

(ED) from January 2013 to August 2014 with confirmed dengue test. Analyses were made in three steps: results description; agreement analysis with Kappa test; and several regression analyses. Outcome (severe dengue) was defined as critical care entrance. **RESULTS:** 761 children with confirmed dengue were analyzed. 50.6% were male, 67.2% stayed more than one day in the hospital. Median age was 7.9 years (IQR, 5.0–10.7). Kappa statistics between the two definitions for hospitalized patients ($n = 504$) was 0.30 (standard error=0.04). 137 (18%) patients were admitted with DHF/DSS, according to WHO 1997. DHF/DSS had a sensitivity of 33.3% (95% CI, 30.0–36.7) and specificity of 83.2% (95% CI, 80.5–85.8) in inpatient with severe dengue. Adjusted binomial regression showed a relative risk of 2.3 (95% CI, 1.3–3.9) for the outcome in patients with DHF/DSS. WHO 2009 definition showed a sensitivity of 31.5% (95% CI, 28.2–34.8) and specificity of 94.3% (95% CI, 92.7–96.0). Median number of warning sign at emergency admission was 2 (IQR, 1–2). Number of warning signs was significantly different between patients who entered critical care versus patients who did not ($P < 0.001$). **CONCLUSIONS:** The WHO 2009 showed significant overperformance compared WHO 1997.

PHS9

IS PHARMACEUTICAL CARE EFFECTIVE FOR IMPROVING BLOOD PRESSURE CONTROL AND MEDICATION ADHERENCE AMONG HYPERTENSIVE PATIENTS? A REVIEW

Eziyi A, Adunlin G

Florida A & M University, Tallahassee, FL, USA

OBJECTIVES: Medication adherence among hypertensive patients is poor stemming from various factors. The aim of this review was to appraise published randomized control trials (RCTs) on hypertensive patients to determine the effectiveness of a pharmacist led intervention for improving medication adherence and blood pressure control. **METHODS:** Only English language RCTs published between January 1st, 1995 and December 31st, 2013 were considered for inclusion. Electronic databases searched included: PubMed, Web of Science, Elsevier, CINAHL, and Google Scholar. Studies were eligible if they comprised a separate group of controls. The intervention, pharmaceutical care or counseling provided by a pharmacist, had to be compared with the usual treatment for hypertension or a combination of usual treatment and sham interventions. Only studies that compared outcomes after at least a six month follow up period using at least one or a combination of the following for assessing adherence: pill count, medication refill rate, or a validated adherence scale were included. **RESULTS:** Of 457 citations reviewed, 9 RCTs met the inclusion criteria. The included RCTs were conducted in various parts of the world, including China, Brazil, Portugal and the United States. Across the 9 RCTs, a total of 581 individuals for the intervention group and 587 individuals in the control group were compared in the analyses. The outcome measures were systolic and diastolic blood pressure, and medication adherence assessed using a validated tool. The results showed that for the intervention group, which received pharmaceutical care services, there was a significant decline in systolic and diastolic blood pressure and improved medication adherence from baseline, in comparison to the control group. **CONCLUSIONS:** Pharmaceutical care may improve adherence and blood pressure control in hypertensive individuals. The evidence supports the wider provision of pharmaceutical care for hypertension management in various practice settings.

