employed a pragmatic literature, industry, and US payer policy review to determine instances of HEOR datasets tangibly impacting US payer formulary coverage, or having limited impact, supplemented by prior CBPartners HEOR-focused US payer primary research. Additionally, an online survey was conducted with a curated list of n=15 US payers across MCO, IDN, and PBM organizations to provide further context surrounding recent examples of manufacturer HEOR data materially influencing decisions at P&T, different ways HEOR data can subsequently change formulary coverage, and the extent to which "HEOR class effects" may negatively impact late-to-market competitors within crowded therapeutic classes. ***Results:*** In one instance of HEOR data positively impacting formulary coverage, tiotropium bromide's pharmaco-economic model linked its exacerbations data to downstream savings, which ultimately influenced some payers to prefer it in the COPD setting. However, other examples exist of HEOR data failing to move the needle for payers to substantially improve access or policy, such as PCSK-9 outcomes data subsequent HEOR impact. Additionally, as other therapy areas (i.e. moderate-severe asthma; diabetes; etc.) become more crowded and manufacturers seek further differentiation for their products, "HEOR class effects" may become more prevalent, whereby one product's HEOR analyses negatively impacts future competitors by resetting the standards for payer data requirements. ***Conclusions:*** US payer organizations employ different philosophies towards incorporating HEOR analysis into changes (positive or negative) in formulary and access decisions, highlighting the benefit in studying evolving payer interpretations of manufacturer HEOR analyses to help reconcile underlying rationale shaping value perceptions.

Multiple Diseases - Epidemiology & Public Health

PMU38
SOCIOECONOMIC STATUS AND CHILDHOOD MENTAL ILLNESS IN THE US: TRENDS OVER THE PAST DECADE

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Objectives: Childhood mental illness (MI) has been steadily increasing in the U.S. The development of MI can be impacted by a number of social determinants including peer-group, familial, community, and income-based factors, in addition to comorbidity. This study investigated the rate of MI in a sample of U.S. youths to examine the relationship between socioeconomic status and MI. ***Methods:*** This retrospective analysis utilized the IBM® MarketScan® Research Databases spanning 2012-2018. Annual samples of youths aged 4-17 continuously enrolled for the stated year and year prior were defined in the Commercial and Medicaid databases; prevalence rates of MI were calculated. Children with a diagnosis code for alcohol/substance abuse, depression, anxiety, eating disorders, bipolar, schizophrenia, developmental disorders, or attention/conduct disorders were classified as having a MI; rates were compared between commercially insured and Medicaid youths. ***Results:*** From 2013 to 2018, prevalence rates of mental illness were consistently higher for Medicaid compared to commercially insured youths; the gap in diagnosis decreased from 92.9% in 2013 (22.3% vs. 11.6%) to 44.2% in 2018 (20.8% vs. 14.4%). Among commercially insured youths, the prevalence rate of any MI increased 24.7%, while Medicaid youths evidenced a slight decrease (-5.5%). For specific diagnoses, rates of anxiety increased 38.5% and 67.9% for Medicaid and commercial groups respectively, while substance abuse rates declined for both (-41.0% vs. -20.4%). Depression, attention/conduct, and developmental disorders were elevated and stable over time in Medicaid youths, while commercial youths evidenced increases. ***Conclusions:*** Medicaid coverage was associated with an increased likelihood of MI in youths, though rates are increasing among the commercially insured. Although income level and disability continue to be associated with severe MI, the increased rates of MIs among the commercially insured suggest a number of non-material determinants are also significant factors in the mental well-being of US youths, and warrant further investigation.

