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.

ND2

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

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OBJECTIVES: Chemotherapy-associated peripheral neuropathy (CAPN) is a painful side-effect of chemotherapy. Comprehensive measures of health outcomes, medical costs, and workloss burden of CAPN in patients with breast, ovarian, head/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 provider 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/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 $8092 ($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/neck, or NSCLC.

ND3

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

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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 specialized dementia or mental health clinics influenced the likelihood of receiving CIM/AD medications. **METHODS:** Veteran's 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 above, with index dates after 1999 were selected. Additional criteria included: minimum of one year follow up or death within a year of index date. The outcome (referent) was categorized as: receipt of CIM, receipt of AD, receipt of both CIM/AD (receipt of neither medication type). Multivariable multinomial logistic models (MLM) explored predictors of CIM and AD utilization categories, including age, time 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 = 0.966, $p = 0.0288$),) 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.

ND4

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

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OBJECTIVES: To estimate the cost-utility of interferon-beta-1b (IFNB-1b) 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 Symptom Scale (EDSS), was specified. The cohort was assumed to be treated with either IFNB-1b (250 mcg eod) following an initial demyelinating event suggestive of MS or not treated until confirmation of Poser-defined MS. Data from BENEFIT were used to model EDSS transitions and transition from CIS to MS. Relapses were estimated from BENEFIT and published natural history data. Following transition to MS, all patients were assumed to be treated with IFNB-1b until reaching EDSS 6.5. Direct and indirect medical costs of MS treatment and IFNB-1b were estimated using published literature and pricing schedules. Patient utilities were derived from EQ-5D data from BENEFIT, supplemented by published data defined 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 model parameters. **RESULTS:** Use of IFNB-1b 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 IFNB-1b versus no treatment was AUD 20,000 (USD 14,000) per quality-adjusted life year (QALY) gained. Findings were sensitive to time horizon, IFNB-1b cost and treatment effect, and underlying rate of disease progression. **CONCLUSIONS:** This model shows that IFNB-1b treatment of patients with CIS is cost-effective with a cost per QALY gained within the range of many well accepted health care interventions.

PODIUM SESSION IV: HEALTH CARE MANAGEMENT STUDIES

HM1

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

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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, 2005 and February 17, 2006. 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 (weekend vs weekday), primary diagnosis, triage severity scores, and ED census. Analyses used multivariate generalized 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:5–33 minutes) as compared to encounters not associated with the P-EHR. Among encounters resulting in hospitalization, the P-EHR 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:$43–$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.

HM2

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

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OBJECTIVES: To determine the cost savings resulting from specific pharmacist interventions 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 profile; 2) pattern management; 3) instructing on the proper use of injectable; 4) glucometer 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,