PHS10

EFFECTS OF SOCIAL NETWORKS ON PATIENT ADHERENCE TO PRESCRIBED TREATMENT FOR SERIOUS MENTAL ILLNESS: A SYSTEMATIC REVIEW

LytleNguessan CJ, Campbell ES

Florida A&M University, Tallahassee, FL, USA

OBJECTIVES: Mental illness is a global public health concern with clinical and economical burden. Medication non-adherence increases the risk outcomes (e.g. relapse, re-hospitalization and delayed illness recovery) of mental health care. The purpose of this study was to determine the effects (positive, negative or none) of social networks on patient adherence to prescribed treatment for serious mental illness (SMI). **METHODS:** We systematically reviewed studies published from January 2003 to December 2012. We evaluated five established social network interventions (education and behavioral support, social support, collaborative care; case management, care management) with three outcomes (improved patient adherence to prescribed mental health treatment protocol, hindered/impaired patient adherence to prescribed mental health treatment protocol & no effect on patient adherence to prescribed mental health treatment protocol). We assessed the number of studies that reported improved, hindered or no effect outcome by summarizing the studies and listing their main outcomes. We also assessed the quality of the studies by checking yes (or no) whether they met methodological quality criteria, and assigned a percentage score that indicated the strength of quality. Quality was based on reporting and design standards and statistical soundness. **RESULTS:** Thirteen studies met the inclusion criteria of enrolling patients suffering from SMI and reporting effects of social network relating to patient adherence to prescribed mental healthcare treatment. Nine studies reported improved, three reported no effect and only one reported hindered outcome. All studies met the general quality criteria but their strength varied. **CONCLUSIONS:** The findings indicate that social networks improved patient adherence to prescribed mental illness treatment but there are limitations to these findings. The potential for publication bias underscores the need to more closely examine the results of evidence-based research.

PHS11

PREDICTORS OF ALLOPURINOL ADHERENCE IN PATIENTS WITH GOUT

Singh Ja

UAB SCHOOL OF MEDICINE, Birmingham, AL, USA

OBJECTIVES: To assess the factors associated with high allopurinol adherence. **METHODS:** Allopurinol prescription was defined as at least 30 days of a filled allopurinol prescription. Patients were censored when they switched from allopurinol to one of the other ULT. Index allopurinol prescription was defined

as not exposed to allopurinol for 121 days (which contains 30 days grace period for refilling and 91 days for washout) **RESULTS:** In multivariable-adjusted that adjusted for all factors except medication and disease severity factors (model 5), we found that the following factors were significantly associated with higher odds of allopurinol MPR $\geq 80\%$: older age, Caucasian race, being currently married; gout care from primary care provider specialty, smaller facility bed size, community-based outpatient clinic and Midwest location; means test, service connection $\geq 50\%$ and longer distance to the nearest VA. Higher BMI had a non-significant trend towards higher odds of allopurinol MPR $\geq 80\%$. **CONCLUSIONS:** In this study, we identified several novel factors associated with allopurinol adherence. This new knowledge can be used to improve the likelihood of success of lowering serum urate with allopurinol pharmacotherapy by targeting modifiable risk factors identified in our study.

PHS12

COMPARISON OF THE IMPACT OF HUMAN VERSUS ANALOGUE INSULINS ON GLYCOSYLATED HEMOGLOBIN IN A POPULATION WITH DIABETES MELLITUS COLOMBIA

Machado J, Medina D

Universidad Tecnológica de Pereira, Pereira, Colombia

OBJECTIVES: To compare the effect on metabolic control between conventional and analogues insulins. **METHODS:** Retrospective cohort study in primary care centers in cities of Pereira and Manizales from Colombia. Monitoring period 18 months to patients diagnosed with diabetes mellitus type 1 and 2 selected by stratified random sampling, of pay regime members of the Health System of Colombia, treated with conventional and analogues insulins (glargine, glulisine, aspartate, detemir) for at least 6 months. Collecting data from the clinical records and analytical results for each patient. Comparison groups according to the type of insulin received were created (insulin glargine vs NPH; NPH / glargine vs regular / glulisine). Primary and secondary variables: initial HbA1c measurement and comparison at 6 months and 3 and 18 months respectively. **RESULTS:** 313 patients were included with a mean age of 57.3 years and 56.9% were female. No statistically significant difference in reducing glycosylated hemoglobin at 3, 6 and 18 months comparing groups insulin glargine vs NPH ($p = 0.403$) and NPH/ glargine vs regular/glulisine ($p = 0.514$) were observed. The percentage of patients with metabolic control increased from 27.8% to 34.2% during follow-up with all insulins. **CONCLUSIONS:** We did not find that analogue insulins were superior to human in glycemic control effect and a high percentage of patients did not meet the recommended treatment, which requires implement measures to improve the monitoring and control of diabetes mellitus.