PMU39
COOKING AT HOME CAN SAVE MONEY, REGARDLESS OF FOOD PRICE: A MULTILEVEL ANALYSIS OF MEALS PREPARED AWAY FROM THE HOME ON DIET MEASURES AND FOOD EXPENDITURES

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Objectives: Meals prepared away from the home have been associated with worse diet quality and higher food expenditures. We examined these relationships accounting for county-level cost per meal, as the price of food affects consumer behavior and has not been previously studied. ***Methods:*** Data from the 2011-2014 National Health and Nutrition Examination Survey (NHANES) of participants living in urban areas, 2015 Map the Meal Gap county-level food price, and 2017 U.S. Department of Agriculture (USDA) Food Atlas were compiled for analysis. We used multilevel, random effects ordered logistic and linear regression modeling to study associations between the frequency of consumption of meals prepared away from the home, diet quality and food expenditures, controlling for the county-level cost per meal, county-level density of food establishments, and county- and individual-level sociodemographic characteristics. ***Results:*** 38.7% of our study sample consumed meals prepared away from the home frequently (5-21 meals/week), 24.6% sometimes (2-4 meals/week), and 26.7% never/rarely (0-1 meals/week). Greater frequency of consuming meals prepared away from the home was associated with worse diet measures (frequent consumers ate 174.8 more calories per day and 343.0 more grams of sodium per day relative to never/rarely consumers, both $p<0.05$) and higher total food expenditures (frequent consumers spent $168.55 more per month relative to the never/rarely consumers) when controlling for cost per meal and other county-level factors. The highest tertile of county-level cost per meal was associated with a 3% decrease in food expenditures allocated to meals prepared away from the home, relative to counties with the lowest tertile cost per meal (β=-0.03; $p<0.05$). ***Conclusions:*** Higher cost per meal reduced the amount of spending on meals prepared away from the home. An excise tax to increase the price of unhealthy meals prepared away from the home may decrease the consumption of meals prepared away from the home.

PMU40
VALIDATION OF AN ICD-10 CODING ADAPTATION FOR THE CHARLSON COMORBIDITY INDEX IN UNITED STATES HEALTHCARE ADMINISTRATIVE DATA

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Objectives: An ICD-10 coding adaptation of the Charlson comorbidity index (CCI) has not yet been validated for predicting one-year mortality in US healthcare data. We validated a previously developed coding adaptation in US administrative claims and compared its performance with the Canadian adaptation (Quan et al. Med Care 2005;43:1130-9) currently used in some US healthcare studies. ***Methods:*** Cohorts of patients with diverse medical conditions (rheumatoid arthritis, hip/knee replacement, lumbar spine surgery, AMI, stroke, pneumonia) in the IBM MarketScan Research Databases (a US commercial claims data source) were linked with the IBM MarketScan Mortality file. Predictive ability of both the US and Canadian coding adaptations of the CCI was measured using c-statistics, after adjusting for age and sex, and compared by the method of DeLong and colleagues (Biometrics; 1988;44:837-45). Full code lists are available at https://doi.org/10.5281/zenodo.3604394. ***Results:*** C-statistics were generally high ($\sim$0.8 or greater) for five of seven patient cohorts. Results were similar between the US and Canadian adaptations, with absolute differences <0.001. For lumbar spine surgery, CCI contributed a more substantial role in predicting 12-month mortality than for other conditions. For hip/knee replacement and pneumonia, age and sex played a more substantial role, while for AMI and stroke, other factors were likely more important (e.g., distribution of vascular disease, severity, health delivery factors, etc) although age, sex, and CCI play some role for predicting mortality. ***Conclusions:*** This US ICD-10 coding adaptation of the CCI performed well in US commercial claims for predicting one-year mortality and similarly to the Canadian adaptation. Using the Canadian adaptation had minimal impact on predictive ability but could result in erroneous assignment of comorbidities (i.e., construct validity). We recommend using adaptations specific to the country of origin of the data based on good research practice.

