returned the study survey. The SF-36 instrument was used to measure HRQOL and compared with the provincial norm. The second wave was a random sample of 323 respondents from the initial 1617 first-wave respondents, who were interviewed with an identical instrument 3 years after the earthquake. ANOVA and t-tests were used to compare SF-36 scores among residents by earthquake impact levels; against a provincial norm; and between 8 months and 3 years. **RESULTS:** The SF-36 subscale scores differed by the impact level of earthquake except for RP. Compared with the Sichuan provincial norm, all subscale SF-36 scores of the first-wave respondents were lower at month 8 (all p-values<0.001). Seven subscale scores of RP, BP, GH, VT, SF, RE, and MH at 3 years were statistically lower than the provincial norm (all p-values<0.05). Among the second-wave respondents, all the 3-year SF-36 subscale scores improved in comparison to those taken 8 months after the earthquake except for RP and SF. **CONCLUSIONS:** The HRQOL declined compared with the norm, especially the psychological aspects. Furthermore, the HRQOL 3 years after the earthquake were persistently lower than the norm level, despite its recovery from 8-month level.

PMH61

EFFECTS OF LISDEXAMFETAMINE DIMESYLATE AUGMENTATION ON FUNCTIONAL OUTCOMES IN ADULTS WITH PARTIALLY OR FULLY REMITTED MAJOR DEPRESSIVE DISORDER

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OBJECTIVES: In adults with executive dysfunction and mild major depressive disorder (MDD), lisdexamfetamine dimesylate (LDX) augmentation significantly improved executive dysfunction (primary endpoint) on the Behavior Rating Inventory of Executive Function–Adult Version (BRIEF-A). Because cognitive impairment can affect functioning, including the ability to work, we describe LDX effects on functional outcomes from the aforementioned study. **METHODS:** This double-blind, placebo-controlled study enrolled participants (18–55 y) with mild MDD (Montgomery-Åsberg Depression Rating Scale total score ≤18) and executive dysfunction (BRIEF-A Global Executive Composite T-score ≥60) on stable SSRI monotherapy for ≥8 weeks. After 2 weeks of screening, participants were randomized to 9 weeks of double-blind LDX (week 1: 20 mg/d; weeks 2–6: maintain or increase LDX in 10-mg increments weekly to 70 mg/d; weeks 7–9: maintain optimized dose) or placebo augmentation, followed by 2 weeks of single-blind placebo. Prespecified secondary functional endpoints included the Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q) and Endicott Work Productivity Scale (EWPS). Analyses included analysis of covariance in randomized participants who took ≥1 study drug dose and had ≥1 postbaseline BRIEF-A assessment. **RESULTS:** Of 143 randomized participants (placebo, 72; LDX, 71), 119 completed double-blind treatment (placebo, 59; LDX, 60). For the Q-LES-Q, least squares (LS) mean (95% CI) treatment differences at endpoint significantly favored LDX in 5 of 10 domains: "physical health activities" (9.6 [3.6, 15.6]; p=0.0020), "feelings" (5.8 [0.0, 11.6]; p=0.0481), "work" (9.1 [2.0, 16.1]; p=0.0123), "household duties" (8.8 [2.2, 15.4]; p=0.0094), and "general activities" (6.2 [1.0, 11.4]; p=0.0191); no differentiation was observed in the other domains. For the EWPS, the LS mean (95% CI) treatment difference at endpoint numerically favored LDX but was not statistically significant (–4.4 [–10.9, 2.0; p=0.1731). **CONCLUSIONS:** These findings suggest LDX augmentation modestly improves functional outcomes in adults with partially or fully remitted MDD.

