

or older with a diagnosis of gout who initiated use of a ULD (allopurinol or probenecid) from January 1, 2000 through June 2006 who were enrolled for at least 12 months after the first ULD dispensing. Adherence was measured based on the medication possession ratio (MPR) which was determined by the sum of the day's supply of drug therapy from the first dispensing to the end of the 12-month period. Covariates included age, sex, comorbid illnesses and medications associated with gout, concurrent treatments for gout and the Charlson comorbidity index. **Results:** Preliminary data for 627 gout patients at one health plan indicated the median MPR was 0.49 ( $\pm 0.32$ ) for allopurinol and 0.48 ( $\pm 0.37$ ) for probenecid. Factors associated with poor adherence (defined as an MPR  $< 0.80$ ) included younger age ( $< 45$  yrs), fewer comorbid conditions, use of nonsteroidal anti-inflammatory drugs (NSAIDs) prior to initiation of a ULD, and use of a glucocorticoid or NSAID after initiating a ULD. **Conclusions:** Nonadherence is common in gout, particularly in young men without other comorbidities. In addition, it appears those with more active gout (based on dispensings of NSAIDs and glucocorticoids) are less adherent.

Abstract C-A2-05

#### **Pneumonia Risk Among COPD Patients Using Fluticasone/Salmeterol Versus Other Inhaled Steroids and Bronchodilators Alone**

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**Background/Aims:** In recently published randomized clinical trials, COPD patients using inhaled corticosteroids (ICS) alone or in combination with long-acting beta-agonists (LABA) were found to have a small but significantly increased risk of pneumonia. The purpose of this project was to determine whether general population COPD patients using a combined fluticasone and salmeterol inhaler had a higher risk for pneumonia compared to those using other inhaled ICS or bronchodilators, either alone or in combination. **Methods:** COPD patients were identified from three health systems in different regions in the United States. The study population was comprised of 5245 individuals who used some form of inhaled treatment during the study period (September 1, 2000 through August 31, 2003), 2154 of whom had at least one pneumonia episode confirmed by chest X-ray or hospitalization. Nested case-control methods were used to calculate odds ratios (OR) for the risk of pneumonia while on therapy. **Results:** With patients using short-acting bronchodilators as the reference group, the only treatment associated with a possibly increased risk of pneumonia was ICS used alone (OR, 1.29; 95% CI, 0.96-1.73;  $P=0.09$ ). Users of LABA alone (OR, 0.92; 95% CI, 0.69-1.22) and fluticasone and salmeterol in combination (OR, 1.03; 95% CI, 0.74-1.42) had no increased risk for pneumonia. **Conclusions:** In this retrospective analysis of a large COPD cohort, treatment with any ICS, LABD, or ICS and LABD in combination was not associated with a substantially increased risk for developing pneumonia. Funded By: GlaxoSmithKline Research & Development.

Abstract C-A2-08

#### **Prescribing to Older Individuals in Conjunction With Emergency Department Visits**

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**Background/Aims:** The emergency department (ED) is a high-risk care setting. Risk of adverse drug events (ADE) associated with ED care is insufficiently explored, particularly among older patients. We examined prescribing to individuals aged 60 years or older during an ED visit. The aims were to (1) ascertain drugs newly initiated in conjunction with an ED visit, (2) determine the proportion of newly initiated drugs that are considered high-risk, (3) determine the proportion of patients with discharge diagnoses associated with increased ADE risk, and (4) describe repeat ED visits among these patients. **Methods:** Patients must have had health plan membership for

6 months prior to the ED visit and remained members (or die) within 6 months after the visit. Data to identify the cohort, determine prescribing, and establish ED visits were extracted from electronic medical records and administrative claims. Drugs were defined as newly initiated if no drug within that therapeutic class was dispensed to that patient within the previous 180 days and if the drug was dispensed within 72 hours of ED discharge or before the next outpatient visit (if sooner). Drugs were classified as high-risk based on literature associating the drugs with ADE (i.e., drug-drug or drug-disease interactions, drug-laboratory monitoring recommendations, drugs to avoid in the elderly). Discharge diagnoses were classified as increased risk of ADE based on published evidence. A repeat ED visit was defined as an ED visit within 180 days of the first ED visit. **Results:** At Kaiser Permanente Colorado in 2006, 6868 older patients were discharged to home after an ED visit, with 1338 patients newly initiated on 1883 drugs. Ten classes accounted for 80% of newly initiated drugs; all are high-risk for ADE among older patients: narcotics (27%), antibiotics (25%), corticosteroids (6%), antihistamine/cold remedies (5%), antispasmodics (4%), anti-anxiety agents (4%), anti-asthmatics (3%), anticoagulants (2%), gastrointestinal drugs (2%), and muscle relaxants (2%). A primary discharge diagnoses was listed in 25% of visits; diagnoses included cardiovascular, respiratory, gastrointestinal, neurologic, metabolic, end-stage renal disease, hypoglycemia, hemorrhage, rash, and syncope. 48% of patients had a repeat ED visit. **Conclusions:** Among older patients, high-risk drugs are often initiated in conjunction with an ED visit. Work is needed to determine the extent to which drugs initiated during ED visits result in ADE.

Abstract C-A2-09

#### **Older Age and Less Aggressive Hypoglycemic Therapy for Diabetes Mellitus**

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**Background:** Pharmacoepidemiologic studies using claims databases show lower intensity of drug treatment for diabetes mellitus (DM) with older age and greater comorbidity, but do not account for level of glycemic control. The aim of this study is to describe patterns of hypoglycemic use among older adults with DM while controlling for patient-level factors, including glycemic control. **Methods:** We conducted a cross-sectional study among enrollees of a mixed-model, not-for-profit HMO operating in New England. We identified 772 patients who were aged 65 years and older, had a diagnosis of type 2 diabetes mellitus from January 1 to December 31, 2002, and used at least one hypoglycemic medication. Information on age, sex, prescription drug dispensings, inpatient and outpatient diagnoses and procedures, and laboratory test results were obtained from HMO automated databases. Comorbidity burden was assessed by calculating the Chronic Disease Score based on prescription drug dispensings. We used multivariable logistic regression to identify the independent effect of age on intensity of hypoglycemic medication use (monotherapy vs multidrug or insulin therapy) while controlling for patient-level factors including glycemic control, Chronic Disease Score, and presence of coronary heart disease (CHD), hypertension and dyslipidemia. **Results:** Overall, 541 (70.1%) used one oral hypoglycemic agent, 181 (23.5%) used two oral agents, 10 (1.3%) used three oral agents, and 26 (3.4%) used insulin therapy. In adjusted analysis, predictors of less aggressive (monotherapy) versus more aggressive (multidrug or insulin) therapy were older age ( $=85$  yrs vs 65-74 yrs; odds ratio, 0.32; 95% CI, 0.15-0.67) and prior hospitalization (OR, 0.45; 95% CI, 0.25-0.80). Poorer glycemic control was associated with more aggressive hypoglycemic therapy (HbA1c  $> 9$  vs HbA1c  $< 7$ ; OR, 2.9; 95% CI, 1.3-6.5). History of CHD increased the likelihood of using more aggressive hypoglycemic therapy (OR, 1.6; 95% CI, 1.06-2.45). **Conclusions:** Although prevalence and risk of complications from diabetes increases with age, intensity of drug treatment for diabetes declines with older age even after adjustment for glycemic control and comorbidity.