Abstracts

**PCN30**

**EFFECTS OF ADDING CHEMOTHERAPY-SPECIFIC DISCONTINUATION AND DOSE DELAY/REDUCTIONS TO FEBRILE NEUTROPIA PROPHYLAXIS DECISION MODELS**

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**OBJECTIVES:** Relative dose intensity (RDI) is generally defined as a patient’s actual received chemotherapy dose over time period versus the intended dose over time where RDI <85% can be considered sub-optimal. Published cost-effectiveness analyses of febrile neutropenia (FN) prophylaxis modeled RDI assuming a fixed percentage of patients achieve low RDI. The objective of this study was to model the reasons for low RDI explicitly and evaluate the effects on results. METHODS: A lifetime Markov model was used to assess the impact of FN prophylaxis strategy in the treatment of children’s acute lymphoblastic leukemia (ALL) and breast cancer using the scenario of the National Ambulatory Medical Care Survey (NAMCS) dataset (1992-2003) and the American Cancer Society’s Surveillance, Epidemiology, and End Results (SEER) Program of 19 States (1992-2003). Stochastic simulations were performed using a two-state Markov model. The model included factors affecting RDI, including dose delay/reduction, as well as factors affecting the cost of each state, including the intervention and the treatment of complications. RESULTS: Based on the base case (95,000 FN episodes), the mean cumulative dose delivered for the RDI model was 260.1% compared to 298.9% for no intervention. *P* values were 0.005 and 0.002 for the overall strategy and the dose reductions, respectively. CONCLUSIONS: Inclusion of RDI explicitly and evaluate the effects on results.  

**PCN31**

**COMPARISON OF INPATIENT AND OUTPATIENT HOSPITAL-BASED SERVICES BETWEEN TWO STRATEGIES FOR TREATMENT OF CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA (ALL) IN A PUBLICLY FUNDED HEALTH CARE SYSTEM**

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**OBJECTIVES:** To assess incremental total cost between two internationally utilized treatment strategies for ALL during childhood: Berlin-Frankfurt-Munich (BFM) and McMaster Children’s Hospital (DFCI) in Canada. Total cost for each patient was the sum of inpatient and outpatient service costs. Inpatient cost was measured using resource intensity weights from the Canadian Institute of Health Information (CIHI) Discharge Abstract Database and standard average inpatient cost measured using resource intensity weights from the Canadian Institute of Health Information (CIHI) Discharge Abstract Database and standard average inpatient cost. The Ontario Health Insurance Plan Schedule of Physician Fees provided physician costs. Costs were adjusted for inflation, discounted at 5% per year, and reported in 2007 Canadian dollars. Statistical significance, set at *p* < 0.05, was tested using chi-square and ANOVA. RESULTS: Costs were measured for 66 BFM (41 standard- and 23 high-risk) and 28 DFCI (19 standard- and 9 high-risk) patients. There was no significant difference between BFM and DFCI strategies in risk group proportions (*p* = 0.397). Mean total cost varied by risk group (*p* = 0.029) but not overall strategy (*p* = 0.866). The BFM minus DFCI difference of mean total cost was $12,679 (p = 0.336) for standard-risk patients, $29,576 (p = 0.140) for high-risk patients, and $2,725 (p = 0.777) for pooled risk patients. The mean total cost for pooled patients was $101,484 (SD = 38,296) for BFM and $98,760 (SD = 51,171) for DFCI. CONCLUSIONS: The incremental cost between the BFM and DFCI strategies was small and insignificant. Future analyses will focus on incremental treatment effectiveness of BFM and DFCI strategies: mean health-related quality of life utility scores during and after treatment; and quality-adjusted life years. 

**PCN32**

**RECENT ERYTHROPOIESIS STIMULATING AGENT (ESA) UTILIZATION AND COSTS IN MEDICARE PATIENTS WITH CANCER RECEIVING CHEMOTHERAPY (CRC)**

