those using one or none (1.62, 1.01–2.6). CONCLUSION: The medications identified were commonly used among elderly veterans undergoing MOS. The use of aspirin was associated with a decreased risk of VTE. Using more than one inappropriate drug was associated with an increase risk of VTE.

HEMATOLOGICAL DISEASES—Cost Studies

PHM5

RESTROSPECTIVE STUDY OF OUTCOMES AND COSTS IN SICKLE CELL DISEASE (SCD) PATIENTS IN US

He J, Pulgar S, Mehra M, Budd D, Nuys GD

1Worldwide Health Economics and Pricing, Johnson & Johnson Pharmaceutical Services LLC, Raritan, NJ, USA.

OBJECTIVES: SCD is an inherited disorder characterized by lifelong morbidity and reduced life expectancy. Treatments include blood transfusion, pain medication and hydroxyurea (HU). We analyzed treatments, outcomes and costs in the outpatient setting. METHODS: A total of 9281 patients were identified from the 2000–2004 Pharmetrics® Database using ICD-9 Codes (282.41, 282.42, 282.6x). Crisis was defined either by a diagnosis code referring to crisis (282.42, 282.62, 282.64, 282.69), strong opioid use, ER admission or SCD hospitalization. RESULTS: 44% of patients were younger than 16 yrs; 56% were female. Mean age was 22±19. Seventy-seven percent had one or more painful crises in one year. In the HbSS subtype, 85% had at least one crisis. Incidence and frequency of painful crises increased by age: 70% (0–6 yrs); 75% (6–16) and 82% (>16) and 1.0/yr, 2.4/yr and 4.7/yr, respectively. Two-thirds of adults with Hb SS who experienced crisis received opioids compared to 22% of children, aged 0–6 with Hb SS and crisis. Thirty-seven percent had at least one ER visit; in adult Hb SS patients more than 50%. Average annual hospitalization rate was 32.4%, with 2.25 admissions and length of stay 6 days. Hb SS patients had a hospitalization rate >40%. Patients with crisis were four times as likely as non-crisis patients to require multiple hospitalizations. Overall annual stroke rate was 3.9%; in adult HbSS patients it was 7.2%. Hb SS children had rates of 1.13% (<6yr) and 4.22% (6–16 yr). Annual costs, including hospitalization costs, ranged from $1140 in <6 yrs without crisis to $20,432 in adults with crisis. Health cost in crisis patients were 5-fold that of non-crisis patients. CONCLUSION: SCD has major impact on patients' outcomes such as pain, stroke and costs thousands of dollars per patient per year. The incidence of crises correlates with health care resource utilization and cost. Treatments that avoid crises will have positive impact on quality of life and costs.

PHM6

LIFETIME ECONOMIC VALUE OF ORTHOPEDIC SURGERY WITH RECOMBINANT ACTIVATED FACTOR VII IN HEMOPHILIA PATIENTS WITH INHIBITORS

Ballal R1, Joshi AV2, Stephens JM1, Botteman MF1

1Georgetown University, Washington, DC, USA, 2Novo Nordisk Inc, Princeton, NJ, USA.

OBJECTIVES: Severe hemophiliaics experience frequent spontaneous intra-articular hemorrhages, leading to arthropathy. Until recently, hemophilia patients with high titer inhibitors to Factor VIII (A) or Factor IX (B) concentrate could not undergo orthopedic surgery to reduce pain and bleeding because of the risk of uncontrolled bleeding during and following surgery. The recent availability of recombinant activated factor VII (rFVIIa) has made these surgeries possible. This analysis adopts a US payer perspective to estimate the lifetime costs of 9 elective orthopedic surgeries (e.g., joint replacements, osteotomies, arthrodesis) with rFVIIa in hemophilia patients with high-titer inhibitors and frequent bleeding episodes. METHODS: A literature-based Markov model was developed to compare the lifetime costs of 2 cohorts of eligible patients (aged 25 yrs and followed for 65 yrs), one undergoing orthopedic surgery and the other not undergoing surgery. Surgery costs included perioperative rFVIIa therapy, hospitalization, rehabilitation, and repeat procedures. The cost of managing individual bleeding episodes was obtained from published literature. RESULTS: Surgery was estimated to cost anywhere from $562,000 for ankle distal tibial osteotomy to $938,000 for total knee replacement. However, each surgery was predicted to reduce remaining lifetime bleeding episodes at the affected joint from 405 to 64 per patient. Surgery resulted in a discounted remaining lifetime net savings of $1,872,000 for total knee replacement to $2,218,000 for ankle distal tibial osteotomy. The initial surgery cost was offset in 5–10 years. If the rate of bleeding episodes increases at a rate of 5% per year in those not receiving surgery (up to a maximum of 22 bleeds per year), the net savings were >$4.6 million across all surgeries. Prophylaxis regimen, survival rates, pre-surgery bleeding frequency, patient weight, and the repeat surgery rate were sensitive model variables. CONCLUSION: Orthopedic surgery in hemophilia patients with inhibitors managed with rFVIIa appears to be cost saving in the long term.

PHM7

COMPARISON OF EPOETIN ALFA AND DARBEPOETIN ALFA DOSES ROUTINELY USED IN CLINICAL PRACTICE IN DEPARTMENT OF DEFENSE BENEFICIARIES

Cota JM1, Bretzke DR2, Allerman AA1, Meade Dj2, Trice S2

1The University of Texas Health Science Center at San Antonio, San Antonio, TX, USA, 2Department of Defense Pharmacoeconomic Center, Fort Sam Houston, TX, USA.

OBJECTIVES: Studies have reported dose utilization ratios for epoetin alfa (EPO) versus darbeppoetin alfa (DARB) ranging from 126:1 (units : mcg) to 400:1. We sought to determine the relative dosages at which EPO and DARB are utilized in clinical practice for Department of Defense (DoD) beneficiaries. METHODS: Study patients included adults newly started on erythropoiesis-stimulating agents (ESAs) from October 1, 2005 to June 30, 2006 with at least 3 consecutive prescriptions for EPO or DARB. Prescription information was obtained from DoD's Prescription Data Transaction Service Data Warehouse. The Military Health System Management Analysis and Reporting Tool was used to identify study patients with primary or secondary ICD-9-CM codes consistent with chronic kidney disease or malignancy. Patients were excluded if they received both EPO and DARB during the study period or had both nephrology and oncology indications for ESA therapy. Dose utilization ratios were calculated by dividing weekly EPO doses by weekly DARB doses (units : mcg). RESULTS: Overall, 914 patients met study criteria (mean age 68 years; 53% female) with 36% receiving ESA therapy for an oncology indication and 34% for a nephrology indication. Patients received a total of 2366 ESA prescriptions (59% for EPO and 41% for DARB). The median EPO and DARB doses were 25,452 units per week (interquartile range 40,766–41,745) and 98 mcg per week (interquartile range 42–133), respectively. The median dose utilization ratios for EPO to DARB were 260:1 for all patients, 370:1 for oncology patients, and 243:1 for nephrology patients. Oncology patients received higher ESA doses than nephrology patients (p < 0.001, Mann-Whitney U test). CONCLUSION: The dose utilization ratio of EPO to DARB was higher for oncology patients (370:1) compared to nephrology patients (243:1). Significantly higher ESA doses were used for oncology patients compared to nephrology patients.