at week 6, the functional remission rate was similar for participants receiving lurasidone 30-60 mg and lurasidone 80-120 mg (41.6% vs. 41.6%, respectively). Controlling for baseline BDS total score and study center, the adjusted odds ratio for functional remission among participants receiving lurasidone versus placebo was 3.96 (p=0.01, 95% CI [1.72, 9.13]) in the 20-60 mg lurasidone group and 2.46 (p=0.04, 95% CI [1.20, 4.71]) in the 80-120 mg lurasidone group in a meta-analysis including studies with both interventional and non-interventional designs. No adjustment was made for multiplicity.

**OBJECTIVES:** The study aimed at assessing the impact of lAIs versus OAAs on hospitalization rates among patients with schizophrenia treated with atypical antipsychotics. Studies reporting hospitalization rates as a percentage of patients hospitalized or as the number of hospitalizations per person-year were selected. A meta-analysis of the percentage decrease in hospitalization rates from baseline during treatment was conducted as a primary analysis. The secondary analysis was a meta-analysis of the absolute rate of hospitalization during follow-up. Pooled treatment-effect estimates were calculated using random-effect models. To account for differences in patient and study-level characteristics between studies, meta-regression analyses were used. Subsets were further explored with account for heterogeneity across study designs. No adjustment was made for multiplicity.

**Results:** Fifty-eight studies evaluating 25 LAIs (13 arms, 4,516 patients; OAs: 12 arms, 23,140 patients) were included in the primary analysis and 114,481 patients (LAIs: 12 arms, 63,949 patients; OAs: 66 arms, 96,230 patients) in the secondary analysis were identified. Reduction in hospitalization rates for LAIs was 20.7 percentage points higher than that of OAs (random-effect estimates: LAIs -56.2% vs. OAs -35.5%, P=0.023). Controlling for patient and study-level characteristics, the adjusted percentage reduction in hospitalization rates for LAIs was 20.7 percentage points higher than that of OAs (random-effect estimates: LAIs = 35.5% vs. OAs = 14.8%, P=0.023). Patients with a higher SDZ total score and study center, the adjusted odds ratio for hospitalization rates was associated with PAMAP (crude RR: 0.64 [95% CI 0.44-0.93]; adjusted RR: 0.78 [95% CI 0.57-1.07]). Nearly 75% of patients were adherent but adherence was not associated with disease severity nor with reduced hospitalization rates. The effect of PAMAP on hospitalization rates was greater among non-adherent (adjusted RR: 0.45 [95% CI 0.36-1.28]) than adherent patients (adjusted RR: 0.89 [95% CI 0.51-1.53]). CONCLUSIONS: Adherence among schizophrenia patients partaking in a PAMAP for LAI was high. PAMAP may reduce psychiatric hospitalization risk for schizophrenia patients with problems adhering to long-acting injectable antipsychotics treatment regimens.

**PMH10**

**EVALUATING THE IMPACT OF CANNABIS USE ON METABOLIC SYNDROME USING DATA FROM THE CONTINUOUS NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY**

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**OBJECTIVES:** Cannabis is the most commonly used illicit substance in the United States. Usage rates have climbed in recent years, underscoring the need for knowledge regarding its health effects. The present study aimed to evaluate the relationship between cannabis use and metabolic syndrome using data from the Continuous National Health and Nutrition Examination Survey (NHANES) for 2005 to 2013. The study used the relationship between cannabis use and factors of metabolic syndrome, including fasting insulin, insulin resistance, homocystein A1c, triglycerides, HDL cholesterol, BMI, waist circumference, and blood pressure. The relationships were first estimated with ordinary least squares (OLS) models. Next, instrumental variables (IV) methods were utilized to test and account for the potential endogeneity of cannabis use in the model. The IV methods used sexual behavior variables as instruments for past and current use of cannabis. The second used past cannabis use as an instrument for current use. RESULTS: OLS models show lower fasting insulin, insulin resistance, BMI, and waist circumference in past cannabis users compared to non-users who never have used cannabis. In the first IV model, the coefficients on cannabis use are mostly non-significant. When past cannabis use is an instrument for current use, the results for fasting insulin, insulin resistance, and BMI are significant. We used a 1.1-glycing metabolic algorithm. An unequal drug resistance distribution in the two populations allowed only 222 patients to match well on the first attempt. A subsequent re-matching of the remaining TMS subjects to the full STAR*D control population was performed to produce a complete match. This “double-dipping” approach enabled a successful complete match for all 305 TMS patients. RESULTS: The matched STAR*D and TMS populations were similar at baseline. QIDS-SR outcomes at 6 weeks showed that the TMS group had a greater clinical improvement (P<0.0001). At 6-weeks 15% of TMS patients had no or mild depression versus 38% for STAR*D (p=0.0023). Sensitivity analysis was used to estimate the potential effects of any remaining selection biasing factors, and confirmed an unlikely impact on results. CONCLUSIONS: The varying distribution of the severity of baseline treatment resistance between the TMS and STAR*D populations made it impossible to achieve a complete match in the first matching attempt. Subsequent, “double-dipping” allowed tight matching on baseline variables. We accepted the risk to internal validity posed by the remaining selection bias or confounding and the small impact to variability due to non-independence, in exchange for gaining an increased external validity for this difficult to match group. Matching hard-to-match groups requires a trade-off between risks to internal and external validity.

