offset in four of the six studies (median, −$21; range −$35 to −$0.50). In one case, the GI event offsets (due to the unusually high cost of treating minor GI) were greater than the additional cost of the coxib. **CONCLUSIONS:** Variation in drug acquisition cost of NSAIDs relative to coxibs was more important in contributing to the variation in results but the variations in clinical inputs and in costs of GI events were also important. More investigation into the reasons for differences in costs and clinical input is needed.

MC2

EVALUATION OF MEDICATION ADHERENCE IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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OBJECTIVES: Although there has been research published on the topic of medication adherence in chronic obstructive pulmonary disease (COPD), nothing in the literature describes the association between patient-reported adherence and clinical outcomes. This study examines the relationship between two patient-reported adherence measures and clinical outcomes in COPD. **METHODS:** Three-hundred and twenty COPD patients from seven geographically diverse sites across the United States were enrolled from April 2003 to November 2003 and administered both the Morisky Medication Adherence Scale (MMAS) and Inhaler Adherence Scale (IAS) questionnaires. Subsequently, retrospective chart review was conducted to collect demographic, laboratory, and clinical data for each participant. The association between patient-reported medication adherence and FEV1 and FEV1 % predicted was determined using both ordinary least squares (OLS) regression and a parametric two-step sample selection model. **RESULTS:** Both the MMAS and IAS indicated the majority of participants appear to be adherent with their medication regimen. The results derived from the two-step sample selection model demonstrated that every one-point increase in IAS score was associated with an increase in both FEV1 ($p = 0.0003$) and FEV1 % predicted ($p = 0.0008$). Progression of disease was significantly associated with a decrease in both FEV1 ($p = 0.004$) and FEV1 % predicted ($p = 0.041$). Medication adherence, as measured by the MMAS, was not associated with a significant change in either FEV1 or FEV1 % predicted. **CONCLUSIONS:** The IAS appears to be a tool that clearly demonstrates the association between patient-reported medication adherence and significantly improved clinical outcomes in COPD. The IAS also appears to be superior to the MMAS in this respect.

MC3

DOES METHOD OF CASE ASCERTAINMENT AFFECT ESTIMATES OF THE PREVALENCE AND SEVERITY OF DEMENTIA IN MEDICARE NURSING HOME RESIDENTS?

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OBJECTIVE: To examine if method of case ascertainment affects estimates of the prevalence and severity of dementia in Medicare nursing home residents. **METHODS:** A nationally-representative sample of Medicare beneficiaries residing in skilled-nursing facilities (N = 1100) was identified from the Medicare Current Beneficiary Survey (MCBS) for 2001. The MCBS contains detailed information from medical records and personal interviews on socio-demographics, health and medical conditions, and health care use. Survey information can be linked to Medicare claims, drug administration records, and Minimum Data Set (MDS). Dementia prevalence rates were determined using following four sources of diagnosis information, alone and in combinations: survey, MDS, Medicare claims, and drugs for dementia treatment. Concordance between sources for dementia diagnosis was measured as percent agreement and with kappa statistics. The severity of dementia cases from each source was determined using cognitive, physical, and behavioral functioning limitation measures from MDS. Chi-square tests were performed to identify statistically significant differences at $p < 0.05$. **RESULTS:** Among four measures considered singly, the lowest dementia rates were obtained using drugs (12.4%) and the highest using claims (57.3%). Rates were higher when sources were combined and reached 68% using all four sources together. As for concordance, the percent agreement ranged from a low of 19.2% between claims and drugs to a high of 97.5% between drugs and claims with survey or MDS. Kappa statistics were the lowest between drugs and survey or MDS with claims (kappa 0.12), and were highest between survey and MDS (kappa 0.70). Sources were similar in the severity of dementia cases. **CONCLUSIONS:** Although there was a wide variation in prevalence and concordance of dementia cases by diagnostic source, there was no systematic bias based on disease severity. A combination of all four sources presents the most inclusive measure of disease prevalence available to researchers working on dementia in long-term care.

MC4

CHOOSING BETWEEN SF12/SF-36 PREFERENCE-BASED ALGORITHMS FOR COST-UTILITY ANALYSIS

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OBJECTIVES: The purpose of this study was to illustrate how decision-making could be affected by the choice of preference-based algorithms for the SF-36 and SF-12, and provide some guidance on selecting an appropriate algorithm. **METHODS:** Two sets of data were used: 1) a clinical trial of adult asthma patients; and 2) a longitudinal study of post-stroke patients. Incremental costs were assumed to be $2000 per year over standard treatment, and QALY gains realized over a 1-year period. Ten published algorithms were identified, denoted by first author: Brazier (SF-36), Brazier (SF-12), Shmueli, Fryback, Lundberg, Nichol, Franks (3 algorithms), and Lawrence. Incremental cost-utility ratios (ICURs) for each algorithm, stated in dollars per quality-adjusted life year ($/QALY), were ranked and compared between datasets. **RESULTS:** In the asthma patients, ICURs ranged from Lawrence's SF-12 algorithm at $30,769/QALY to Brazier's SF-36 algorithm at $63,492/QALY. ICURs for the stroke cohort varied slightly more dramatically. The MEPS-based algorithm by Franks et al. provided the lowest ICUR at $27,972/QALY. The Fryback and Shmueli algorithms provided ICURs that were greater than $50,000/QALY. The ICUR-based ranking of algorithms was strongly correlated between the asthma and stroke datasets (r = 0.69). **CONCLUSIONS:** SF-36/SF-12 preference-based algorithms produced a wide range of ICURs that could potentially lead to different reimbursement decisions. Brazier's SF-36 and SF-12 algorithms have a strong methodological and theoretical basis and tended to generate relatively higher ICUR estimates, considerations that support a preference for this algorithm over the alternatives. The "second-generation" algorithms developed from preferences mapped from other indirect preference-based measures tended to generate lower ICURs that would promote greater adoption of new technology. There remains a need for an SF-36/SF-12 preference-based algorithm based on the US general population that has strong theoretical and methodological foundations.