients, average aged of 44.3±10.1 years. The hypokalemia was found in 71 patients (42.0%) whereas only 38 patients (22.5%) had hypomagnesemia. However, further analysis with controlled for potential confounders, surprisingly hypomagnesemic patients had more severity of alcohol withdrawal as compared with a non-hypomagnesemia (adj. OR 3.49; 95%CI 1.20-10.11, p=0.02). Similarly, patients with hypokalemia showed higher severity of alcohol withdrawal compared to those with non-hypokalemia (adj. OR 2.89; 95%CI 1.05-7.99, p=0.04). **CONCLUSIONS:** Both hypomagnesemia and hypokalemia were strongly associated with severity of alcohol withdrawal syndrome. Suggesting that the plasma Magnesium level determination should be also placed in a routine laboratory test. As such clinicians should be well aware and provide magnesium sulfate sufficiently to prevent severe alcohol withdrawal syndrome.

MENTAL HEALTH – Cost Studies

PMH22

A BUDGET IMPACT ANALYSIS OF ABUSE DETERRENT OPIOID FORMULATION

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OBJECTIVES: To model the economic impact associated with increased use of abuse-deterrent formulations of prescription opioids. **METHODS:** A budget impact model was conducted from the payers' perspective considering a population of 1,000,000 lives, using a 3-year timeframe. Utilization of prescription opioids was determined using data from a state Prescription Drug Monitoring Program for the year 2015, focusing on the long-acting opioids fentanyl, hydrocodone, hydromorphone, methadone, morphine, oxycodone, and oxymorphone. Hospital cost associated with prescription opioid overdose was derived from the Healthcare Cost and Utilization Project. The base case assumed a 5%, 7%, and 10% increase in the use of abuse-deterrent opioid products in each of the three years respectively. We estimated that this would equate to approximately 194 additional patients per year, with a corresponding average annual reduction of 14 emergency department visits and 16 hospital discharges for prescription opioid overdose. A sensitivity analysis accounted for the uncertainty of model parameters on overall and per-member-per-month costs. **RESULTS:** The costs associated with the utilization of long-acting prescription opioids increased from $11,446,622.38 in the base year to $12,736,268 in year 1, $13,252,126 in year 2, and $14,025,914 in year 3 corresponding to a per-member-per-month cost of $1.06 in year 1, $1.10 in year 2, and $1.17 in year 3. We estimated the total cost of overdose of the 3-year period to be $5,428,061.20 ($ 1,854,913.00 in year 1, $1,815,862.20 in year 2, and $1,757,286.00 in year 3). **CONCLUSIONS:** Increased use of abuse-deterrent opioid formulations was associated with an increase in total cost of $5,674,441 and an average increase of $0.16 in per-member-per-month spending as compared with the current mix of long-acting prescription opioids. Reduction in prescription opioid overdoses resulting from the increased use of abuse-deterrent opioid formulations yielded savings of $429,558.80.

PMH23

ECONOMIC BURDEN OF BIPOLAR DISORDER IN THE UNITED STATES: A SYSTEMATIC REVIEW OF THE LITERATURE

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OBJECTIVES: Bipolar disorder (BD) is one of the leading causes of disability secondary to mental/behavior disorders worldwide. We aimed to evaluate the economic burden imposed by BD over employability; work performance and health related quality-of-life (HRQoL) of patients in the United States (US). **METHODS:** We conducted a comprehensive search in Medline and EMBASE from 2006 to 2016 for studies addressing the following aspects: cost-of-illness (direct and indirect costs and impact of specific pharmacological treatments), impact over employability and work productivity, HRQoL (over course of illness and during specific pharmacological treatments). **RESULTS:** We included 26 studies evaluating cost-of-illness. Annual societal costs per BD patient varied from $1,904 to $33,090, with production losses making up to 20%-94% of costs. Overall direct healthcare costs ranged from $8,000-$14,000 purchasing power parities. Total annual health care costs were higher for BD patients than for those without ($12,764 vs $3,140). Improved adherence to medication was related to lower medical costs in BD (1-point increment in MPR reduced $123-$439 mental health expenditures in manic/mixed symptoms patients receiving antipsychotics). Fifteen studies addressed impact of BD over employability and work productivity. Around 40%-60% of BD patients were employed, with higher employment rates during early phases of disease compared to later stages. Mean annual absence costs (sick leave, short/long-term disability, and workers' compensation) were significantly higher for BD employers when compared with those without the disease ($1,995 vs $885). Results from 11 studies showed that HRQOL is impaired in BD patients compared with healthy individuals and with patients diagnosed with other chronic psychiatric and medical conditions. BD pharmacological and non-pharmacological treatments have a positive effect on HRQOL. **CONCLUSIONS:** When compared with other populations, BD patients imposed higher medical costs for payers; however, treatment adherence was associated with reduced health expenditures. Both employability and work productivity were negatively affected by the disease, as was HRQoL.

PMH24

ECONOMIC BURDEN OF UNCONTROLLED ATTENTION DEFICIT HYPERACTIVITY DISORDER IN THE US: A RETROSPECTIVE ANALYSIS OF DATABASE CLAIMS FROM A COMMERCIALLY INSURED POPULATION

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OBJECTIVES: Despite availability of several treatment options, adequate symptom control remains a major concern in attention-deficit/hyperactivity disorder (ADHD). Lack of symptom control may impose a significant economic burden, yet few studies have quantified the frequency of uncontrolled symptoms and its relation to costs. This retrospective claims database analysis assessed the impact of ADHD symptom control on health care costs. **METHODS:** MarketScan® Commercial Database claims between January 1, 2010 and June 30, 2015 were used to identify pediatric (age 6-12), adolescent (13-17), and adult (18+) patients with ≥2 ADHD diagnoses (ICD-9 314.0x), ≥1 newly-started ADHD medication pharmacy claim, and continuous enrollment 6 months before and 12 months following ADHD medication initiation ("index"). Symptom control cohorts were defined from 6-month post-index treatment changes: (i) "well controlled"—without dose increase or treatment switching/augmentation; (ii) "partially controlled"—dose increase; and (iii) "poorly controlled"—dose increase and/or treatment switching/augmentation. Annual adjusted cost differences were estimated using generalized linear models. **RESULTS:** The ADHD patient sample (97,230 pediatric; 58,641 adolescent; 135,177 adults) was 69.7%, 65.0%, and 48.7% male, respectively. Mean (SD) age was 8.9 (1.9), 15.0 (1.4), and 31.2 (12.1) years for the pediatric, adolescent, and adult groups, with percent well- (62.1%, 73.7%, 73.0%), partially- (8.8%, 6.4%, 6.1%), and poorly-controlled (29.1%, 19.9%, 20.9%), respectively. Well-controlled pediatric patients had lower annual mean total costs ($3,709) than partially- ($4,269) and poorly-controlled patients ($5,127) (all p-values <0.001). Annual mean medical and pharmacy costs were also lower among well-controlled patients ($2,180, $1,572, respectively) than partially- ($2,163, $2,123) and poorly-controlled ($2,776, $2,363) patients. Similar cost trends were observed for adolescent and adult populations. **CONCLUSIONS:** Our findings suggest that, after one year of treatment, 20.9% - 29.1% of ADHD patients were poorly controlled, and incurred 20.7% - 38.2% greater costs than well-controlled patients, suggesting better symptom control may have economic benefits.

PMH25

HEALTH CARE COSTS OF TREATMENT-RESISTANT DEPRESSION IN A MEDICAID POPULATION

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OBJECTIVES: Among adults in the Medicaid program who were initiating antidepressant medications for depression, we compared the health care economic