MENTAL HEALTH – Health Care Use & Policy Studies

PMH62

PREDOMINANT NEGATIVE SYMPTOMS IN SCHIZOPHRENIA

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OBJECTIVES: Schizophrenic patients often remain symptomatic with predominant (or persistent) negative symptoms (PNS) despite receiving antipsychotic therapy. Negative symptoms might include social withdrawal, poverty of speech, apathy, inability to experience pleasure, limited emotional expression, or defects in attention control. Several definitions of PNS exist. The purpose of this study is to describe PNS population according to several definitions. **METHODS:** Definitions of patients with PNS were searched in literature, and applied to patients from the EuroSC cohort (N=288 in France, N=618 in Germany and N=302 in UK). Five assessments including Positive and Negative Symptoms Scale (PANSS) were performed over 2 years. The extent of overlap between definitions was assessed at baseline, and pathways of patients with PNS were explored over 2 years. Bivariate analyses were conducted to compare patients with PNS to others in terms of quality of life (QoL), side effects, functioning and depression. **RESULTS:** Six definitions were found, all based on PANSS subscores. Results differed according to countries, with an average of 41% of patients with PNS in France, 24% in UK and 13% in Germany. For all definitions, about 60% of patients with PNS at baseline still had PNS after 6 months, and about 40% still had PNS after 2 years. PNS patients were found to have a lower QoL (EQ-5D: 0.70 vs. 0.74 on average), more severe side-effects (SAS: 4.2 vs.3.2 on average), lower functioning (GAF: 40 vs. 54 on average) and to be more depressed (CDSS: 3.7 vs.2.6 on average). **CONCLUSIONS:** Our study suggests that patients with PNS form a stable population overtime with higher clinical burden. The lack of specific treatment pattern raises the issue of the need for specific disease management strategy of patients with PNS. Further analyses on clinical and economical burden of these patients are required.

PMH64

ANTI-ANXIETY MEDICATION UTILIZATION AMONG PATIENTS WITH ANXIETY DISORDER: ANALYSIS OF MEDICAL EXPENDITURE PANEL SURVEY

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OBJECTIVES: Anxiety disorders represent the most common psychiatric illness in the US Pharmacotherapy is the most common approach to treat anxiety disorders. Our objective is to determine the extent to which patients with anxiety disorder seek pharmacological treatment and to examine factors that are associated with the pharmacological treatment utilization. **METHODS:** We evaluated Medical Expenditures Panel Survey (MEPS) data (data pooled for survey calendar years 2005-2009). Adult MEPS respondents (age>17), identified as having anxiety disorder condition (n = 3412) were included in the study. Andersen behavioral model of health services utilization was used as the conceptual framework for the study. Dependent variables were defined as utilization of anti-anxiety medications (model A) and number of prescriptions for anxiety disorders (model B). Independent variables, i.e. predisposing, enabling and need variables, were defined for each model based on current literature and availability in MEPS. Logistic regression (model A) and Poisson regression (model B) analyses were conducted to find the predictors of medication utilization as well as the number of prescriptions. **RESULTS:** Sixty-one percent of adults with anxiety disorder take anti-anxiety medication (95% CI: 59%, 63%). For model A, significant variables were race (Native Hawaiian/Pacific Islander versus white, OR<0.001, p<0.001), education (no education versus elementary school, OR= 0.295, p=0.039), prescription drug insurance coverage (no coverage versus coverage for at least one round in year, OR= 0.768, p= 0.005), insurance coverage (private insurance versus public insurance, OR= 0.749, p= 0.034), having irritable bowel syndrome (IBS) (OR=2.951, p=0.016), and mood disorder (OR=2.194, p<0.0001). For model B, significant variables were cost index (β =-0.391, p<0.0001), number of comorbidities (β=0.163, p<0.0001) and age (β=-0.174, p= 0.043). **CONCLUSIONS:** Utilization rate of anti-anxiety medications among adult patients with anxiety disorder is high. Demographic variables are less likely to affect this utilization, while enabling and clinical need variables are highly influential.

PMH65

COMPARISON OF DEVIATION RATES FROM THE LABELED DAILY AVERAGE CONSUMPTION IN PATIENTS INITIATED ON STIMULANT MEDICATION FOR THE TREATMENT OF ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

