OBJECTIVES: Pneumonia-related 30-day readmission rates are publically reported as a key measure of care for Medicare beneficiaries. We estimated the impact of pneumonia on inpa-
tient mortality and 30-day readmission rates in mechanically ventilated (MV) patients. METHODS: We performed a cohort study of MV patients using the Premier Perspective database [July 2012 to June 2015]. Patients on MV by June 2012 were included and classified based on those with a pneumonia-related diagnos-
se code and those without. Patients were followed for the entire period of their hospita-
lation. Inpatient mortality and readmission rates for the thirty days post discharge were compared between the two groups using generalized linear models (GLMs). We estimated both outcomes using the binomial distribution, controlling for patient demographics, 3M™ All Patient Refined Diagnosis Related Group Severity and Mortality indices, and hospital characteristics. RESULTS: A total of 65,246 patients met criteria, of which 15,421 (23.6%) carried a pneumonia diagnosis. Pneumonia patients were older (64.2 vs 58.0 years, p < 0.0001), more likely to be male (56.1% vs 50.4%, p < 0.0001), and have a higher Charlson score (4.5% vs 6.6%, p < 0.0001). Comparing outcomes, pneumo-
nia patients experienced significantly higher rates of mortality (25.5% vs. 18.1%, p < 0.0001) and 30-day readmission (15.5% vs. 12.9%, p < 0.0001). After adjustment for patient and institutional factors in the GLM, the risk of both outcomes remained statistically significant with odds ratios of 1.05 (95% CI: 1.01 to 1.10) for mortality and 1.11 (95% CI: 1.05 to 1.17) for 30-day readmission (p = 0.024 and 0.0002, respectively). CONCLUSIONS: Pneumonia in MV patients increases the risk of mortality and 30-day readmissions. With penalties as high as 3% across all Medicare payments for readmission, efforts should continue to carefully evaluate the care of mechanically ventilated patients with pneumonia.

PSR4 MULTIMORBIDITY AND COPD MEDICATION RECEIPT AMONG MEDICARE BENEFICIARIES WITH NEWLY DIAGNOSED COPD

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OBJECTIVES: Multimorbidity is highly prevalent among individuals with Chronic Obstructive Pulmonary Disease (COPD). The association between multimorbidity and COPD medication management is not well researched. This study sought to examine the association between multimorbidity and receipt of COPD medications among Medicaid beneficiaries with newly diagnosed COPD. METHODS: Retrospective longitudinal dynamic cohort design was used and data were extracted from multiple years of the National Medicaid Analytic Extract (NMAE) file. Medicaid beneficiaries with newly diagnosed COPD (N = 19,060) were identified using International Classification of Diseases Codes (ICD-9-CM) codes for COPD. ICD-9-CM codes for commonly co-occurring conditions with COPD were used to create multimorbidity variable. These conditions included cardiovascular diseases (CVD), depression, diabetes, hypertension, hyperlipidemia and osteoporosis. Medicaid beneficiaries with newly diagnosed COPD were categorized into following multimorbidity categories: 1) physical multimorbidity only, 2) mental multimorbidity only, 3) both physical and mental multimorbidity and 4) no multimorbidity. Receipt of COPD medications (short-acting, long-acting bronchodilators and inhaled corticosteroids) was identified using National Drug Codes. Bivariate relationships between multimorbidity and COPD medication receipt were tested using chi-square test of independence. The association was adjusted for patient characteristics. RESULTS: Of the 19,060 patients, 6,524 (34.3%) reported multimorbidity. The mean age was 21.2 months (SD: 25.6). The two most frequent diagnoses were pneumonia and lower respiratory infection, with 9,004 (47.4%) and 2,914 (15.3%) patients, respectively. Bivariate analysis showed that those with no multimorbidity were more likely to receive COPD medications compared to those with any multimorbidity. The relationship between multimorbidity and COPD medication receipt remained statistically significant with odds ratios of 1.05 (95% CI: 1.01 to 1.10) for mortality and 1.11 (95% CI: 1.05 to 1.17) for 30-day readmission (p = 0.024 and 0.0002, respectively). CONCLUSIONS: Pneumonia in MV patients increases the risk of mortality and 30-day readmissions. With penalties as high as 3% across all Medicare payments for readmission, efforts should continue to carefully evaluate the care of mechanically ventilated patients with pneumonia.