PHS13

MANAGEMENT OF TUBEROUS SCLEROSIS COMPLEX IN ENGLAND: INSIGHTS INTO REAL-WORLD CLINICAL PRACTICE

Kingswood C¹, Dew R², Gray E³

¹(On behalf of the TSC clinic network) The Royal Sussex County Hospital, Brighton, UK, ²pH Associates Ltd, Marlow, UK, ³Novartis Pharmaceuticals UK Ltd, Frimley, UK

OBJECTIVES: To understand NHS hospital activity associated with Tuberous Sclerosis Complex (TSC) management, and support the development of specialised commissioned services in England. **METHODS:** Hospital Episode Statistics (HES) data for patients with TSC (ICD-10 code Q85.1, recorded between 2006–2013) were extracted in July 2014. Hospital visits and admissions occurring in 2013 were analysed nationally, at 14 'hub' hospitals and at the top-five most frequently accessed 'spoke' hospitals. **RESULTS:** Since 2006, 1922 patients were coded with TSC; age distribution 46% < 18 years, 54% > 18 years. In 2013 the most common TSC-associated conditions were epilepsy ($n = 1101$), developmental disorder ($n = 485$), benign lipomatous neoplasms ($n = 160$), childhood autism ($n = 141$), other convulsions ($n = 60$). 615 patients attended for outpatient appointments in 2013 (all indications). There were 0.8 elective and 1.9 non-elective admissions/patient ($n = 489$ and 1180/615, respectively). Elective admissions averaged 3.9 bed-days per patient, with 4.2 bed-days/admission for non-elective admissions. There were 1.9 day-case (1193/615) and 9.6 outpatient (5899/615) visits/patient. Of 5899 outpatient attendances, the top five specialties were paediatrics (17%), paediatric neurology (9%), neurology (6%) nephrology (5%) and ophthalmology (5%). In the 'hub' hospitals there were 5.4 outpatient visits/patient, with the top five specialties being paediatric neurology (12%), paediatrics (6%), nephrology (6%), neurology (4%), paediatric nephrology (4%) In the spoke providers, the top-five outpatient specialties ($n = 1564$ visits) were paediatrics (21%), learning disability (11%), neurology (8%), paediatric neurology (7%) and ophthalmology (6%). **CONCLUSIONS:** The prevalence of TSC was lower than expected, possibly an artefact of inappropriate NHS coding. TSC management is intensive with many outpatient/day-case visits, and non-elective admissions. Patients are also likely to be receiving care in the community, in addition to the hospital activity reported. TSC management is unevenly distributed between 'hub' and 'spoke' hospitals. Differentiated paediatric and adult services are needed. Fragmentation of TSC service provision suggests specialist management is needed, with coordination by specialist providers.

PHS14

PREDICTORS OF CIGARETTE SMOKING IN THREE ASIAN COUNTRIES: CHINA INDIA AND TAIWAN

Almogbel Y, Abughosh S, Essien EJ, Sansgiry SS

University of Houston, Houston, TX, USA

OBJECTIVES: Worldwide, cigarette smoking is responsible for more than 5 million deaths and is expected to exceed 8 million by 2030. The objective of this study was to identify predictors of smoking in China India and Taiwan. **METHODS:** A cross-sectional study was conducted in convenient sample of adults using a pretested and validated questionnaire between 2008–2011 in China, India and Taiwan. Smoking status was ascertained among participants through one question inquiring if they had smoked cigarette within last 30days. **RESULTS:** A total of 2397 questionnaires