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OBJECTIVES: To compare deviation rates from the labeled average daily consumption (DACON) in patients with ADHD initiated on lisdexamfetamine dimesylate (LDX) versus other once-daily FDA-approved stimulant medications. **METHODS:** Patients with ADHD initiated on a stimulant medication on or after February 23, 2007 were selected from a large US claims database. Based on age and previous treatment, patients were classified into treatment-naïve or previously-treated children/adolescents (6-17 years old), and adults (≥18 years old), respectively. Furthermore, based on the initiated medication, patients were classified into 4 cohorts: LDX, methylphenidate HCl (OROS MPH), other methylphenidate/dexmethylphenidate HCl long acting (MPH LA), and amphetamine long acting (AMPH LA). DACON was defined as the quantity of units supplied divided by the number of days of supply in the 12-month study period. The proportion of patients who deviated from the labeled DACON (ie, DACON >1 pill/day) and the likelihood of deviation from the labeled DACON were compared across cohorts using chi-square tests and multiple logistic regression models, respectively. **RESULTS:** Across all subgroups, the proportion of patients who deviated from the labeled DACON was significantly higher in each treatment cohort (range: 7.4%-29.4%) versus the LDX cohort (range: 2.9%-9.9%) (all p<0.001). After adjustments, uniformly across all subgroups, patients in each treatment cohort were significantly more likely to deviate from the labeled DACON versus LDX-treated patients. In children/adolescent groups, odds ratios ranged from 2.6 to 3.7 and 2.9 to 4.1 in the previously-treated and the treatment-naïve cohorts, respectively (all p<0.001). In adult groups, odds ratios ranged from 2.1 to 4.0 and 2.1 to 4.1 in the previously-treated and the treatment-naïve cohorts, respectively (all p<0.001). **CONCLUSIONS:** Findings suggest that LDX-treated patients were more likely to adhere to the dosing regimen recommended in FDA labels and were less likely to have a DACON >1 compared with patients treated with other once-daily stimulant ADHD medications.

PMH66

GROWTH IN ANTIDEPRESSANT USE IN 10 COUNTRIES IN THE LAST DECADE

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OBJECTIVES: Significant increase in antidepressant use has been described over the last two decades. To date, no study has compared trends in antidepressant use in countries with different economic characteristics. TheOBJECTIVES were to describe and compare the growth of antidepressants use by pharmacologic class from the late 1990s onward among 10 countries and the relation to the evolution of the Gross Domestic Product (GDP), total health expenditures (HE) and the pharmaceutical expenditures (PE) in each country. **METHODS:** Retrospective analysis of sales data extracted from IMS Health commercial database between 1999 and 2008 in US, France, Germany, UK, Spain, Italy, Greece, Poland, Hungary and the Czech Republic. Description of antidepressant volume in Defined Daily Dose (DDD) per capita, comparison of growth (% change between 1999 and 2008) and descriptive relationship with % change in GPD, PE and HE. **RESULTS:** Antidepressant use increased

from an average of 7.8 to 16.4 DDD/capita between 1999 and 2008. Three groups of countries were identified: high, medium and low use of antidepressants countries. Overall, antidepressant growth was observed (41% to 325% range) and was more pronounced in low-use countries. By 2008, SSRIs were the predominant class in all countries; followed by SNRIs whereas TCAs consumption went down. Over the studied period, GDP and HE growth were aligned across countries; PE growth was associated with antidepressant expenditures. **CONCLUSIONS:** Countries with lower GDP / capita (and higher GDP growth) and lower baseline antidepressant volumes are heading in the same direction as the higher income countries did in the past, recording a 200-300% volume growth between 1999 and 2008). This offers a unique opportunity to monitor the anticipated health outcomes of their prescription, which were missed in the past and which are valuable for future mental health policy.

PMH67

CHARACTERISTICS OF PRESCRIPTION AND NON PRESCRIPTION SLEEP MEDICATION USERS IN THE UNITED STATES

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OBJECTIVES: Sleep deprivation and disturbances can result in lowered productivity and increased errors/accidents. Existing research has documented higher use of sleep mediations among women; however, little is known about other factors such as race, ethnicity and its association with the use of sleep medications in a nationally representative study sample. The objective of this study was to investigate the relationship of various factors such as race, ethnicity, gender, employment status with the use of sleep medications in the US population. **METHODS:** A retrospective, cross-sectional study design was used. Data from the 2009 Medical Expenditure Panel Survey, a nationally representative survey of US population, were used for this analysis. The study population included all survey respondents over the age of 18. A multiple logistic regression model was built to analyze odds of reporting use of prescription or non prescription sleep medication. **RESULTS:** Of the total 20568 survey respondents, 8.28% (n= 1703) used some type of medication to fall asleep in the year 2009. The odds of reporting use of sleep medication were significantly higher among females (OR=1.404 CI 1.254-1.571) compared to males. The odds of sleep medication use were significantly lower among African American (OR= 0.529 CI 0.453-0.617), Asian American (OR= 0.387 CI 0.283-0.530) and Hispanic (OR= 0.717 CI 0.621- 0.828) women compared to Non Hispanic Caucasian women. Unemployment (OR=1.909 CI 1.674-2.178) and depression (OR=5.009 CI 4.446-5.643) were highly correlated with use of sleep medications. Additionally, compared to lower income levels, higher income levels had lower odds of sleep medication use. **CONCLUSIONS:** Unemployed Non-Hispanic Caucasian women in low income households are more likely to use prescription or non prescription sleep medications. Further research on why such differences exist is necessary. The factors identified in this study should be further investigated to identify vulnerable populations to investigate underlying causes of sleep disorders.

