cost-effective. CONCLUSIONS: While the current practice of recommending DMT for any patient with progressive MS results in substantial health gains, these gains come at a very high drug cost, rendering the incremental cost-effectiveness ratios of each of the DMTs far above currently accepted standards.

DIRECT HEALTH CARE AND WORKLOSS BURDEN OF CHEMOTHERAPY-ASSOCIATED PERIPHERAL NEUROPATHY IN BREAST, OVARIAN, HEAD AND NECK CANCER OR NON-SMALL CELL LUNG CANCER


Analysis Group, Inc, Boston, MA; USA; ‘tis I Lily and Company, Indianapolis, IN, USA; Cedars-Sinai Outpatient Cancer Center, Los Angeles, CA, USA

OBJECTIVES: Chemotherapy-associated peripheral neuropathy (CAPN) is a painful side-effect of chemotherapy. Comprehensive measures of health outcomes, medical costs, and work-loss burden of CAPN in patients with breast, ovarian, head, and neck, or non-small cell lung cancer (NSCLC) have not been quantified. This study assesses the outcomes and direct and indirect cost burden of CAPN in these four tumor types from a third-party payer perspective. METHODS: Data were from an administrative claims database of privately insured companies covering 1999-2006. Patients with qualifying tumors, and claims for chemotherapy and services indicative of peripheral neuropathy (PN) within 9-months of chemotherapy were selected. Cases were matched 1:1 to controls with no PN-related claims based on cancer type, diabetes history, demographics, and propensity for reporting PN claims during the study period (estimated on baseline resource use and comorbidities). Direct costs and resource use were calculated for a 12-month study period using diagnosis and procedure codes, pharmacy claims, and other specialty codes. Indirect costs were obtained for a subset of patients that had disability and medically related absenteeism data. Comparisons of cost and resource use between cases and controls used paired t-tests. RESULTS: Among patients treated for breast, ovarian, head, and neck, and NSCLC, 454 were identified who met inclusion criteria and had evidence of CAPN. Average direct costs were $17,344 higher for CAPN cases than non-CAPN controls (p < 0.0001). Outpatient costs were the highest component for both cases and controls with cases having excess outpatient costs of $8,092 (p < 0.001). On average, each CAPN case had 12 more outpatient visits than controls (51.3 vs. 39.8 visits; p < 0.0001), and spent more days in the hospital (5.6 vs. 3.2 days; p < 0.001). Indirect resource use and costs were higher for cases but not statistically different from controls. CONCLUSIONS: CAPN is associated with increased direct medical cost and resource use of patients with breast, ovarian, head, or NSCLC.

PRESCRIBING PATTERNS AMONG DEMENTIA PATIENTS AT THE VETERANS AFFAIRS MARYLAND HEALTH CARE SYSTEM (VAMHCS)

Kurtinzer GB, Delaite S, Onukwuha E, Mullins CD.

University of Maryland School of Pharmacy, Baltimore, MD, USA; University of Maryland School of Medicine and VA Maryland Health Care System, Baltimore, MD, USA

OBJECTIVES: Dementia patients often receive cholinesterase inhibitors and/or memantine (CIM) for cognitive symptoms, and antidepressants (AD) for behavioral symptoms. Ideally, patient demographics or clinic locations have no effect on care received. We explored whether patient demographics and/or outpatient referrals to specialists (i.e., neurologists) and mental health clinics intensified the likelihood of receiving CIM/AD medications. METHODS: Veterans' Affairs Maryland Health Care System (VAMHCS) electronic medical records were used to select a cohort, based on diagnosis codes or medications indicating Alzheimer's or related dementias. Patients aged 60 and over, with two or more clinic visits after 1999 were selected. Additional criteria included minimum of one year follow up or death within a year of index date. The outcome (referrals) was categorized as receipt of CIM, receipt of AD, receipt of both CIM/AD (receipt of neither medication type). Multivariable nonmultinomial logistic models (MLM) explored predictive of CIM and AD utilization categories, including age, gender in cohort, race, marital status, and referrals to dementia or mental health clinics. RESULTS: A cohort of 1359 patients, average age of 78.1 (SD 6.0) years and 22% African-Americans, was followed up for an average of 3.1 (SD 1.9) years. Thirty-five percent had mental health or dementia clinic visits while 18% visited both clinics. Significant associations were found for receiving both CIM and AD medications versus receiving no medication for years in cohort (OR = 1.237, p < 0.0001), African-American race (OR = 0.437, p < 0.0001), age (OR = 0.566, p = 0.0288), marital status (OR = 1.492, p = 0.0339) and mental health clinic visit (OR = 3.386, p < 0.0001). Dementia clinic visit was associated with CIM only but not receipt of both medications (OR = 1.405, p = 0.0996). CONCLUSIONS: In veterans with possible dementia, demographic factors and care at dementia/mental health clinics impact the likelihood of receiving CIM/AD medications. These found associations need to be further investigated for their potential impact on patient outcome.

