than low volume prescribers. Primary care providers were substantially less likely than high volume prescribers to prescribe clonazepam (OR = 0.55, p < 0.01) but just as likely to prescribe antipsychotic polypharmacy. CONCLUSIONS: Antipsychotic polypharmacy is used as much as clonazepam in the care of Medicaid beneficiaries with schizophrenia, but many prescribers only use the former. Clinical and policy initiatives are needed to improve the evidence base, provide guidance on clonazepam and increase its use while decreasing use of antipsychotic polypharmacy.

PMH72
PREVALENCE AND CORRELATES OF NON-MEDICAL USE OF PRESCRIPTION STIMULANTS AMONG UNIVERSITY STUDENTS
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OBJECTIVES: To examine prevalence and rates of co-relates of non-medical use of prescription stimulants for attention-deficit/hyperactivity disorder (ADHD) in a university student population with respect to student demographics and academic characteristics.

METHODS: A cross-sectional research design, utilizing a convenience sampling and self-administered paper and pencil questionnaire technique, was adopted. The survey consisted of a screening tool to measure symptoms of ADHD. Doctor shopping is a principle method of obtaining controlled substances (CS) for misuse and is an indicator of escalating drug abuse and fatal overdose. Currently, numerical thresholds are used to identify doctor shoppers, but the lack of consensus on criteria has led to wide variations in estimated rates. The goal of this study was to investigate the feasibility of using social network analysis (SNA) to improve the specification and predictive validity of doctor shopping.

RESULTS: A sample of 638 completed surveys (response rate=98.15%) was obtained with data on unauthorized use of prescription drugs. About 8.62% (N=55) of the sample reported a current and past use of drugs such as Adderall, Ritalin, Dexedrine, Concerta, Adderrall at least once. Of these, 74.6% used the drugs non-medically for enhancing academic performance and 23.1% used them for increasing alertness. The illicit drug usage was higher in the age group 18-23 (87.2%) and was greater for males (64.1%). Overall, students from pharmacy school reported highest abuse (46.2%), followed by law school (20.5%), school of professional studies (12.8%) and business school (10.3%). Generally, undergraduates reported higher rates of prescription stimulant misuse compared to graduates (66.7%). A majority of the students were also attending professional degree programs. CONCLUSIONS: The current campus estimates are mostly in line with the national statistics (4.1% to 10.8%, according to the Center for Lawful Access and Abuse Deterrence, CLAAD, 2013). Misuse rates are expected to rise as more students are exposed to the influence of close friends and peers. A problem and largely remains unaddressed. Development of campus educational tools to prevent sharing of prescription drugs and guidelines to recognize early warning signs to curb abuse are necessary.

PMH73
CAN SOCIAL NETWORK ANALYSIS BE USED TO IDENTIFY DOCTOR SHOPPERS?
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OBJECTIVES: To develop a principle method of obtaining controlled substances (CS) for misuse and is an indicator of escalating drug abuse and fatal overdose. Currently, numerical thresholds are used to identify doctor shoppers, but the lack of consensus on criteria has led to wide variations in estimated rates. The goal of this study was to investigate the feasibility of using social network analysis (SNA) to improve the specification and predictive validity of doctor shopping.

METHODS: i3 Innovus InVision™ data for the year 2009 was used to estimate prevalence rates and correlates of non-medical use of prescription stimulants. The network visualization map revealed a large network of 7,288 doctors connected by indirect ties. The network combination has been identified as a signal for misuse and diversion. A network of physicians was created using indirect ties from the combination data and identified as a signal for misuse and diversion. A network of physicians was created using indirect ties from the combination data and identified as a signal for misuse and diversion.

RESULTS: The network combination has been identified as a signal for misuse and diversion. A network of physicians was created using indirect ties from the combination data and identified as a signal for misuse and diversion. A network of physicians was created using indirect ties from the combination data and identified as a signal for misuse and diversion.

CONCLUSIONS: The current campus estimates are mostly in line with the national statistics (4.1% to 10.8%, according to the Center for Lawful Access and Abuse Deterrence, CLAAD, 2013). Misuse rates are expected to rise as more students are exposed to the influence of close friends and peers. A problem and largely remains unaddressed. Development of campus educational tools to prevent sharing of prescription drugs and guidelines to recognize early warning signs to curb abuse are necessary.