PSR5 DRUG TREATMENT FOR THE TREATMENT OF IDIOPATHIC PULMONARY FIBROSIS: A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

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OBJECTIVES: Idiopathic pulmonary fibrosis (IPF) is a rare, progressive form of fibrotic interstitial pneumonia which results in loss of lung function and pre-
mature mortality. The FDA first approved treatments for IPF in late 2014. The aim of this systematic review and network meta-analysis (NMA) is to perform a mixed treatment comparison of available pharmacologic treatments for IPF. METHODS: Medline, EMBASE, CENTRAL, and PROSPERO were searched for ran-
domized clinical trials in patients with IPF and supplemented with hand searches. Only randomized trials consisting exclusively of IPF patients were included. All stud-
ies were independent and derived from Chronic Obstructive Pulmonary Disease (COPD). The primary outcome was the standardized mean difference between treatment and control of change in percent predicted forced vital capacity (FVC) from baseline to one year. RESULTS: Literature search identified 36,191 records. Fixed effects pairwise comparisons of the standardized mean difference (SMD) of intervention versus placebo suggested better performance of nintenadib relative to other treatments with a 4.9% (95%CI: 3.8-6.0) standardized improvement relative to placebo. All other treatments were inferior. Fixed effects pairwise comparisons of the standardized mean difference (SMD) of intervention versus placebo suggested better performance of nintenadib relative to other treatments with a 4.9% (95%CI: 3.8-6.0) standardized improvement relative to placebo. All other treatments were inferior. CONCLUSIONS: The high success rate with heliox therapy was 76.9%. The route of administration was not related to the type of response. The duration of heliox therapy averaged 5.9 hours (SD: 1.7). Nintenadib offers a new treat-
mment option for a disease where few options existed. Based on studies reviewed, sildenafil and NAC treatments did not slow disease progression as measured by change in percent FVC and their use in IPF should be limited.

PSR6 IMPACT OF CHANGE IN LUNG FUNCTION AND COPD-RELATED PATIENT OUTCOMES ON EXACERBATIONS AND HOSPITALIZATIONS: A SYSTEMATIC LITERATURE REVIEW

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OBJECTIVES: Clinical trials of chronic obstructive pulmonary disease (COPD), a pro-
gressive disease with a substantial economic burden, primarily assess exacerbation rates based on health resource utilization (HRU), leading payers to focus on this endpoint when considering treatments. This study evaluated the impact of changes in clinical outcomes of clinically relevant improvements in measures such as forced expiratory volume in one second (FEV1); however, their link to long-term outcomes, such as exacerbations and HRU are not known. We conducted a systematic review of the literature to examine the impact of change in lung function on exacerbations and hospitalizations.

PsR7 THE USE OF HELIOX IN HOSPITALIZED CHILDREN FROM CARTAGENA COLOMBIA

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OBJECTIVES: To describe the use of heliox therapy in a case series of patients admitted to emergency department or/and intensive care unit of children hospital ‘Napoleon Franco Pareja” in Cartagena, Colombia. METHODS: We described the clinical characteristics and results of heliox therapy in a series of patients admitted to emergency room and/or intensive care unit. For qualitative variables proportions were compared and used for numeric variables were analyzed with averages and meas-
ures of variation. We compared the different variations of the spirometry. The chi-square test or Fisher exact test. The applicative software Epi is used for the data analysis. RESULTS: Fifty two patients were included, of whom 59.6% were male. The mean age was 21.2 months (SD: 25.6). The two most frequent diagnoses were status asthmaticus (32.7%) and acute bronchitis (36.9%). Mortality was 5.8%. Success of heliox therapy was 76.9%. The route of administration was not related to the type of response. The duration of heliox therapy averaged 5.9 hours (SD 4.3) in patients who did not respond favorably and 8.0 hours (SD 5.6) in those who responded to heliox. Fifty percent of patients did not need endotracheal intubation and all responded favorably to heliox therapy. CONCLUSIONS: A high success rate with heliox therapy was found in this case series. Its use is recommended as an adjunct therapy in the management of acute respiratory insufficiency.