COST-UTILITY OF INTERFERON BETA-1B IN THE TREATMENT OF PATIENTS WITH A CLINICALLY ISOLATED SYNDROME SUGGESTIVE OF MULTIPLE SCLEROSIS: MODEL UTILIZING FIVE YEAR BENEFIT DATA


Biostatistics & Health Outcomes, Inc, Lexington, MA, USA; Bayer Healthcare Pharmaceuticals Inc, Montvale, NJ, USA; Bayer Schering Pharma AG, Berlin, P100, Germany

OBJECTIVES: To estimate the cost-utility of interferon-beta-1b (IFN-B1b) for the treatment of patients with a clinically isolated syndrome (CIS) suggestive of multiple sclerosis (MS) using five year BENEFIT clinical trial data. METHODS: We developed a Markov model of the epidemiology and treatment of CIS and MS. A hypothetical cohort of 1000 patients with incident CIS, with initial health states defined by Kurtzke’s Expanded Disability Status Scale (EDSS), was specified. The cohort was assumed to be treated with (240 mg) or not treated (240 mg) until reaching EDSS 6.5. Direct and indirect medical costs of MS treatment and IFN-B1b were estimated using published literature and pricing schedules. Patient utilities were derived from EQ-5D data from BENEFIT, supplemented by published data derived by EDSS score and relapse occurrence. Mortality was estimated using life tables and EDSS data. Costs (2007 AUD) and outcomes were discounted at 5% per annum. Sensitivity analyses were performed on all key parameter models. RESULTS: Use of IFN-B1b was associated with fewer EDSS transitions, longer time to CDMS diagnosis, and a reduced relapse burden. In the base case (Australian perspective, 25-year time horizon), the incremental cost utility of IFN-B1b versus no treatment was AUD 20,000 (USD 14,000) per quality-adjusted life year (QALY) gained. Findings were sensitive to time horizon, IFN-B1b cost and treatment effect, and underlying rate of disease progression. CONCLUSIONS: This model shows that IFN-B1b treatment of patients with CIS is cost-effective with a cost per QALY gained within the range of many well accepted health care interventions.

PODUCATION SESSION IV: HEALTH CARE MANAGEMENT STUDIES

EFFICIENCY AND ECONOMIC BENEFITS ASSOCIATED WITH THE USE OF A PAYER-BASED ELECTRONIC HEALTH RECORD IN AN EMERGENCY DEPARTMENT AMONG A HEALTH INSURED POPULATION

Galw D, Ewen E, Willey V, Shirazi M, Malone DC.

HealthCare, Wilmington, DE, USA; ‘Christiana Care Health System, Newark, DE, USA; University of the Sciences in Philadelphia, Philadelphia, PA, USA; University of Arizona College of Medicine, Tucson, AZ, USA; University of Arizona College of Pharmacy, Tucson, AZ, USA

OBJECTIVES: Health information exchange technologies are being implemented widespread with goals of improving efficiency and costs of care. The need for timely, accurate, and pertinent information is most critical in the emergency department (ED). This study evaluated the use of a payer-based electronic health record (P-EHR), which includes a clinical summary of a patient’s medical and pharmacy claims, in an ED on length of stay (LOS) and costs of care among a commercially insured population. METHODS: A large urban hospital implemented a P-EHR in the ED. The P-EHR was evaluated using administrative claims and supplemental hospital data. Encounters with P-EHR use were identified from claims between September 1, 2015 and February 17, 2016. Accounting for seasonal variation, historical comparison encounters were identified from November 1, 2004 to March, 31, 2005. Outcomes included ED LOS and cost for the ED encounter. Control variables included age, gender, pre-encounter six month health care utilization and costs, comorbidity burden, plan type, day of week (weekday vs. weekend), primary diagnosis, triage severity scores, and ED census. Analyses used multivariate general linear models and non-parametric bootstrap for standard errors of predictions. RESULTS: A total of 2288 ED encounters were analyzed (779 P-EHR/1509 comparison), ED only P-EHR encounters were discharged 19 minutes quicker (95% CI: 3–33 minutes) as compared to encounters not associated with P-EHR. Among encounters resulting in hospitalization with the P-EHR, there was associated with a 77 minute reduction in LOS (95% CI: 28–126 minutes) as compared to non-P-EHR encounters. The use of the P-EHR was also associated with $1560 (95% CI: $431–$2910) savings in total plan expenditures for encounters resulting in hospitalization. No significant difference in costs was observed among ED-only encounters. CONCLUSIONS: This study highlights that a P-EHR can have a meaningful impact on ED throughput and costs. These benefits may translate into improvement in the care provided to patients and their satisfaction.

USING DECISION MODELING TO MAP PHARMACISTS INTERVENTIONS TO OUTCOMES FOR PATIENTS WITH DIABETES

Pinto SL, Bechtol R, Zhang Y.