PMH74
PREVALENCE OF SELF-REPORTED ADULT ADHD SYMPTOMS AMONG UNIVERSITY STUDENTS: A MULTIDISCIPLINARY COMPARISON
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OBJECTIVES: To estimate prevalence of Adult ADHD (AADDH) symptoms among university-based students across multiple academic disciplines. METHODS: A cross-sectional research design, utilizing convenience sampling and self-administered paper and pencil questionnaire technique, was adopted. Adult students ≥ 18 years were recruited from a university campus in New York City area. AADDH Self Report Scale- v1.1 (ASRS v1.1), a pre-validated screening instrument, was used to assess performance along inattention, hyperactivity/impulsivity and combined symptom sets of the Adult ADHD DSM-IV. A prevalence of 17 or more on the ASRS v1.1 scale indicates the likelihood of ADHD, whereas a score of 24 or more indicates immense likelihood of ADHD. Individual component scores of ASRS were compared for students from six different schools within the university. RESULTS: The final sample consisted of 638 students from six different schools represent- ing multiple academic programs. Using ASRS v1.1 symptom cut-off thresholds, a prevalence rate of self-reported ADHD symptoms ranging from 24.2% to 66.2% (indicating likelihood and immense likelihood of ADHD respectively) was observed for the general student sample. Only 3.4% of the participants had been previously diagnosed with ADHD. The prevalence of self-reported ADHD symptoms was higher in the age group of 18-23 years (81.3%) and was greater for females (53.1%) compared to graduate students (28.4%). Students in healthcare discipline reported the greatest ADHD symptomatology (54.6%) compared to students in non-healthcare fields. CONCLUSIONS: Symptoms of AADDH appear to be more prevalent in students of healthcare disciplines, whereas evidence would suggest that these symptoms are affected, most are either unaware of the condition or undiagnosed. These findings have implications for students’ overall health and academic performance.

PMH75
THE CONCENTRATION OF ANTIPSYCHOTIC PRESCRIBING: EVIDENCE FROM MEDICAID
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OBJECTIVES: Given considerable variability in treatment response and medication side effects across individual patients using antipsychotics, customizing treatment to the needs of each individual is key to improving patient outcomes. This study examined the degree to which psychiatrists were diversified vs. concentrated in their choice of antipsychotic medication and identified factors associated with these prescribing practices. METHODS: Data from the Kansas Medicaid program were used to identify psychiatrists who regularly prescribed antipsychotics (defined as ≥10 nonelderly patients). Using provider identifier we linked claims data, from which we obtained information on patient characteristics and psychiatrist prescribing behavior, to demographic information on psychiatrists from the AMA Masterfile, and to information on organizational affiliations from IMS Health’s HCOS™ database. We estimated logistic regression models, including a multivariable index (MVI), share of most preferred ingredient, and number of ingredients. We used multiple membership linear mixed models to evaluate the degree of concentration for antipsychotic prescribing. Predictors included patient-, physician-, and facility-level factors. The analytic sample included all psychiatrists treating 65,256 patients. Psychiatrists prescribed several ingredients (mean: 9.9), however, prescribing behavior was relatively concentrated (mean MVI: 2.603, share of most preferred ingredient: 53.78%), with wide variation across psychiatrists (range MVI: 1.088-7.270, share of most preferred ingredient: 16.4%-84.7%, number of ingredients: 2-17). Having a higher share of SSI-eligible patients, patients with serious mental illnesses, non-Hispanic whites, and older patients was associated with more concentrated prescribing, though effect sizes were small (p<0.10). Female psychiatrists had more concentrated prescribing than that of their male counterparts (p<0.10). Psychiatrists affiliated with behavioral health organizations had more diversified antipsychotic prescribing. CONCLUSIONS: Antipsychotic pre- scripting behavior in a large state Medicaid program was relatively concentrated and varied substantially across psychiatrists. Some psychiatrists treating Medicaid enrollees with antipsychotics may be limited in their ability to tailor treatment to individual patient needs and preferences.