PSR8 REAL-WORLD OBSERVATIONAL STUDY OF ASSOCIATION BETWEEN STATIN MEDICATIONS AND COPD-SPECIFIC OUTCOMES

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OBJECTIVES: Disease modifying drugs are not yet available for the management of idiopathic pulmonary fibrosis (IPF). Multivariable logistic regression with COPD, due to its anti-inflammatory properties is under consideration for the manage-
ment of COPD. This study examined the relationship between statin therapy and COPD-specific outcomes. METHODS: We identified 19,061 patients with IPF from National Drug Codes (NDC). COPD-specific outcomes such as hospitalizations, emergency room visits and readmissions were analyzed. CONCLUSIONS: Multivariable logistic regressions with Inverse Probability Treatment Weights (IPTW) were used to examine the relationship between statin therapy and COPD-specific outcomes. The relationship between multimorbidity, statin medications and COPD-specific outcomes was tested using an interaction term. Secondary analyses with
duration of statin therapy were also conducted. All analyses will be conducted using SAS version 9.3. The study included beneficiaries with newly-diagnosed COPD, out of whom 30.3% beneficiaries received statins during the 1-year baseline period. Compared to adults without statin therapy, those with statin therapy had significantly lower rates of COPD-specific hospitalizations (4.7% vs. 5.2%, p < 0.01), emergency room visits (13.4% vs. 14.4%, p < 0.01), and emergency hospitalizations (9.5% vs. 10.5%, p < 0.01). Even after adjusting for observed selection bias with IPTW, adults with statin therapy were less likely to have COPD-specific hospitalizations (AOR: 0.89, 95% CI: 0.81, 0.90, p < 0.01) compared to those without statin therapy. Adults with multimorbidity and statin therapy were less likely to have COPD-specific outcomes. CONCLUSIONS: Statin therapy was associated with reduced readmission rates in COPD-specific outcomes. These findings may suggest beneficial effects of statin among newly diagnosed COPD patients and warrant further clinical trial investigation.

PSR9

SELF-MEDICATION AND ASSOCIATED HEALTH CARE COSTS - A SURVEY IN THE URBAN AND RURAL POPULATION OF A MAJOR CITY IN PAKISTAN


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OBJECTIVES: Self-medication in both rural and urban population in Pakistan is an increasingly growing concern. Both literate and illiterate people irrespective of age and gender practice self-medication, which is in more than 50% of cases inappropriate. The aim of this study was to survey over-the-counter availability of medicines and self-medication pattern among the rural and urban population of Karachi, Pakistan. METHODS: 1,800 volunteers (age 18-80 years) and both genders were surveyed for their self-medication pattern. Medicines were grouped as antimicrobials and non-antimicrobials. RESULTS: 93% of volunteers reported the practice of self-medication and the frequency was higher in females (57%) as compared to males (43%), and the pattern was same in both urban and rural environment. The general symptoms for which medicines were purchased included: headache (80%), fever (67%), cough (64%), body pain (64%), 13% of the individuals confirmed the practice of intravenous and intramuscular antibiotics was observed. 43% of the individuals confirmed that antibiotics were ineffective in their condition. CONCLUSIONS: The unregulated over-the-counter availability of medicines and the practice of self-medication are increasingly growing threats to the health care system in Pakistan. The inappropriate medications not only add to mortality and morbidity, but also cause increased cost of treatments. Such habits must be shunned through legislation and community awareness.

PSR10

MULTIFACETED INTERVENTIONS IMPROVE MEDICATION ADHERENCE AND REDUCE ACUTE HOSPITALIZATION RATES IN MEDICARE PATIENTS PRESCRIBED ASTHMA CONTROLLERS

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OBJECTIVES: To measure the effectiveness of multifaceted interventions for asthma control among medicare beneficiaries: medication adherence and acute hospitalization (emergency room [ER] and inpatient) in two Medicaid managed care organizations (MCOs) in Southeastern Pennsylvania (SEPA) and Lehigh/Capital-North West Pennsylvania (LCNWPA). METHODS: One-year follow-up analysis of prescription and hospitalization data from prescription fills for asthma controllers from January 1, 2011 to December 31, 2012. Thirty various interventions—categorized as general interventions (GI) for all subjects and personalized interventions (PI) for higher-risk individuals—were identified and used in the study. The unregulated over-the-counter availability of medicines and the practice of self-medication are increasingly growing threats to the health care system in Pakistan. The inappropriate medications not only add to mortality and morbidity, but also cause increased cost of treatments. Such habits must be shunned through legislation and community awareness.