**PMH12**

**BENEFITS OF A PATIENT-ASSISTED MEDICATION ADHERENCE PROGRAM FOR LONG-ACTING INJECTABLE RISPERIDONE ON HIGH-COST OUTCOMES IN SCHIZOPHRENA**

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**OBJECTIVES:** Poor adherence to antipsychotics in schizophrenia is common and is associated with increased healthcare costs. The objective was to evaluate the effectiveness of a patient-assisted medication adherence program (PAMAP) on psychiatric hospitalization rates among schizophrenic patients treated with long-acting injectable risperidone (RLAI). METHODS: Between 2009-2012, 1,016 patients with schizophrenia who were treated with RLAI were recruited from 36 centers in France and followed for 1 year. The PAMAP consisted of calling patients 48 hours prior to their scheduled RLAI injection appointment and within 3 days of the missed appointment. Adherent centers applied PAMAP to ≥50% of injections. Adherent patients received ≥80% of their injections within 5 days of the scheduled date. Otherwise, patients and centers were non-adherent. Poisson regression was used to derive rate ratios (RR) comparing rates of hospitalization rates among adherent and non-adherent patients and centers. Propensity scores were used to derive adjusted RRs. RESULTS: Of 506 recruited patients, 95.7% were followed up to 1 year (average age: 38.7 ± 6.6 years; 60% men). Overall hospitalization rate over follow-up was 32.5% per 100-person-years. Fifteen centers treating 243 patients and 21 centers treating 263 patients were adherent and non-adherent, respectively. Lower hospitalization rates were associated with PAMAP (crude RR: 0.64 [95% CI 0.44-0.93]; adjusted RR: 0.78 [95% CI 0.57-1.07]). Nearly 75% of patients were adherent but adherence was not associated with disease severity nor with reduced hospitalization rates. The effect of PAMAP on hospitalization rates was greater among non-adherent (adjusted RR: 0.45 [95% CI 0.36-1.28]) than adherent patients (adjusted RR: 0.89 [95% CI 0.51-1.53]). CONCLUSIONS: Adherence among schizophrenia patients partaking in a PAMAP for RLAI was high. PAMAP may reduce psychiatric hospitalization risk for schizophrenia patients with problems adhering to long-acting injectable antipsychotics treatment regimens.

**PMH11**

**THE TRADEOFF BETWEEN INTERNAL AND EXTERNAL VALIDITY IN COMPARING THE EFFECTIVENESS OF TRANSCRANIAL MAGNETIC STIMULATION (TMS) WITH ANTIDEPRESSANT DRUG THERAPY IN THE TREATMENT OF MAJOR DEPRESSION USING PROPENSITY SCORE METHODS**

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**OBJECTIVES:** Transcranial magnetic stimulation (TMS) is FDA cleared for use in patients who have previously failed to respond to standard antidepressants. Two sham-controlled, randomized, double-blind, placebo-controlled studies: STAR*D and Sequenced Treatment Alternatives to Relieve Depression (STAR*D) study. METHODS: TMS patients were propensity-score matched to STAR*D patients on baseline characteristics and had a 1.1-glycing metabolic algorithm. An unequal drug resistance distribution in the two populations allowed only 222 patients to match well on the first attempt. A subsequent re-matching of the remaining TMS subjects to the full STAR*D control population was performed to produce a complete match. This “double-dipping” approach enabled a successful complete match for all 305 TMS patients. RESULTS: The matched STAR*D and TMS populations were similar at baseline. QIDS-SR outcomes at 6 weeks showed that the TMS group had a greater clinical improvement (P<0.0001). At 6-weeks 15% of TMS patients had no or mild depression versus 38% for STAR*D (p=0.0023). Sensitivity analysis was used to estimate the potential effects of any remaining selection biasing factors, and confirmed an unlikely impact on results. CONCLUSIONS: The varying distribution of the severity of baseline treatment resistance between the TMS and STAR*D populations made it impossible to achieve a complete match in the first matching attempt. Subsequent, “double-dipping” allowed tight matching on baseline variables. We accepted the risk to internal validity posed by the remaining selection bias or confounding and the small impact to variability due to non-independence, in exchange for gaining an increased external validity for this difficult to match group. Matching hard-to-match groups requires a trade-off between risks to internal and external validity.