PMH76
IMPACT OF KENTUCKY HOUSE BILL 1 ON CONCURRENT PRESCRIBING OF OPIOID, ALPRALZOLAM, AND CARISOPRODOL
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OBJECTIVES: Kentucky House Bill 1 (HB1) was enacted in July 2012 to address prescription drug abuse and diversion. This legislation included stronger pain clinic regulations, mandatory prescriber registration with Kentucky’s prescription drug monitoring program (PDMP) and mandatory use of PDMP data prior to issuing a new controlled substance prescription. The purpose of this study was to assess the impact of HB1 on the concurrent prescribing of three controlled substances: an opioid (hydrocodone or oxycodone), alprazolam, and carisoprodol (OAC). This combination has been identified as a signal for misuse and diversion. METHODS: De-identified PDMP data from July 2009 through June 2013 was analyzed to determine the number of patients who concurrently received prescriptions for OAC. Concurrent was defined as receiving prescriptions for each OAC component within 30 days. 12-month OAC totals were compared for each fiscal year (defined in KY as July 1 – June 30). Fiscal years were chosen for analysis based on the date of implementation of legislation (July 2012). Differences in mean number of patients receiving concurrent OAC prescriptions were analyzed using two-tailed t-tests for fiscal years pre and post legislation. RESULTS: The number of patients receiving concurrent OAC prescriptions for the year 2012 was 22,423 (FY2010), 25,465 (FY2011), 22,799 (FY2012), and 15,983 (FY2013). The number of patients receiving concurrent OAC prescriptions was significantly lower (p<0.001) in FY2013 relative to FY2012. CONCLUSIONS: Implementation of Kentucky House Bill 1 was associated with a 9% decrease in concurrent prescribing of a combination of CS commonly associated with misuse and diversion. Further studies to determine the relative impact of pain clinic regulations from the impact of mandatory registration and use legislation are warranted to determine the effectiveness of these approaches in curbing the abuse and diversion of prescription drugs.

PMH77
PHYSICIAN-CARE PROVIDING BEHAVIOR IN TREATING ATTENTION-DEFICIT HYPERACTIVE CHILDREN AND ADOLESCENTS
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OBJECTIVES: This study aims to explore physician care-providing behavior in treating children with Attention-deficit/hyperactivity disorder (ADHD). METHODS: The study was conducted using the GE electronic medical records (GE-EMR) 1995-2010. The cohort consisted of all children and adolescents (age<18 years), who were prescribed either stimulants or atomoxetine chloride and had at least 6 months of follow-up visits. Incident ADHD cases, defined as those who had not been diagnosed with ADHD or received ADHD prescription in the last 6 months, were followed for a period of 12 months to observe their physician care-providing behavior. RESULTS: 40% of the children were concurrently taking 3+ drugs. 5% of the children received a combination of stimulants and atomoxetine chloride, while 48% of the children received at least one AP. 48% of the children had a switch, 15.6% had an augmentation and 64.4% stopped treatment. The majority of the children who received pharmacotherapy were prescribed stimulants (85%), while 10% were prescribed atomoxetine and less than 1% were on a combination of the two. The most commonly prescribed concurrent non-ADHD medications were antidepressants (31%) and antipsychotics (26%). 5% of the children received ADHD medications and 10% were prescribed ADHD combination therapy immediately after the ADHD cases were identified. Medication concurrent psychotherapy is low in patients seen by either PCPs or mental health specialists.

PMH84

PMH85

OBJECTIVES: Little evidence exists to support the increasing concurrent use of multiple antipsychotics (APs) among children. Case reports suggest that use of multiple APs could lead to an increased risk of delirium, serious behavioral changes, cardiac arrhythmias, and death. In 2013, the National Collaborative Initiative for Indicators of Quality and Safety (NCIN) proposed a quality measure of concurrent use of multiple (2+) APs among children for use in Medicaid and CHIP programs. The Pharmacy Quality Alliance (PQA) has been working on a similar measure using 3+ APs. The objectives were to analyze the performance in the Medicaid program on both the 2+ and 3+ proposed quality measures. METHODS: A retrospective analysis was conducted using Montana Medicaid data for July 2013 through June 2014. For both analyses the denominator contained beneficiaries ages 0 to 21 as of January 1, 2014 and had a minimum of 12 months of continuous enrollment. Patients who were continuously enrolled 3 months and were on any AP for at least 90 days. The numerators contained those beneficiaries who were concurrently on 2+ APs or 3+ APs for a period of at least 90 days during the measurement year. RESULTS: The denominator included 4,435 children who were on at least 1 AP. About 46.1% (10.5%) and 159 (3.6%) beneficiaries were concurrently on 2+ or 3+ APs, respectively. The performance rates on the two measures did not significantly differ for the fee-for-service and managed care plans. Also, the performance rates were similar across the three health plans. CONCLUSIONS: There is considerable debate about the safety of concurrent use of 2+ APs in this population. However, there is no clinical support for concurrent use of 3+ APs. Although the percentage of children concurrently taking 3+ APs is small, possible drug utilization management actions are needed to further reduce this occurrence.