OBJECTIVES: To compare the rate of inpatient admissions of pediatric patients with chronic obstructive pulmonary disease (COPD) to emergency departments across the United States and mean charges per ED visit between Medicaid patients and privately insured patients. To identify factors associated with hospital admissions through the ED among pediatric patients with asthma. METHODS: A retrospective analysis using 2010-2011 National Emergency Department Sample (NEDS) and 2010-2011 Pediatric Readmission Database in the United States, was conducted. All ED visits with a primary diagnosis of acute asthma for patients aged 2-17 years were identified using ICD-9-CM codes (492.81, 492.82, 493). ED visits with an unknown admission destination were excluded. Multivariable logistic regression and Generalized Linear Mixed Model were used to compare the rate of hospital admissions through the ED and mean ED charges among asthma children with Medicaid vs private insurance. RESULTS: A total of 110,964 pediatric asthma patients were identified. Multivariable logistic regression and Generalized Linear Mixed Model were used to compare the rate of hospital admissions through the ED and mean ED charges among asthma children with Medicaid vs private insurance. RESULTS: A total of 110,964 pediatric asthma patients were identified. Multivariable logistic regression analysis confirmed that antibiotics were ineffective in their condition. 43% of the individuals confirmed that antibiotics were ineffective in their condition. The unregulated over-the-counter availability of medicines and the practice of self-medication are increasingly growing threats to the health care system in Pakistan. The inappropriate medications not only add to mortality and morbidity, but also cause increased cost of treatments. Such habits must be shunned through legislation and community awareness.

PSR13

FACTORS AFFECTING 30-DAY HOSPITAL READMISSIONS AMONG PATIENTS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

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OBJECTIVES: Hospital readmissions among patients with COPD have contributed a considerable burden to the healthcare system as measured by increased hospital stays and healthcare expenditures. The objective of this study is to estimate the factors influencing 30-day readmissions among patients with COPD. METHODS: A multivariate logistic regression was conducted for patients with COPD (ICD-9 codes 491, 492 or 496) discharged to home or other facilities, utilizing the 2012 Truven MarketScan dataset (un-weighted n=21,771). The outcome variable was a dichotomous 30-day readmission, considering any type of readmission. The covariates included demographic variables, characteristics of index hospitalization and risk factors including prior hospitalization and comorbidities. RESULTS: The 30-day readmission rate among patients with COPD was 6.8%. Elderly patients (65+) were less likely to be readmitted than those aged 18-64 years (OR=0.71, p<0.001). Patients discharged from the ED, patients who were age 70-74 years (4.41%), and in 2012, patients who were age 75-79 years (3.73%) had the highest readmission rates. Black patients had the highest readmission rates in 2008 (5.18%), followed by White Americans in 2009 (4.9%), other races in 2010 (5.5%), Hispanics in 2011 (5.70%) and African Americans in 2012 (7.11%). CONCLUSIONS: Among U.S. Medicare beneficiaries diagnosed with pneumonia, mortality rates were higher for women than for all study years except 2011. Patients aged 65-69 years had the highest readmission rates in 2008 (4.7%), followed by 2009 (4.41%), 2010 (4.79%) and 2011 (4.70%). Patients aged 70-74 years (4.41%), and in 2012, who were age 75-79 years (3.73%) had the highest readmission rates. Black patients had the highest readmission rates in 2008 (5.18%), followed by White Americans in 2009 (4.9%), other races in 2010 (5.5%), Hispanics in 2011 (5.70%) and African Americans in 2012 (7.11%). CONCLUSIONS: Among U.S. Medicare beneficiaries diagnosed with pneumonia, mortality rates were higher for women than for all study years except 2011. Patients aged 65-69 years had the highest readmission rates in 2008 (4.7%), followed by 2009 (4.41%), 2010 (4.79%) and 2011 (4.70%). Patients aged 70-74 years (4.41%), and in 2012, who were age 75-79 years (3.73%) had the highest readmission rates. Black patients had the highest readmission rates in 2008 (5.18%), followed by White Americans in 2009 (4.9%), other races in 2010 (5.5%), Hispanics in 2011 (5.70%) and African Americans in 2012 (7.11%). CONCLUSIONS: Among U.S. Medicare beneficiaries diagnosed with pneumonia, mortality rates were higher for women than for all study years except 2011. Patients aged 65-69 years had the highest readmission rates in 2008 (4.7%), followed by 2009 (4.41%), 2010 (4.79%) and 2011 (4.70%). Patients aged 70-74 years (4.41%), and in 2012, who were age 75-79 years (3.73%) had the highest readmission rates. Black patients had the highest readmission rates in 2008 (5.18%), followed by White Americans in 2009 (4.9%), other races in 2010 (5.5%), Hispanics in 2011 (5.70%) and African Americans in 2012 (7.11%).