by the FDA for the treatment of cSSIs. This study investigated the economic implications of treating cSSIs with ceftobiprole, compared to vancomycin or ceftazidime.

METHODS: A discrete event simulation of acute anti-infective treatment in patients with cSSI was developed. Three copies of patients were created. Each copy was assigned to a treatment (ceftobiprole, vancomycin, or ceftazidime). Patient-specific clinical course was simulated using data from clinical trials of ceftobiprole (patient and infection characteristics, cure rates, treatment duration, length of hospital stay, adverse event rates, treatment discontinuation, use of subsequent treatments). Patient-specific covariates were determined based on the extent to which the treatment covered the pathogens causing the infection (MRSA only, Gram-positive non-MRSA, Gram-negative, and other possible combinations). Costs in 2007 USD were taken from published sources. Various events (relapse, treatment adjustment, death) and the associated medical costs were estimated over a treatment episode (49 days). Results are based on 100 simulations of 1,000 patients each. RESULTS: The mean cost per patient was estimated to be $19,247 treated with ceftobiprole vs. $19,884 for vancomycin and $19,721 for ceftazidime. The frequencies of cure, relapse, and death were similar across the groups. Less than 1% of patients started on ceftobiprole required treatment escalation compared to 23% for vancomycin and ceftazidime, indicating that ceftobiprole provided broader coverage against the causing pathogens of cSSIs, thus patients received adequate coverage more promptly. CONCLUSIONS: Using ceftobiprole for treatment of cSSIs is expected to provide similar cure rates without increasing costs compared to vancomycin and ceftazidime in the US.

THE IMPACT OF AGE DEPENDENT UTILITY ON THE COST EFFECTIVENESS OF PEGYLATED INTERFERON AND RIBAVIRIN VERSUS INTERFERON AND RIBAVIRIN AS TREATMENT FOR GENOTYPE 1 PATIENTS WITH CHRONIC HEPATITIS C

McKinnon P1, Yuan Y2, Townsend K1, Ken RW2
1Chair, Myers Squibb Company, Plainsboro, NJ, USA, 2Myo College of Medicine, Rochester, MN, USA

OBJECTIVES: It is common for published models describing the treatment effectiveness of managing chronic hepatitis C (CHC) to assume those subjects achieving a sustained virologic response (SVR) attain a health utility of one; equivalent to perfect health. Our objective was to evaluate the impact of using age dependent utility weights on the cost effectiveness obtained in a CHC model. METHODS: A Markov model describing the natural history of CHC in patients with genotype 1 was developed to estimate the cost effectiveness of treatment with peginterferon α2a plus ribavirin (PEG) versus interferon α2b plus ribavirin (IFN). The model was populated with data and validated using a previously published cost effectiveness model. The model was re-calibrated using age dependent utility weights for patients achieving SVR and run over a lifetime taking a payer perspective, with both costs and benefits discounted at 3.5%. RESULTS: The cost per quality adjusted life years (QALYs) of PEG versus IFN obtained using age independent SVR disease state utility value of patients achieving SVR were: $2,173 for those aged 40 years, $3,955 for those aged 50 years, $4,812 for those aged 60 years and $18,485 for those aged 70 years. The same analysis performed using age dependent utility values were: $2,373 for those aged 40 years, $5,931 for those aged 50 years, $14,924 for those aged 60 years, and $46,123 for those aged 70 years. CONCLUSIONS: Health utility is an important driver of cost effectiveness in CHC economic models. Compared to the base case, age dependent utility weights substantially increase the cost effectiveness ratios, particularly in patients aged 60 years or over. The assumption that patients attaining SVR have perfect health has the potential to bias decision making and there is, therefore, a need for future research that better describes the utility profile associated with subjects achieving SVR.

COST EFFECTIVENESS ANALYSES (CEA) OF LOPINAVIR/RTV (LPV/RTV) AND ATAZANAVIR PLUS RITONAVIR (ATV + RTV) REGIMENS FOR ANTIRETROVIRAL (ARV) NAIVE HIV-INFECTED PATIENTS BASED ON CASTLE 48-WEEK STUDY. APPLICATION TO GERMANY, ITALY, SPAIN, AND THE UNITED KINGDOM

Simioni MN1, Diez B1, Baran RW2, Kohlb F11, Macielo T1
1Medical University of South Carolina, Charleston, SC, USA, 2Abbott GmbH & Co. KG, Ludwigshafen, Germany, 3Abbott Laboratories, Abbott Park, IL, USA