PMH78

PMH79

OBJECTIVES: The aim of this study was to describe the real-world prescription patterns of buprenorphine for patients suffering from schizophrenia in Japan. METHODS: Patients age 15-65 years and taking buprenorphine for a period of at least 90 days during the period of three months (1st July to 30th September 2014). The patients had a switch, 11.6% had an augmentation and 61.8% stopped treatment. The median duration of first-line treatment was 3 months. Most frequently prescribed therapies in second-line were antipsychotic combinations (27.1%), olanzapine (22.3%), quetiapine (13.7%) and risperidone (9.1%), and 6.3% were antipsychotic combinations. CONCLUSIONS: SGA monotherapy was frequently prescribed as first-line treatment, consistently with clinical guidelines. However, a small fraction of patients without treatment may be a target for concern.

RESEARCH POSTER PRESENTATIONS - SESSION III

DISEASE-SPECIFIC STUDIES

CARDIOVASCULAR DISORDERS – Clinical Outcomes Studies

PCV1

OBJECTIVES: To examine the risk of hospitalization due to cardiovascular events associated with the use of dipeptidyl peptidase-4 (DPP-4) inhibitors, compared to other anti-diabetic agents. METHODS: Patients age >18 years and taking diabetes medication were identified in the IMS Lifelink Plus® database for the years 2006-2013. Cardiovascular events were defined in at least 30 days after initiation of therapy. Patients were continuously enrolled for 6 months prior and 24 months post the date of first antidiabetic prescription (‘index’ date) and with cardiovascular events occurring at least 30 days after initiation of therapy. Patients were followed for 24 months post index date. Patients with at least 30 days of DPP-4 inhibitors as their starting therapy were identified as DPP-4 inhibitors users, while patients with at least 30 days of any other anti-diabetic therapy and no DPP-4 inhibitors in the 24-month follow-up period were identified as other anti-diabetic users. Unadjusted and adjusted logistic regression models were employed to estimate the risk of cardiovascular-related hospitalizations for those on DPP-4 inhibitors, compared with those on other anti-diabetic agents. The model was adjusted for demographics, comorbidities, and region of residence. RESULTS: The final sample consisted of 45,767 patients with mean age of 50.71 years and 55.1% females. Of these, 1933 patients had DPP-4 inhibitors while 43,794 had other anti-diabetic therapy. At baseline 2.43% patients had hypertension, 36.06% had dyslipidemia and 28.63% had valve disorder. Patients taking DPP-4 inhibitors had an increased risk for having a cardiovascular event as compared with those on other anti-diabetic agents (unadjusted odds ratio 1.524, 95% confidence interval [CI] 1.311-1.756; adjusted odds ratio 1.331, 95% CI 1.085-1.699). CONCLUSIONS: DPP4 inhibitors may increase the risk of cardiovascular events as compared to other anti-diabetic agents, which warrants close monitoring of diabetic patients on DPP-4 inhibitors.

PCV2

OBJECTIVES: To examine the incidence of different types of adverse drug reactions (ADR) in a group of treated hypertensive patients. METHODS: This is a cross-sectional study conducted in collaboration with Department of Internal Medicine and Cardiology of Medgar Evers College of Health Professions of Jackson State University, located at the Mississippi University for Medical Sciences, the University of Mississippi Medical Center, Jackson, MS, USA. A retrospective analysis was performed on a database containing demographics, comorbidities, and region of residence. RESULTS: The final sample consisted of 45,767 patients with mean age of 50.71 years and 55.1% females. Of these, 1933 patients had DPP-4 inhibitors while 43,794 had other anti-diabetic therapy. At baseline 2.43% patients had hypertension, 36.06% had dyslipidemia and 28.63% had valve disorder. Patients taking DPP-4 inhibitors had an increased risk for having a cardiovascular event as compared with those on other anti-diabetic agents (unadjusted odds ratio 1.524, 95% confidence interval [CI] 1.311-1.756; adjusted odds ratio 1.331, 95% CI 1.085-1.699). CONCLUSIONS: DPP4 inhibitors may increase the risk of cardiovascular events as compared to other anti-diabetic agents, which warrants close monitoring of diabetic patients on DPP-4 inhibitors.

