experience, including preference for GLM and the auto-injector over previous med-

MUSCULAR-SKELETAL DISORDERS – Health Care Use & Policy Studies

**PMS67**

**ASSOCIATION BETWEEN RESTRICTIONS ON CELECOXIB USE AND HEALTH CARE UTILIZATION AND COSTS IN MEDICARE BENEFICIARIES WITH ARTHRITIS**

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**OBJECTIVES:** To estimate the association between access restrictions on celecoxib use and healthcare costs in Medicare patients with arthritis. **METHODS:** Enrollees diagnosed with osteoarthritis (OA) or rheumatoid arthritis (RA) between January 1, 2008 and December 31, 2010 (index date) and at least 24 months of continuous health plan enrollment (1-year pre- and post-index date) were identified from health plan claims in the HealthCore Integrated Research Database. Cost calculations included medical and pharmacy claims from baseline (6 months prior to index date) to 12 months post-index date. Costs were considered in continual therapy if claims continuously enrolled for 6 months prior to index; patients with TNF-blocker use were excluded. **RESULTS:** A total of 2,747 patients met the inclusion criteria (mean age 50 years; 74% female). Among new patients (932 etanercept; 480 adalimumab; 819 infliximab), 60%, 19%, and 20% respectively, were highly adherent; this group had the highest overall fracture-related costs. **CONCLUSIONS:** The distribution of etanercept, adalimumab, and infliximab therapies varied by region. **PMS68**

**CLINICAL AND ECONOMIC OUTCOMES ASSOCIATED WITH TERIPARADIE ADHERENCE IN MEDICARE PART D RECIPIENTS: A RETROSPECTIVE COHORT STUDY**

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**OBJECTIVES:** To evaluate the utilization patterns of Medicare Part D beneficiaries newly started on teriparatide and the association of adherence with fracture outcomes and costs. **METHODS:** A retrospective cohort analysis was performed using medical and pharmacy claims of 761 Humana members aged 18 and older with first prescription fills for teriparatide between January 2008 and December 2009. Low Income Subsidy enrollees were excluded. Descriptive analyses were performed to characterize healthcare use, and costs at 12 and 24 months post-teriparatide initiation. Adherence was measured by Proportion of Mths with adherent healthcare use (PMU) as well as proportion of patients with at least 1 fracture episode. **RESULTS:** Of the cohort (mean age 50.1 years; 74.4% female), 81% were continuously enrolled for 6 months prior to index; patients with TNF-blocker use were excluded. Dose escalation, assessed over a 12-month period of continuous treatment (~60-day gap), was defined as: 1) 2+ instances in which subsequent doses were ≥130% of index dose or 2) any instances with increased number of syringe/vial or shortened dosing interval. **RESULTS:** Overall, 3868 patients were included (85.8% female; age 50.1 years; 74.4% female). Among new patients, 61% of etanercept, 37% of adalimumab, and 20% of infliximab patients, respectively, had 2+ instances of dose escalation (p < 0.001 for all 2-way comparisons). Most new patients (85.3% etanercept; 92.1% adalimumab; N/A infliximab) initiated therapy at recommended dose of these patients, 2.3%, 12.6%, and 59.9% of etanercept, adalimumab, and infliximab patients, respectively, increased by ≥1 syringe/vial or shortened dosing frequency. Among continuing patients, 1078 etanercept, 480 adalimumab, and 819 infliximab patients, 60.6%, 16.9%, and 29.1% of etanercept, adalimumab, and infliximab patients, respectively, had 2+ instances of dose escalation (p < 0.001 for all 2-way comparisons). Most continuing patients (93.5% etanercept; 95.6% adalimumab; N/A infliximab) received the index dose at recommended dose, of these, 4.1%, 16.6%, and 79.5% of etanercept, adalimumab, and infliximab patients, respectively, increased by ≥1 syringe/vial or shortened dosing frequency. **CONCLUSIONS:** Etanercept had lower dose escalation rates for new and continuing patients compared with adalimumab and infliximab in a large US managed care plan.
A systematic literature review of economic studies and a cost analysis related to epidural steroid injections in the elderly

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OBJECTIVES: To appraise existing economic evaluations of epidural steroid injections (ESIs) for lumbar spinal stenosis and to estimate Medicare-based reimbursed amounts. METHODS: We searched PubMed through June 2011 for low back pain, spinal stenosis or sciatica, and ESI and included observational studies with cost outcomes. We performed a supplementary descriptive analysis of Medicare reimbursements associated with ESI performed at a single institution in 2009. RESULTS: Our literature search indicated that rates of lumbar ESI increased 271% from 1994 to 2001 in Medicare beneficiaries >65 years of age with professional charges per injection nearly doubling ($115 to $227) during this time period. A second, non-reimbursed rate of lumbar epidurals was 67% higher in 2006 versus 2002 in Medicare beneficiaries of any age, and allowed charges of all spine epidurals increased from $336 to $395. Our single-institution estimation sample included 279 patients receiving one (n=179), two (n=93), three (n=30), or four (n=2) ESI's. We estimated Medicare reimbursement per outpatient ESI procedure to be $635 in 2010 (technical reimbursement and estimated professional payment). The associated reimbursement estimates were $1239 and $1834 for those receiving 2 and 3 ESI's, respectively. CONCLUSIONS: There are few studies investigating the economic impact of ESI procedures for lumbar spinal stenosis in the elderly, or providing estimates of technical and professional reimbursement amounts. Our single-institution estimate suggests that Medicare-based reimbursements is greater than $600 per ESI (technical and professional). More information on utilization, costs, and cost-effectiveness of ESI in treating lumbar spinal stenosis is needed.

Developing and implementing patient-resource use diaries in a clinical trial assessing spinal stenosis interventions in the elderly


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OBJECTIVES: To develop and implement patient-reported resource use questionnaires for assessing resource use and costs in elderly patients with lumbar spinal stenosis (SS), as part of an epidural steroid injection randomized clinical trial (RCT) in multiple integrated health systems. METHODS: We developed patient-completed diaries for a RCT in an elderly population with SS to capture medication use, time spent for SS care, and products purchased for back pain. We summarized demographics and commonly-reported opioid medications for currently-enrolled subjects. RESULTS: We implemented resource use diaries in a RCT during baseline to week 3, weeks 4-6, weeks 24-26, and weeks 50-52. Overall, the diaries capture 12 weeks of data, distributed at key time points, during 12 months.

The prescription opioid section and OTC section collect dose and daily medication use intensity. Later sections capture weekly visits, time, and purchases for back pain. We integrated the patient questionnaires into our overall electronic data management system, including prompts for sites to send participants diaries, collect diaries and enter the data on our RedCap™ electronic data capture system. To date, 100 RCT participants completed baseline diaries. The mean age was 69.6 years, 57% were females, and approximately 29% were from minority groups. The most commonly reported opioid medications were hydrocodone-acetaminophen and acetaminophen-codeine. CONCLUSIONS: It is important to capture the patient perspective in RCTs, particularly those with complex interactions among pain, functioning, medication use and economic endpoints. Electronic medical records are powerful tools to assess clinical and economic resource use, but still have limitations on collecting what patients spend and to manage their pain condition. Logistical challenges and patient burden of completing questionnaires must be weighed against a more comprehensive economic evaluation and management of a high-priority condition.