were received. Approximately 44% of the participants reported that they smoked in the past 24 hours and around 48% reported they smoked in the past 30 days. The average age of the respondents was 33.5(±11). Smoking within 30 days was found to be significantly associated with male gender (OR=9.1; 95% CI= 2.751-30.132), Chinese nationality compared to Indian nationality (OR=29.104; 95% CI= 3.522- 240.531), smoking cigar (OR=23.334; 95%CI=4.152-131.122). Respondents were more likely to smoke if best friends offered cigarettes (OR=8.709; 95% CI=2.888-26.265), had siblings who smoke (OR=3.806; 95% CI=1.291-11.216), and were married (OR=5.125; 95%CI=1.24 -21.26) **CONCLUSIONS:** Smokers within last 30 days were significantly associated with being male gender, Chinese nationality compared to Indian nationality, married, having smoked cigars, accepting cigarette from a friend and having smoker siblings. These findings suggest the need for developing smoking cessation consultation and educational programs targeting individuals who are males, married, and have smoker siblings. Also, smoking cessation program need to focus on individuals with friends who smoke. Smoking cessation programs must emphasize the harmful impact of smoking on health in short and long run. Chinese nationality was found to have higher likelihood of smoking, thus, there is a greater need for smoking cessation programs in China.

PHS15

ASSESSMENT OF AWARENESS REGARDING HEPATITIS B AMONG WOMEN IN ABBOTTABAD, KPK PAKISTAN

Azhar SA¹, Hassali AA², Sana SS¹, Faiza FI¹, Zainab ZB¹, Sundas SA¹, Mahruk MA¹, Noman NH³, Fahad FS², Izhar IH¹

¹COMSATS Institute of Information Technology, Abbottabad, Pakistan, ²Universiti Sains Malaysia, Penang, Malaysia, ³University of Balochistan, Quetta, Pakistan

OBJECTIVES: The main objective of this study is to assess the awareness regarding Hepatitis B among women in Abbottabad Pakistan. **METHODS:** A quantitative approach was used to gain the understanding. The study took place in two hospitals from April 2014 to June 2014. 317 patients were participated in the study. Patients aged 15 years and above, and familiar with Urdu, Hindko and Pashto (languages of Pakistan), and pregnant women were included in the study. **RESULTS:** A total of 370 questionnaires were distributed and 317 were received with a response rate of 84%. 95.3% of respondents were heard about hepatitis whereas 60.9% were unaware of its caused by virus. 63.1% knew about transmission of hepatitis via blood and blood product. Majority 80.5% of the respondents were aware of its transmission from mother to baby. 79.9% knew about transmission by un-sterilized syringes, needles and surgical instruments. Whereas 80.2% respondents were aware of its transmission by contaminated blood and blood products. **CONCLUSIONS:** The findings of this study in different age group indicate that Hepatitis B patients were unaware of the disease's symptoms. Large percentage of patients knew about the transmission of the disease. Extensive health education campaigns should be provided to patients as well as in healthy population in both hospital and community settings. Physicians, pharmacists and nurses should play a role in developing a collaborative care model to provide education to the patients. Empowering the patients will be helpful in disease control as well as in the further spread of HBV to the healthy population.

PHS16

PREVALENCE AND BURDEN OF ALPHA-1 ANTITRYPSIN DEFICIENCY AMONG HOSPITALIZED COPD PATIENTS IN THE US

Blanchette CM¹, Noone J¹, Roy D², Van Doren BA¹, Zacherle E¹, Howden R¹

¹University of North Carolina at Charlotte, Charlotte, NC, USA, ²University of North Carolina, Charlotte, Charlotte, NC, USA