A219


DISEASE-SPECIFIC STUDIES

CARDIOVASCULAR DISORDERS – Clinical Outcomes Studies

PCV1

IMPACT OF Dipeptidyl Peptidase-4 INHIBITORS ON THE RISK OF CARDIOVASCULAR-RELATED HOSPITALIZATIONS

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OBJECTIVES: To examine the risk of hospitalization due to cardiovascular events associated with the use of dipeptidyl peptidase-4 (DPP-4) inhibitors, compared to other anti-diabetic agents. METHODS: Patients age >18 years and taking diabetes medication were identified in the IMS Lifelink Plus® database for the years 2006-2013. Cardiovascular events were defined in at least 30 days after initiation of therapy. Patients were continuously enrolled for 6 months prior and 24 months post the date of first antidiabetic prescription (‘index’ date) and with cardiovascular events occurring at least 30 days after initiation of therapy. Patients were followed for 24 months post index date. Patients with at least 30 days of DPP-4 inhibitors as their starting therapy were identified as DPP-4 inhibitors users, while patients with at least 30 days of any other anti-diabetic therapy and no DPP-4 inhibitors in the 24-month follow-up period were identified as other anti-diabetic users. Unadjusted and adjusted logistic regression models were employed to estimate the risk of cardiovascular-related hospitalizations for those on DPP-4 inhibitors, compared with those on other anti-diabetic agents. The model was adjusted for demographics, comorbidities, and region of residence. RESULTS: The final sample consisted of 45,767 patients with mean age of 50.71 years and 55.1% females. Of these, 1933 patients had DPP-4 inhibitors while 43,794 had other anti-diabetic therapy. At baseline 2.43% patients had hypertension, 36.06% had dyslipidemia and 28.63% had valve disorder. Patients taking DPP-4 inhibitors had an increased risk for having a cardiovascular event as compared with those on other anti-diabetic agents (unadjusted odds ratio 1.524, 95% confidence interval [CI] 1.311-1.756; adjusted odds ratio 1.331, 95% CI 1.085-1.699). CONCLUSIONS: DPP4 inhibitors may increase the risk of cardiovascular events as compared to other anti-diabetic agents, which warrants close monitoring of diabetic patients on DPP-4 inhibitors.

PCV2

A STUDY OF ADVERSE DRUG REACTIONS ASSOCIATED WITH ANTIHYPERTENSIVE AGENTS IN A TERTIARY CARE TEACHING HOSPITAL IN CENTRAL NEPAL

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OBJECTIVES: To examine the incidence of different types of adverse drug reactions(ADR) in a group of treated hypertensive patients. METHODS: This is a cross-sectional study conducted in collaboration with Department of Internal Medicine and Cardiology of Medgar Evers College of Health Professions of Jackson State University, located at the Mississippi University for Medical Sciences, the University of Mississippi Medical Center, Jackson, MS, USA. A retrospective analysis was performed on a database containing demographics, comorbidities, and region of residence. RESULTS: The final sample consisted of 45,767 patients with mean age of 50.71 years and 55.1% females. Of these, 1933 patients had DPP-4 inhibitors while 43,794 had other anti-diabetic therapy. At baseline 2.43% patients had hypertension, 36.06% had dyslipidemia and 28.63% had valve disorder. Patients taking DPP-4 inhibitors had an increased risk for having a cardiovascular event as compared with those on other anti-diabetic agents (unadjusted odds ratio 1.524, 95% confidence interval [CI] 1.311-1.756; adjusted odds ratio 1.331, 95% CI 1.085-1.699). CONCLUSIONS: DPP4 inhibitors may increase the risk of cardiovascular events as compared to other anti-diabetic agents, which warrants close monitoring of diabetic patients on DPP-4 inhibitors.