OBJECTIVES: Pneumonia-related 30-day readmission rates are publically reported as part of the Hospital Readmissions Reduction Program to improve quality of care for Medicare beneficiaries. We estimated the impact of pneumonia on inpatient mortality and 30-day readmission rates in mechanically ventilated (MV) patients. **METHODS:** We performed a cohort study of MV patients using the Premier Inpatient database (July 2012 to June 2013). Patients on MV for >=1 day were included and classified based on those with a pneumonia-related diagnosis code and those without. Patients were followed for the entire period of their hospitalization. Inpatient mortality and rates of readmission 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 (46.8% vs 45.3%, p=0.0012), white (72.4% vs 66.9%, p<0.0001), and on public insurance (75.6% vs 65.2%, p<0.0001). Comparing outcomes, pneumonia patients experienced significantly higher rates of mortality (25.5% vs. 18.1%, p<0.0001) and 30-day readmission (15.3% vs. 12.9%, p<0.0001). After adjustment for patient and institutional factors in the GLM regressions 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.

PRS4

MULTIMORBIDITY AND COPD MEDICATION RECEIPT AMONG MEDICAID 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 (2005-2008) of Medicaid Analytic eXtract (MAX) files. 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 arthritis, 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 associations between multimorbidity and COPD medication receipt were analyzed with logistic and multinomial logistic regressions. **RESULTS:** Among Medicaid beneficiaries with newly diagnosed COPD, 74.9% had at least one co-occurring chronic condition. After controlling for patient characteristics, adults with multimorbidity were less likely to receive COPD medications compared to those without any multimorbidity. For example those with physical multimorbidity were less likely to receive short-acting bronchodilators (AOR: 0.82; 95% CI: 0.75, 0.89), long-acting bronchodilators (AOR: 0.86; 95% CI: 0.79, 0.93) and inhaled corticosteroids (AOR: 0.81; 95% CI: 0.75, 0.88) compared to those with no inflammation-related multimorbidity. **CONCLUSIONS:** Prevalence of multimorbidity is very high among Medicaid beneficiaries with newly diagnosed COPD. Our study findings suggest poor COPD medication management among those with multimorbidity.

PRS5

DRUG THERAPY FOR 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 fibrosing interstitial pneumonia which results in loss of lung function and premature 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 the efficacy of available pharmacologic treatments for IPF. **METHODS:** Medline, EMBASE, CENTRAL, and PROSPERO were searched for randomized clinical trials in patients with IPF and supplemented with hand searches. Only randomized trials consisting exclusively of IPF patients were included. All studies were independently abstracted by two analysts. The primary outcome of interest 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 review identified 1,191 records of which 36 met our inclusion criteria. Fixed effects pairwise comparisons of the standardized mean difference (SMD) of intervention versus placebo suggested better performance of nintendanib relative to other treatments with a 4.9% (95%CI: 3.8-6.0) standardized improvement relative to placebo in %FVC . This falls comfortably within the range of minimal clinically important difference for this endpoint as measured by other authors. The data structure for pirfenidone did not allow for comparison of %FVC. Sildenafil, N-acetylcysteine (NAC), and azathioprine did not show statistically significant improvement relative to placebo. **CONCLUSIONS:** Nintenadib offers a new treatment 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.

PRS6

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 progressive disease with a substantial economic burden, primarily assess exacerbation rates based on health resource utilization (HRU), leading payers to focus on this endpoint as a cost driver. The drug approval process often requires documentation of clinically relevant improvements in measures such as forced expiratory volume in one second (FEV1); however, their link to longer-term outcomes, such as exacerbations and HRU are not known. We conducted a systematic review of the published literature to evaluate the linkage. **METHODS:** We searched MEDLINE- and Embase-indexed English-language publications from 2002 through October 1, 2014 for randomized controlled trials with ≥20 adult patients with COPD. Included trials described changes in FEV1or St. George's Respiratory Questionnaire (SGRQ), as well as exacerbations or HRU. **RESULTS:** We identified 13 trials among 1,196 publications reporting changes in SGRQ or FEV1 and rate of exacerbation and hospitalization. We combined FEV1 pre-bronchodilator values with FEV1trough values given the similarity of these variables. Based on the MCID value for SGRQ of 4 units, exacerbations ranged from 0.414 to 5.61/person-year among those not reaching SGRQ MCID, compared with a range of 0.42-1.07/person-year among those reaching SGRQ MCID. Using a minimal clinically important difference (MCID) value for FEV1 of 100mL, the exacerbation rate ranged from 0.414 to 5.61/person-year among those not reaching FEV1 MCID, compared to 0.69 to 1.02/person-year among those reaching FEV1MCID. The annual hospitalization rate due to exacerbations ranged from 0.02-0.7/person-year among those not reaching SGRQ MCID, and from 0.03-0.16/person-year among those reaching SGRQ MCID. Annual hospitalization rates due to exacerbations ranged from 0.02-0.7/person-year among those not reaching FEV1 MCID, compared to 0.05-0.16/person-year among those reaching FEV1MCID. **CONCLUSIONS:** Preliminary results suggest a relationship between clinically meaningful improvements in bronchodilation and patient-reported outcomes and annualized exacerbations and hospitalizations.

PRS7

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 features and results of heliox therapy in a series of patients admitted in emergency room and/or intensive care unit. For qualitative variables proportions were used and for numeric variables were analyzed with averages and measures of dispersion. We compared the differences in categorical variables using the chi-square or Fisher exact test. The aplicative Epidat 3.1 was used for 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 bronchiolitis (26.9%). 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 4.1) in patients who did not respond favorably and 8.0 hours (SD 5.6) in those who responded to heliox. Fifty percent off 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.

PRS8

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 individuals with Chronic Obstructive Pulmonary Disease (COPD). Statin therapy, due to its anti-inflammatory properties is under consideration for the management of COPD. This study examined the relationship between statin therapy and COPD-specific outcomes. **METHODS:** Retrospective longitudinal dynamic cohort design using Medicaid claims data from multiple years (2005-2008) was utilized. Statin therapy was identified from the prescription drug file using the National Drug Codes (NDC). COPD-specific outcomes such as hospitalizations, emergency room and outpatient visits were identified based on a primary diagnosis of COPD. 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