PMU41
PREVALENCE AND ASSOCIATED FACTORS TO SUICIDE ATTEMPTS IN LOW-INCOME ADOLESCENTS FROM THE CARIBBEAN REGION OF COLOMBIA

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Objectives: to establish the prevalence and associated factors to suicide attempts (SA) in low-income adolescents from the Caribbean region of Colombia ***Methods:*** A cross sectional study was conducted. Adolescents between 10-24 years of age residents in 21 municipalities in the Caribbean region of Colombia were randomly selected from the population affiliated to a subsidized-regime insurance company between 2014-2018. A previously constructed questionnaire was used to obtain information regarding sociodemographic variables and potential risk factors. A self-reported antecedent of suicide attempt was defined as a case. Bivariate and multivariate logistic regression models were used to establish associated factors. Absolute and relative frequencies were reported. Relative frequencies were compared with the Chi^2 test and continuous variables were compared with the t-test. A p value <0.050 was considered significant ***Results:*** A total of 35,214 adolescents with a mean (SD) age of 16.0 (4.1) years were included. Of these, 55.7% were women and 63.9% lived in urban areas. Prevalence of SA was 2.6% (95% IC 2.4-2.8). Patients with SA had a mean of 17.2 (3.7) years of age and were 1.2 years older compared to patients with no attempts (t-test: $p<0.05$). A higher prevalence was found in women compared to men (3.5% vs 1.5%) ($p<0.001$). The highest prevalence was found in the 15-19 age group (10-14yr: 1.8%; 15-19yr: 3.3%; 20-24yr: 2.9%). Risk factors (OR 95% IC) for SA were age over 14 years (15-19=OR 1.6; 1.3-1.9), constant physical violence by parents (OR 3.5; 1.8-6.5), previous visit to physiologist (OR 1.7; 1.5-2.1), feeling sad/empty

most of the time (OR 6.6; 5.6-8.0) and a previous substance use (OR 4.8; 3.5-6.6). ***Conclusions:*** suicide is an important cause of burden in the young population. Mental health promotion with a focus in the social determinants of health should be public health priority in this population.

PMU42
A DECLINE IN PRESCRIPTION OPIOID ANALGESICIS AMONG NEWLY DIAGNOSED CHRONIC PAIN PATIENTS: A TREND IN THE RIGHT DIRECTION

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Objectives: Efforts to curtail the over-prescription of opioids in the US have included legislation to enhance prescription drug monitoring programs and regulation of pain clinics, along with an increase in physician training programs focused on improved prescribing practices. The purpose of this study was to examine real world evidence of opioid prescribing trends over the past decade among newly diagnosed chronic pain (CP) patients. ***Methods:*** This retrospective analysis utilized the IBM® MarketScan® Research Database spanning 2012-2017. Annual samples of adults with continuous enrollment for two years (the index year and prior year) were identified. All patients were required to present two medical claims with a diagnosis for low back pain, osteoarthritis, fibromyalgia, diabetic peripheral neuropathy, or chronic pain during the index year, and must have presented an absence of pain diagnoses and opioid prescriptions during the preceding year. Opioid and non-opioid analgesic use and total healthcare expenditure was assessed. ***Results:*** From 2012 to 2017, there was a 17.2% decrease in the proportion of CP patients prescribed opioids (40.6% to 33.6%). The mean days' supply of opioids per prescription decreased (-13.0%; 8.85 days to 7.70 days), as did the total number of opioid fills (-17.4%; 2.59±2.82 to 2.14±2.20), and total days' supply (-25.3%; 27.9±49.5 to 20.8±40.7). There was a slight increase in the prescription of non-opioid analgesics over the study period (6.1%; 40.2% to 42.6%), and a 37.1% decrease in the proportion of patients with annual supplies of opioids > 90 days (7.1% to 4.4%). Total healthcare costs increased 8.4% ($15,304±$34,950 to $16,333±$41,599). ***Conclusions:*** Opioid prescriptions have been decreasing over the past decade among CP patients. This trend included a decline in extended use (> 90 days), and did not result in notable increases in healthcare costs. Though work is still needed, results demonstrate measurable progress in the ongoing opioid epidemic.