OBJECTIVES: No differences in viral load (VL) or CD4 + T-cell count at 48 weeks were observed between the CASTLE study. However, patients were older in 7% and 18% of subjects receiving ATV + RTV and LPV/r, respectively. These measures can predict outcomes which affect the future cost of HIV in European health systems. Our objective was to examine expected CEA and budget impact of LPV/r vs. ATV + RTV for patients similar to the CASTLE population, for Germany, Italy, Spain, and UK. METHODS: Using a previously published Markov model of HIV disease and newly developed cost data, we compared the cost/QALY and budget impact of the two ARV regimens. This model used TLG classes at 48 weeks and the Framingham risk formula to include effects of cardiovascular disease in the model. We used 2009 health services perspective. RESULTS: The CHD risk favored ATV + RTV, resulting in a life expectancy increase of 0.033 QALYs (11 days). Cost effectiveness ratios for ATV + RTV were: Germany £239,700; Italy £178,836; Spain £260,531; UK £135,219 per QALY. Five year per patient savings were estimated for LPV/r: £46057; Italy £2681; Spain £3275; UK £1644. If all subjects were assumed to be smokers on anti-hypertensive medication, life expectancy improved by 0.088 QALYs (32 days) favoring ATV + RTV. However, the ICERs produced under this scenario were £96,812/QALY and £65.279/QALY in Germany and UK, respectively. CONCLUSIONS: Based on these cost effectiveness ratios, selecting an ATV + RTV based regimen in ARV naive populations with a CHD risk similar to subjects in the CASTLE study does not appear to be a cost effective use of scarce resources in any of the countries evaluated. Furthermore, costs associated with the very small added CHD risk incurred by LPV/r treatment are more offset by its short and long term cost savings.

COSTS OF RECRUITING PATIENTS WITH HIV INTO A RANDOMIZED CLINICAL TRIAL OF BEHAVIORAL INTERVENTIONS FOR ANTIRETROVIRAL MEDICATION ADHERENCE

Malewski D1, Rasu R1, Thomson N2, Banderas J2, Goggin K1
1University of Missouri Kansai City School of Pharmacy, Kansas City, MO, USA, 2University of Missouri Kansas City, Kansas City, MO, USA

OBJECTIVES: Analyze and identify total time and cost of recruiting patients into a randomized clinical trials (RCT) of Motivational Interviewing-based behavioral interventions to enhance antiretroviral therapy (ART) adherence. Despite numerous federally funded RCTs, little literature describes the cost of recruiting patients into behavioral interventions to enhance ART adherence. METHODS: A secondary data analysis of recruitment data collected for Project MOTIV8 (R01 MH68197) was conducted. Data from 204 HIV+ patients recruited from the Kansas City metro area between June of 2004 and August of 2008 were examined for this cost analysis. Direct labor costs for all recruitment staff were collected. Microsoft Excel spreadsheet was used to determine number of attempted recruits, average time spent to recruit/retain a patient, number of successful enrollments, and project resources spent on recruitment. Discounting and sensitivity analysis was done to determine the robustness of this cost analysis. RESULTS: Over four projects Project MOTIV8 screened 1710 patients and successfully enrolled 204 patients (11.9%) into the study. The ratio of patients approached to successfully enroll was 8.3:1. Ten minutes was the average time spent to recruit a patient, however it required 1.4 hours of effort to enroll an eligible patient in the study. All costs are reported in 2008 dollar value. The total cost associated with four staff members working on the recruitment effort came to $243,628 (283 hours) over the study period. The cost for attempted recruitment was $134,641 (10 minute average) and the cost for successful enrollment was $1204.05 (1.4 hours) for patients with HIV. CONCLUSIONS: The costs associated with recruiting participants into a study are often overlooked and underestimated. This economic analysis can serve as a guide to determine the budget for actively enrolling patients with specific risk behavior. This data provides information for understanding ancillary costs and will help to shed light on unique challenges in the HIV business environment.

INFECTION – Patient-Reported Outcomes Studies

A RETROSPECTIVE EVALUATION OF PATIENT ADHERENCE TO ANTIRETROVIRAL THERAPY: PROPORTION OF DAYS COVERED VERSUS MEDICATION POSSESSION RATIO

Fowler JA1, Barner J2, Crismon ML2, Argo TR3, Smith TL4
1University of Iowa Hospitals and Clinics, Iowa City, IA, USA, 2University of Texas at Austin, Austin, TX, USA, 3Yova VA Medical Center, Iowa City, IA, USA, 4Seton Shoal Creek Hospital, Austin, TX, USA

OBJECTIVES: The primary purpose of this study was to determine the relationship between psychotropic medication possession ratio and adherence to combination antiretroviral therapy. As a secondary analysis, adherence to combination antiretroviral therapy as measured by proportion of days covered (PDC) was compared to adherence based on the medication possession ratio (MPR) in order to facilitate comparison between the results of this study and those of previous studies evaluating antiretroviral adherence. METHODS: Data were extracted from Texas Medicaid files. Included subjects were adults with prescription claims for at least three antiretroviral medications indicated for treatment of HIV infection within a 3-month period between 1/1/2004 and 12/31/2004. PDC was defined as the total number of days during the 12-month follow-up period for which all index antiretroviral medications were available divided by 365 days while, MPR was defined as the average number of days supplied for all antiretroviral medications divided by 365 days (truncated at 100%). Data were analyzed using descriptive statistics. RESULTS: When measured by PDC, the mean adherence rate of combination antiretroviral therapy across the entire sample (N = 1,321) was 39.1% ± 34.6%. Mean adherence was markedly greater when measured by MPR at 70.4% ± 33.5%, with a mean difference between the two measures of 31.3% ± 36.8%. CONCLUSIONS: PDC provides a more conservative estimate of adherence to combination antiretroviral therapy may provide more clinically relevant information than other measures since concomitant use of all medications in the regimen is theoretically required for synergy of viral suppression and optimal HIV outcomes.