PMH68

DAILY AVERAGE CONSUMPTION AND COSTS OF DULOXETINE IN MOOD AND PAIN AMONG COMMERCIALLY INSURED PATIENTS IN 2011 IN THE UNITED STATES

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OBJECTIVES: To evaluate daily average consumption (DACON) and average daily costs (ADC) of duloxetine for patients with various pain and mood conditions subsequent to the recent FDA approval of duloxetine in the management of chronic musculoskeletal pain. **METHODS:** Retrospective analysis of commercially insured patients prescribed duloxetine between January 1, 2011 and September 30, 2011 using the IMS Longitudinal Prescription and Medical Claims Database. This analysis focused on patients diagnosed with only one of the following: chronic lower back pain (CLBP), osteoarthritis (OA), fibromyalgia (FM), diabetic peripheral neuropathic pain (DPNP), major depressive disorder (MDD), and generalized anxiety disorder (GAD). Patients were assigned to study cohorts based on ICD-9 codes recorded within -180/+07 days of the date of the first duloxetine prescription filled during the study interval. DACONs were defined as weighted averages of the total number of pills dispensed by total days of supply across pill strength for all patients within each cohort. DACONs were converted to ADCs using January 2011 average wholesale prices (AWP). A second analysis based on prescriptions between January 1, 2010 and September 30, 2010 was conducted for comparative purposes. **RESULTS:** A total of 553,253 duloxetine patients were included in the analysis. DACONs were 1.27 (for CLBP, 1.26 for OA, 1.28 for FM, and 1.27 for DPNP, versus 1.44 for MDD ($p<0.0001$ for each of the four pain conditions) and 1.32 for GAD. The resulting ADCs for the four pain conditions varied only slightly, from $6.99 for OA to $7.13 for FM. ADC for MDD was notably higher ($8.00). The overall DACON for 2011 represented a modest decline from 2010, most notably for CLBP and FM (to 1.35 and 1.33, respectively; $p<0.0001$ for both). **CONCLUSIONS:** 2011 DACONs and ADCs varied little across the four chronic pain conditions for which duloxetine has been approved for use by the FDA, all of which were significantly lower than for MDD.

PMH69

DEPRESSION TREATMENT AND SHORT-TERM HEALTH CARE EXPENDITURES AMONG ELDERLY MEDICARE BENEFICIARIES WITH CHRONIC ILLNESS

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OBJECTIVES: To determine the association between depression treatment and short-term health care expenditures using a nationally representative sample of Medicare beneficiaries with chronic physical illnesses and depression. **METHODS:** We employed a longitudinal design and used data from 2000 through 2005 of the Medicare Current Beneficiary Survey, a nationally representative survey of Medicare benefi ciaries. Two years of observation, yielding five cohorts were used to measure depression treatment in the baseline year and health care expenditures in the second. The bivariate relationship between depression treatment in baseline year and health care expenditures in the follow-up year was tested with t-tests. Ordinary least squares (OLS) regressions on logged dollars were used to assess the relationship between depression treatment and health care expenditures after controlling for demographic, socio-economic, health status, and lifestyle risk factors. **RESULTS:** Compared to no depression treatment ($16,795), the average total expenditures were higher for those who used antidepressants only ($17,425) and those who used psychotherapy with or without antidepressants ($19,733). After controlling for the independent variables, antidepressant use and psychotherapy with or without antidepressants were associated with 21% and 31% increase in total expenditures, respectively. For each expenditure type except for the other category, we observed a statistically significant relationship between depression treatment and expenditures. **CONCLUSIONS:** Among the elderly with chronic physical illnesses, depression treatment was associated with greater short-term health care expenditures. Future research needs to examine whether this relationship remains over a longer period of time.