PMU43
ASSOCIATION BETWEEN ATOPIC DISEASES AND ANEMIA IN KOREAN PATIENTS

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Objectives: Atopic disease is associated with chronic inflammation, and anemia has been reported in patients with inflammatory disorders such as rheumatoid arthritis, chronic obstructive pulmonary disease, and irritable bowel disease. The objective of this study was to determine whether atopic disease is associated with an increased risk of anemia. ***Methods:*** A cross-sectional study with propensity score weighting was conducted using a health insurance review agency claims dataset comprised of randomized patients who used the Korean national health system at least once in 2016. The association between atopic disease (asthma, atopic dermatitis, allergic rhinitis) and anemia (iron deficiency anemia [IDA] and/or anemia of inflammation [AI]) was examined. ***Results:*** A total of 1,468,033 patients were included in this study. The IDA/AI prevalence was 3.1% (45,681 patients). After propensity score weighting, there were 46,958 and 45,681 patients in the non-anemic and anemic groups, respectively. The prevalence of IDA/AI in patients with atopic dermatitis, allergic rhinitis, or asthma had an odds ratio (OR) of 1.40 (95% confidence interval [CI], 1.33–1.48; P < .001), 1.17 (95% CI, 1.14–1.21; P < .001), and 1.32 (95% CI, 1.28–1.36; P < .001), respectively. In addition, the prevalence of IDA increased with higher numbers of atopic diseases. ***Conclusions:*** The prevalence of IDA/AI was higher in patients with atopic disease, even after adjusting for demographic characteristics and other risk factors. Further study is needed to distinguish between IDA and AI and to enhance understanding of the etiology of anemia in patients with inflammatory conditions.

PMU44
PREVALENCE OF MULTIMORBIDITY AMONG ASIAN INDIANS, CHINESE, AND NON-HISPANIC WHITES IN THE UNITED STATES

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Objectives: Asian Americans are the fastest-growing minority group in the United States, yet little is known about their multimorbidity. This study examined the association of Asian Indians, Chinese and non-Hispanic Whites (NHWs) to multimorbidity. ***Methods:*** We utilized a cross-sectional design with data from the National Health Interview Survey pooled sample (2012–2017) of Asian Indians, Chinese and NHWs (N = 132,666). Multimorbidity was defined as the presence of two or more selected chronic conditions. Unadjusted and adjusted logistic regressions were used to examine the independent relationship of race/ethnicity to multimorbidity. ***Results:*** Our study sample represented 1.9% Asian Indians, 1.8% Chinese and 96.3% NHWs. Significant differences in socio-economic and lifestyle factors were noted between the three groups. Asian Indians had the highest percentage of college education (73%), followed by Chinese (56.1%) and NHWs (34.4%). Asian Indians were less likely to be current smokers, have physical inactivity and more likely to be obese compared to NHWs. In unadjusted analyses ($p < .001$), 17.1% Asian Indians, 17.9% Chinese, and 39.0% NHWs had multimorbidity. Among the dyads, high cholesterol and hypertension were the most common combination among Asian Indians (32.4%), Chinese (41.0%) and NHWs (20.6%). After adjusting for age, sex, and other risk factors, Asian Indians (AOR=0.47, 95% CI=[0.40, 0.56]) and Chinese ([AOR=0.44, 95% CI=[0.38, 0.51]) were less likely to have multimorbidity compared to NHWs. Age stratified (< 65 years and ≥ 65 years) analyses revealed similar findings. ***Conclusions:*** Asian Indians and Chinese were associated with a lower prevalence of multimorbidity compared to NHWs after controlling for age, sex, and other risk factors. Although overall multimorbidity rates were lower, Asian Indians and Chinese were more likely to have high-cholesterol and hypertension, risk factors to heart disease and diabetes. Further research on type of multimorbidity, specifically those related to cardiovascular clusters in Asian Indians and Chinese is needed.