OBJECTIVES: Very little is known about severe Chronic Obstructive Pulmonary Disease (COPD) exacerbations among patients with Alpha-1 Antitrypsin Deficiency (AATD). We assessed inpatients with AATD and COPD among a sample of COPD inpatients to ascertain demographic, clinical and economic differences in the course of disease and treatment. **METHODS:** Using data from the 2009 Nationwide Inpatient Sample (NIS), we identified COPD (ICD-9-CM: 491.xx, 492.xx, or 496.xx) patients with AATD (273.4). We compared patient demographics and healthcare outcomes (e.g., length of stay, inpatient death, type and number of procedures, and cost of care) between COPD patients with and without alpha-1 antitrypsin deficiency. Frequencies and percentages for patient demographics were compared using bivariate statistics (e.g., chi-square test). Recognizing the non-parametric nature of length of stay and cost, we calculated median values and interquartile ranges for these variables for each group of patients. Finally, the risk of inpatient death was estimated using logistic regression. **RESULTS:** Of 840,242 patients with COPD (10.8% of the NIS sample population), 0.08% (684) had a primary or secondary diagnosis code for AATD. COPD+AATD were younger (56 vs 70, p<0.0001) and as a result, less likely to be covered by Medicare (57% vs 72%, p<0.0001). AATD patients were also more likely to have comorbid non-alcoholic liver disease (7% vs 2%, p<0.0001), depression (17% vs 13%, p=0.0328), and pulmonary circulation disorders (7% vs 4%, p=0.0299). Patients with AATD had a 14% longer length of stay (IRR = 1.14, 95%CI 1.07, 1.21) and cost \$1,487(p=0.0251) more than COPD inpatients without AATD. **CONCLUSIONS:** AATD is associated with increased length of stay and cost, as well as higher frequency of comorbid non-alcoholic liver disease, depression, and pulmonary circulation disorders. Future research should assess other differences between AATD and the general COPD population such as natural history of disease, treatment responsiveness and disease progression.

PHS17

RACIAL DISPARITIES IN TOTAL ANKLE ARTHROPLASTY UTILIZATION AND OUTCOMES

Singh Ja., Ramchandran R
UAB School of Medicine, Birmingham, AL, USA

OBJECTIVES: To study the racial disparities in total ankle arthroplasty (TAA) utilization and outcomes. **METHODS:** We used the Nationwide Inpatient Sample (NIS) to study the time-trends. Race was categorized as White and Black. Utilization rates were calculated for the U.S. general population per 100,000. Hospital length of stay,

discharge disposition and mortality after TAA were assessed. We used the Cochran Armitage trend test to assess time-trends from 1998 to 2011 and chi-square test to compare TAA utilization. We used analysis of variance or chi-squared test to compare the characteristics of Whites and Blacks undergoing TAA and logistic regression to compare mortality, length of stay and discharge to home vs medical facility. **RESULTS:** The mean ages for Whites undergoing TAA were 62 years and for Blacks was 52 years. Significant racial disparities were noted in TAA utilization rates (/100,000) in 1998, 0.14 in Whites vs. 0.07 in Blacks (p<0.0001; 2-fold) and in 2011, 1.17 in Whites vs. 0.33 in Blacks (p<0.0001; 4-fold). Racial disparities in TAA utilization increased significantly from 1998 to 2011 (p<0.0001). There was a trend towards statistical significance in the length of hospital stay in Blacks vs. Whites (52.9% vs. 44.3% with length of hospital stay higher than the median; p=0.08). Differences in the proportion discharged to an inpatient medical facility after TAA, 16% Blacks vs. 13% Whites, were not significant (p=0.47) **CONCLUSIONS:** This study demonstrated significant racial disparities with lower TAA utilization and suboptimal outcomes in Blacks compared to Whites. Further studies are needed to understand the mediators of these disparities and to assess whether these mediators can be targeted to reduce racial disparities in TAA.