University of Toledo, Toledo, OH, USA

OBJECTIVES: To determine the cost savings resulting from specific pharmacist inter- ventions provided to patients with diabetes and their physicians, using a decision analysis modeling approach. METHODS: Prospective, cohort study using Lucas County employees with diabetes enrolled in an employer-sponsored Medication Therapy Management program in Northwest Ohio. An expert (comprising of clinical pharmacists and researchers) opinion guided clinical model pathway was developed to identify and map specific pharmacist interventions to corresponding responses and outcomes. Interventions included: 1) alerting physician of patient’s abnormal A1c and/or blood sugar profiles; 2) pattern management; 3) instructing on the proper use of injectables; 4) glomerator training; 5) advising patients on best way to correct hypoglycemic/hyperglycemic episodes. Data was extracted from patient charts and entered into Microsoft Excel. A 1-year decision-analytic model was constructed using The TreeAge Pro Suite 2008 to identify the cost-savings per intervention. Probabilities for the interventions, responses, and outcomes were obtained from real-world data. For example,
the positive response ratio was calculated by dividing the number of patients who followed the pharmacist advice to total number of patients to whom the advice was provided. The cost saving per patient per year was determined from available literature.

RESULTS: A total of 180 interventional strategies were implemented by the pharmacists. Pattern management (n=90, 55.5%) and diabetes physicals (n=9, 6.6%) were the most frequent. The most accepted interventions were glaucoma treatment (2 cases, 100%), advising to correct hypoglycemic/hyperglycemic episodes (12, 66.7%), and instructing on the proper use of their injectables (3, 60%). Cost savings of $1914/ patient/year were estimated as a result of the 9th and 5th intervention. Also, interventions 2, 3 and 5 resulted in cost-saving of $1161, $1203, and $1533 per patient per year respectively. CONCLUSIONS: Our model showed that pharmacist interventions can result in significant cost savings among diabetic patients.

IMPACT OF A SPECIALTY CARE MANAGEMENT PROGRAM ON MEDICATION ADHERENCE AND HEALTH CARE UTILIZATION AMONG NON-ELDERLY ADULTS WITH MULTIPLE SCLEROSIS

Yu J. Tan, Singer J*

HealthCore, Inc., Wilmington, DE, USA

OBJECTIVES: To evaluate the impact of a specialty care management program (Pre-cisionRx Pharmacy Management) on medication adherence, risk of hospitalization, and costs of care among MS patients. METHOIDS: This study was a retrospective analysis of administrative claims from 13 geographically dispersed US commercial health plans. Patients aged 18–64 years with 2 claims of MS diagnosis and at least 1 MS medalion were propensity matched (p=0.01) to be hospitalized for NCDs (adjusted odds ratio: 0.53 (0.30, 0.87), p=0.0011), and had 25% higher MS-related costs (95% CI: 20%-31%, p < 0.001), controlling for other covariates. The relatively larger increase in MS-related costs from pre-index to post-index among the managed group (median: $3791 vs. $2255) was primarily driven by larger increase in their pharmacy costs (median: $3968 vs. $1885). CONCLUSIONS: Overall, this specialty care management program was associated with better medication adherence and lower risk of MS-related hospitalization. The associated higher MS-related costs among the managed group could be explained by their relatively larger increase in pharmacy costs, as expected due to better medication adherence and high costs of MS medication.

THE IMPACT OF A PHARMACIST-PROVIDED TELEPHONE MEDICATION THERAPY MANAGEMENT PROGRAM ON MEDICATION AND HEALTH-RELATED PROBLEMS, MEDICATION ADHERENCE, AND TOTAL DRUG COSTS AMONG MEDICARE BENEFAIRIES: A 6-MONTH FOLLOW-UP STUDY

Tadros M*, Moczygemba LR, Borzillo J, Hodes J, Richmond, VA, USA

OBJECTIVES: To determine if differences existed between the intervention group [after participating in a pharmacist-provided telephone medication therapy management (PPTM) program] and the control group in: 1) Medication-related health problems (MRHPs); 2) Medication adherence; and 3) Total Part D drug costs. METHODS: This quasi-experimental study of Part B beneficiaries from a Texas health plan used the Andersen Model as its theoretical framework. Predisposing factors were age, gender, and race; need factors were numbers of medications and number of chronic diseases. The intervention behavior was PPTM participation. Outcomes were changes in: 1) Number of MRHPs; 2) Medication adherence using medication possession ratio (MPR); and 3) Total drug costs. Multivariate regression was used for group comparisons of outcomes. RESULTS: The intervention (n=60) and control (n=60) groups were not statistically different in predisposing or need factors except for gender: intervention = 51.7% male; control = 28.3% male; p = 0.009). At baseline, 4.8% (±2.7) MRHPs were identified in the intervention group and 9.2% (±2.9) in the control group. At the 6-month follow-up, 2.5% (±2.0) and 7.9% (±3.0) MRHPs remained, respectively. Multivariate regression revealed that the intervention group had significantly more MRHPs resolved (p = 0.0003) when compared to the control group, while controlling for predisposing and need factors. There were no other significant predictors of MHRP resolution. Analyses showed no statistically significant differences in the resolution rates of MHRP by sex, age, and total drug costs.

CONCLUSIONS: A telephone MTM program was effective in resolving MRHPs among Medicare beneficiaries; however, no significant differences existed between the intervention and control groups in medication adherence and total drug costs.