PMU45
FACTORS ASSOCIATED WITH NEGATIVE SELF RATED HEALTH (SRH) IN A PRIVATE HEALTH PLAN IN BRAZIL

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Objectives: SRH is a measure of general health status and if often used as a predictive measure of health outcomes. The research aim was to study factors such as demographic and socioeconomic determinants, noncommunicable chronic diseases (NCD) and functional capacity on self-rated health, and to verify the association with health plan utilization and costs. ***Methods:*** Observational study of 2,188 beneficiaries of a health plan in Brazil who answered online epidemiological profile. Dependent variable, SRH dichotomized into good (excellent, very good, and good categories) or poor self-rated health (regular and poor). Independent variables: demographic, socioeconomic, presence/absence of NCD, stroke and chronic pain. Statistical: association between SRH and each variable, multiple binary logistic regression. Results presented as odds ratios and prevalence ratios, 95% confidence intervals, significance when $p<0.05$. ***Results:*** Chance of self-rated health as poor was 2.1 times higher in elderly, men 11.8%, unmarried people (47.9%), low-income families (87.8%), low education level (59.2%) and 3.9 times higher in patients with at least one NCD and 4.8 times when more than one. Increased chance of a negative perception: stroke (4.3 times), chronic pain (3.6 times), diabetes mellitus (3.3 times), arterial hypertension (2.6 times) and COPD (1.8 times). Annual HC utilization rate by beneficiaries with negative SRH were higher for all procedures: visits, tests, therapies and hospitalizations (38.5%, 44.5%, 38.1% and 134.6%, respectively) with additional annual assistance expenses per capita of 80.5% (BRL 9,805 versus BRL 5,432). ***Conclusions:*** Self-rated health is a subjective indicator of general health. Individuals in rating their health may consider a variety of factors, some of which may not be apparent to health providers. HC utilization is higher by negative SRH group. Some of the studied variables could be changed with programs and those should be implemented to better quality of life and improves a resource management.

PMU46
PSYCHOTROPIC POLYPHARMACY AMONG CHILDREN, ADOLESCENTS, AND YOUNG ADULTS TREATED WITH ANTIDEPRESSANTS IN THE UNITED STATES

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Objectives: Psychotropic polypharmacy has been increasing in the U.S. despite a lack of evidence on safety and effectiveness. Though antidepressants and other psychotropics carry increased safety concerns in pediatric patients, the prevalence of psychotropic polypharmacy among children, adolescents, and young adults treated with antidepressants is unknown. This study will characterize the prevalence of psychotropic polypharmacy among children (ages 6-12), adolescents (ages 13-18), and young adults (ages 19-26) treated with antidepressants in the U.S. ***Methods:*** A nationally representative sample of individuals aged 6-25 years dispensed at least one antidepressant in 2016 was extracted using the IQVIA LRx longitudinal database. Concomitant psychotropic use was compared overall, and by age and gender. Psychotropic polypharmacy was defined as the use of two or more psychotropic medications with overlapping days' supply. Psychotropic therapeutic classes include antipsychotics, antianxiety, benzodiazepines, CNS stimulants, and antidepressant subclasses. ***Results:*** Nearly half (48.6% [48.4-48.8%]) of young antidepressant users in the U.S. concurrently use two or more psychotropic medications. Boys treated with antidepressants have a 1.2-fold higher prevalence of psychotropic polypharmacy (54.0% [53.7-54.3%]) compared to girls (45.4% [45.2-45.7%]). Children have the highest prevalence of psychotropic polypharmacy (51.7% [51.2-52.3%]), followed by adolescents (49.8% [49.4-50.1%]), and young adults (47.3% [47.0-47.5%]). There were also notable age and gender difference in the types of psychotropic combinations. The most common combination was CNS stimulants-SSRIs are the most common pair in children (boys: 51.2% [50.2-52.1%], girls: 44.2% [42.9-45.5%]) and adolescent boys (20.3% [19.8-20.8%]). Atypical antidepressants-SSRIs are also highly prevalent in adolescent girls (22.2% [21.7-22.8%]). Antipsychotic-SSRIs are also common (>20%) across all ages. ***Conclusions:*** Psychotropic polypharmacy affects more than half of children, adolescents, and young adults treated with antidepressants in the U.S. The