PHS18

PREVALENCE AND BURDEN OF ANKLE INJURIES IN NORTH CAROLINA EMERGENCY DEPARTMENTS

Shah S, Blanchette CM, Noone J, Wikstrom EA

University of North Carolina at Charlotte, Charlotte, NC, USA

OBJECTIVES: In the US, an estimated 2 million ankle injuries occurred in 2012 costing \$4.5 billion, associated with approximately 1.6 million physician office visits and 8000 hospitalizations. We examined the prevalence and burden of ankle injuries in North Carolina emergency departments. **METHODS:** Using a cross-sectional study of the 2010 NC Emergency Department Database, we identified ankle injury patients (ICD-9-CM: 845.xx). Patients were categorized into two groups: lateral and non-lateral ankle injury (medial, high, and unknown). Frequencies and percentages for patient demographics were compared using bivariate statistics. Multivariable analyses were used to assess the outcomes associated with type of ankle injury while adjusting for confounding, including a generalized linear model for charges and logistic regression for use of X-ray. **RESULTS:** The study contained a sample of 35,729 patients including 32,651 (91%) lateral and 3,078 (9%) non-lateral ankle injury events. Most (66%) were below the age of 35 and female (57%). The mean total charge for an ankle injury event was \$1,057. Patients with non-lateral ankle injuries had higher proportion of X-rays than lateral [1145 (37%), 7323 (22%)] but more events with total charges below \$1500 (94% and 87%) respectively. However, lateral ankle injuries were associated with a \$52 greater charge than non-lateral. Additionally, non-lateral ankle injuries were 2 times more likely to have an X-ray than lateral (OR= 2.00, 95% CI: 1.86-2.18). Patients with private insurance were 20% less likely to have an X-ray than Medicare patients (OR= 0.80, 95% CI: 0.71-0.90). **CONCLUSIONS:** Females below 35 years of age represent higher proportion of ankle injury emergency room visits than males. Older patients are more likely to receive X-rays but are associated with lower charges because of Medicare coverage. Older patients are more likely to have non-lateral ankle injuries. Further research is required to understand cost drivers in both groups.

PHS19

NATIONAL TRENDS AND CHARACTERISTICS OF PSYCHIATRIC ADMISSIONS IN US EMERGENCY DEPARTMENTS: 2006-2011

Vohra R, Madhavan SS, Sambamoorthi U
West Virginia University, Morgantown, WV, USA

OBJECTIVES: To examine trends and characteristics of US emergency department (ED) use associated with major psychiatric disorders for years 2006-2011. **METHODS:** A cross sectional study was conducted using ED discharge level data from the 2006-2011 Nationwide Emergency Department Sample (NEDS), Healthcare Cost and Utilization Project (AHRQ). Our study sample included any ED visit associated with an International Classification of Diseases-9th-Clinical Modification (ICD-9-CM) diagnoses codes for major psychiatric disorders: Schizophrenia, Intellectual Disability, Anxiety Disorders, Bipolar Disorder, Depression, Substance Use Disorders, Attention Deficit Hyperactivity Disorder/ Attention Deficit Disorder, and Autism Spectrum Disorders. Bivariate analyses (chi-square tests) and multivariate analyses (logistic and ordinary least square regressions) were used to examine the trends of ED use. All analyses were conducted using SAS v9.4 and adjusted for complex survey design and weights. **RESULTS:** 10% of the pooled sample (NEDS 2006-2011) had at least 1 psychiatric ED visit. Majority of the pooled sample were visits associated with female gender (58%), age 22-64 years (69%), and with public health insurance (55.3%). Nearly 40% of psychiatric ED visits led to a hospitalization. The prevalence of psychiatric ED visits significantly increased (p<0.001) by almost 1.5 times from year 2006 to 2011 (13.6 to 19.9%) as compared to non-psychiatric ED visits (16.1% to 17.1%). Major significant (p<0.001) increases within psychiatric ED admissions were observed for visits associated with age 22-64 years, outpatient ED visits, major diagnostic/therapeutic procedures, trauma level hospitals, a public health insurance payer, and the South region. The inflation adjusted average total charges for outpatient ED visits (\$1,901 to \$3,002) as well as ED with inpatient visits (\$28,382 to \$31,278) also increased significantly (p<0.001) over the 6 year period. **CONCLUSIONS:** Our study indicates that psychiatric ED visits are growing substantially. With the increasing prevalence of psychiatric disorders in the US, the burden of such ED visits are also expected to increase.

PHS20

BURDEN OF DISEASE OF HEPATITIS C IN COLOMBIA

Alvis-Guzman N¹, Romero M², De la Hoz-Restrepo F³

¹Universidad de Cartagena. Centro de Investigaci3n y Docencia. Hospital Infantil Napole3n Franco Pareja, Cartagena de Indias, Colombia, ²Fundaci3n Salutia, Bogot3 D.C., Colombia,

³Instituto Nacional De Salud, Bogot3, Colombia