PMH70

MEDICATION ADHERENCE AND PERSISTENCE IN PATIENTS TREATED WITH DULOXETINE

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OBJECTIVES: The purpose of this study was to compare adherence and persistence for patients treated with duloxetine across several diagnoses categories: major depressive disorder (MDD), fibromyalgia (FM), osteoarthritis (OA), and chronic lower back pain (CLBP). **METHODS:** Patients age 18-64 initiating duloxetine treatment during 2008 were identified in the Thomson Reuters MarketScan® Database. The index event was defined as the first duloxetine prescription filled during the study period with no duloxetine coverage during the previous 90 days. Patients were assigned to disease-category cohorts on the basis of ICD-9 codes recorded on medical claims dated within +1/- 3 month of the initial duloxetine prescription. Adherence was measured over both 365- and 90-day post duloxetine initiation periods as the percent of patients with a medication possession ratio ≥ 0.8. Persistence was measured over a 365-day post-initiation period as the percent of patients with length of therapy $\geq$ 180 days. $\chi 2$-tests were used to compare differences in adherence and persistence across patient cohort. **RESULTS:** A total of 18,406 patients with one of the 4 identified diagnosis categories were identified as initiating duloxetine in 2008: MDD (8,334), FM (3,630), OA (1,458) or CLBP (4,984). Adherence was directionally greater among patients with MDD (37.3%) versus FM (35.3%) or OA (35.7%), and statistically significantly greater than CLBP (29.9%; $p<0.005$). Comparisons of 90-day adherences were similar, with MDD (58.8%) directionally higher than FM (54.1%) or OA (57.8%), and statistically significantly greater than CLBP (50.0%; $p<0.005$). Comparisons of persistence were similar to adherence. For example, persistence was 47.5% for MDD versus 38.7% for CLBP ($p<0.005$). **CONCLUSIONS:** Duloxetine adherence and persistence were similar among patients with MDD, FM, and OA, and significantly less among those with CLBP. These relationships were consistent across variations in technical assumptions employed in calculating the study measures.

PMH71

TREATMENT UTILIZATION PATTERNS AND EXPENDITURES IN DEPRESSED OLDER ADULTS IN THE UNITED STATES: RESULTS FROM MEDICAL EXPENDITURE PANEL SURVEY

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OBJECTIVES: The study examined antidepressant utilization patterns and expenditures in older adults in United States (US). **METHODS:** The study involved analysis of household and prescription files of the 2009 Medical Expenditure Panel Survey (MEPS) data. The study sample included all older adults (>= 50 years) with depression. The analysis focused on antidepressant classes, namely selective serotonin reuptake inhibitors (SSRIs), tricyclic antidepressants (TCAs), serotonin-norepinephrine reuptake inhibitors (SNRIs), Monoamine Oxidase Inhibitors (MAO), phenylpiperazine and tetracyclics. Descriptive weighted analysis was performed to examine antidepressant use patterns and prescription expenditures in community dwelling depressed older adults. **RESULTS:** According to the 2009 MEPS, 11.36 million older adults were diagnosed with depression for an overall prevalence of 11.50% (95% CI, 12.34- 47.50). Most older adults with depression were 50-64 years of age (66.79%), female (67.25%), and white (89.85%). Antidepressants were used by 78.61% (95% CI, 75.79- 81.43) of older adults with depression. The most prescribed class of antidepressants was SSRIs (54.86%), followed by SNRIs (18.49%), phenylpiperazine (7.92%), TCAs (6.96%) and tetracyclics (3.19%). Total antidepressant prescription expenditures were $9.5 billion (95% CI, 8.3-10.7 billion). High expenditures were found for SNRI ($4.3 billion, or 44.62% of antidepressant expenditures), followed by SSRI ($3.5 billion, or 37.60%)), TCA ($172 million, or 1.8%), and phenylpiperazine ($131 million, or 1.37%). The average prescription price was also highest for SNRI ($181.56), followed by SSRI ($49.22), tetracyclic ($28.17), TCA ($19.13), and phenylpiperazine ($13.64). **CONCLUSIONS:** Depression is highly prevalent among older