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**OBJECTIVES:** To evaluate recent epoetin alfa (EPO) and darbepoetin alfa (DARB) drug utilization in CRC Medicare patients treated in the hospital outpatient setting. METHODS: An analysis of longitudinal medical claims in CRC Medicare patients utilizing the Medicare 100% Institutional Database was performed to evaluate EPO and DARB utilization between 2Q2005 and 4Q2007. Patients included had ≥3 non-myeloid cancer diagnoses, were EPO treatment naïve, received chemotherapy during the preceding quarter as ESA treatment, and received 2 doses of EPO or DARB. Patients diagnosed with chronic kidney disease, myelodysplastic syndrome, treated with both agents within the same quarter, or received dialysis were excluded. A treatment episode was defined as the time from the quarter of the first ESA dose to the quarter of the last ESA dose. Mean cumulative ESA dose was used to calculate drug costs using April 2007 wholesale acquisition costs (EPO $14.64/1000 units; DARB $8.064/mcg). RESULTS: A total of 15,028 EPO and 29,130 DARB treated CRC patients were identified between 2Q2005 and 4Q2007. The age distribution, the proportion receiving IV iron were similar between the groups. The EPO group had a lower mean (SD) Charlson Comorbidity Score [3.1(3.2EPO; 4.5(2.2DARB, *p* < 0.001). Mean (SD) treatment duration was 2.0(1.1) quarters for EPO; 2.0(1.1) quarters for DARB (F value <0.001). Mean (SD) cumulative dose was 736,300(357,700)units for EPO; 1,370(1230)mg for DARB. The observed dose ratio (EPO units/DARB mcg) was 260.1 ESA drug costs per treatment episode were $5,153 for EPO and $6,944 for DARB. Overall ESA drug costs were $17,991 higher per patient (4% *p* < 0.001) for DARB, representing a 35% higher cost compared to EPO. CONCLUSIONS: This study of Medicare CRC patients treated with ESA in the hospital outpatient setting observed 35% higher ESA drug costs in patients treated with DARB compared to EPO.

**PCN33**

**OPEN VERSUS LAPAROSCOPIC PROCEDURES FOR COLECTOMY SURGERY FOR PATIENTS WITH COLON NECROTIC CANCER: AN ANALYSIS OF OPPORTUNITY COSTS, UNDER THE PERSPECTIVE OF A PRIVATE HOSPITAL IN BRAZIL**

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**OBJECTIVES:** To identify if there are opportunity costs of two different surgery techniques (open (OP) versus laparoscopic (LAP)) for colon rectal cancer surgery under the perspective of a private hospital in Brazil. METHODS: According to the literature (King, 2006), LAP allows reduction of 32% of the length-of-stay (LOS) for patients that underwent colectomy surgery for OP versus 6 days for LAP. A 17% conversion during the intervention from LAP to OP was considered since this was also reported (King, 2006e) and confirmed by the opinion of specialists. An analytical decision model was built under a hospital standpoint. Only direct medical costs were considered. The base-case analysis assumed a full reimbursement scheme for devices (SIMPRO, 2009). For medical fees, ICU and in-patient costs, the CBHPR 5th edition (Brazilian fee list) and the PROAHSRA report were taken. Different LOS scenarios were simulated ranging from 8 days until 22 according to the literature review. A discount rate was not considered because the time horizon was shorter than one year. RESULTS: For patients that underwent OP the adoption of LAP would save from 2.6 days to 7 days. This reduction in LOS could generate cost opportunities ranging from R$880, for 2.6 days reduction to R$3270, for 7 days reduction. CONCLUSIONS: Findings suggest LAP allows a faster discharge of patients that underwent colon resection surgery providing the hospital with the opportunity to reduce the LOS and, as a consequence, streamline both the use of both hospital facilities and other medical resources.

**PCN34**

**ECONOMIC BURDEN OF MYELODYSPLASTIC SYNDROMES AMONG US MEDICARE BENEFICIARIES: INCREASED COSTS IN TRANSFUSION DEPENDENT PATIENTS**

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**OBJECTIVES:** Previous studies have shown that patients with myelodysplastic syndromes (MDS) requiring blood transfusions are at increased risk of developing co-morbidities. This study sought to determine the Medicare costs in the first 3 years following MDS diagnosis and evaluate whether blood transfusion dependent MDS patients incur additional costs. METHODS: A retrospective review of Medicare Standard Analytic Files was performed. Patients with ICD-9-CM code 238.7 in the first quarter of 2003, with no prior diagnosis of anemia of known causes or myeloid leukemia, were identified and followed until death or end of 2006. Health care resource use and total Medicare costs of MDS patients who received blood transfusion vs those who did not during the study period were compared. This timeframe predates the widespread use of “low intensity chemotherapy agents”. RESULTS: 512 patients aged 26-85 years were diagnosed with MDS in the first quarter of 2003. 205 (40%) of these patients received blood transfusions at some point during the study. The mean age was 67.1% (< 67.1%, *P* < 0.001), admitted to emergency room (87.8% vs. 73.9%, *P* < 0.001), received growth factor treatments (39.5% vs. 26.4%, *P* < 0.001) and developed hemachromatosis (3.4% vs. 1.6%, *P* = 0.019) than non-transfused patients. Three-year cumulative Medicare costs were $88, 224 per transfusion patient vs $79, 918 per non-transfused patient (p < 0.001). Hospital inpatient care and physician care constituted 43% and 31% of the total costs, respectively. CONCLUSIONS: MDS patients receiving transfusion were associated with end-organ impairment and incurring significantly higher Medicare costs than patients not receiving transfusions.