THE EFFECT OF RIVASTIGMINE ON THE DIRECT AND INDIRECT COSTS OF ALZHEIMER’S DISEASE
Brooks E, Deal L
Research Triangle Institute, Center for Economics Research, Research Triangle Park, NC, USA

A recent study used data from two Phase III clinical trials of rivastigmine efficacy and safety to model rivastigmine’s effect on the progression of Alzheimer’s disease (AD). In these trials, a patient’s AD status is gauged by measuring cognitive function using the mini-mental state exam (MMSE). The hazard model developed in this study has been used to estimate disease stage-specific savings in direct cost of caring for AD patients resulting from treatment with rivastigmine. OBJECTIVES: We refined this model to estimate precise MMSE score-specific savings and investigate the distribution of cost savings across direct and indirect costs of caring for AD patients. METHODS: MMSE score-specific estimates of AD progression in both untreated and treated patients were combined with both MMSE score-specific estimates of direct and indirect costs of AD, and estimates of the probability of institutionalization from previous studies. We estimated potential savings due to rivastigmine treatment in direct, indirect, and total costs of caring for AD patients in the US. We analyzed the relative magnitudes of these cost savings across MMSE scores for three treatment time horizons. RESULTS: As a percentage of total gross cost savings, savings in indirect costs are greatest for both mild and moderate patients during the first 6 months of treatment. After 2 years of treatment, gross direct cost savings make up the majority of overall cost savings for both mild and moderate patients. CONCLUSIONS: Decreases in likelihood of institutionalization resulting from treatment appear to be driving these results. Results clearly demonstrate long-term savings of early initiation of rivastigmine treatment.

PHARMACOECONOMIC ANALYSES OF DEPOT NEUROLEPTIC TREATMENT IN NATURAL SETTING
Gurovich I1, Kobina S1, Lyubov E1, Litvischenko Y2, Shmukler A1
1Moscow Research Institute of Psychiatry of the Russian Federation, Moscow, Russia; 2Aventis Pharmaceuticals, Inc., Moscow, Russia

OBJECTIVES: The study purpose was to evaluate cost-effectiveness for the treatment with some depot neuroleptics (decanoate zuclopenthixol, decanoate flupenthixol, palmitate pipithosiane) for patients with schizophrenia (ICD-10) in a Moscow community psychiatric outpatient clinic compared with oral forms of conventional neuroleptics. METHODS: In the frame of the first (clinical) stage a 24-week mirror-image cost-effectiveness study was performed. Three cohorts of 34, 29 and 29 patients at high risk of relapse or frequent exacerbation of schizophrenic symptoms and consequent hospitalization were treated with decanoate zuclopenthixol, decanoate flupenthixol, palmitate pipithosiane, respectively. Clinical improvement was evaluated with PANSS u CGI, and dynamic of social functioning and quality of life of patients with original checklist. Severity of extrapyramidal side effects was evaluated with Simpson-Angus scale. Cost analysis was performed including relevant data about the direct and indirect costs (rub. 1998) for all of the patients. At the second (analytic) study stage by means of decision tree simulation model an economic evaluation of treatment with the depot neuroleptics over a hypothetical five-year period was performed. RESULTS: Statistically significant clinical improvement along with improvement of social functioning and quality of life of all of the patients receiving depot were achieved. Economic analysis indicated significant (50%) saving in the total medical cost associated with the patients despite the fact that these medicines have a higher acquisition cost. Twice as much gain was achieved from the societal perspective. Analytic method confirms that long-term treatment with the depot antipsychotics is cost-effective versus standard oral ones. CONCLUSIONS: The treatment of schizophrenia with studied Depot neuroleptics should be considered as an evidence based (first line) maintenance strategy in usual practice setting especially for outpatients with problems of compliance.

PHARMACOECONOMIC ANALYSES OF DEPOT NEUROLEPTIC TREATMENT IN NATURAL SETTING
Karki SD1, Bellnier TJ1, Hager EP2
1SUNY, School of Pharmacy, Buffalo, NY, USA; 2Rochester Community Individual Practice Association, Rochester, NY, USA

OBJECTIVE: The purpose of this study is to compare the cost-effectiveness of three atypical antipsychotics; clozapine, risperidone and olanzapine. METHODS: Patients, treatment refractory to conventional antipsychotics, were started on clozapine or risperidone or olanzapine in an open-label, prospective effectiveness and safety evaluation. Subjects from each treatment group were matched for age, sex, ethnicity, diagnosis, current length of hospitalization and baseline BPRS scores. Samples of 50 patients were randomly selected from each effectiveness and safety evaluation to compare cost-effectiveness by using the change in BPRS score after six months of treatment. RESULTS: BPRS scores were 61, 59, and 59 at baseline and 42, 54 and 42 for clozapine, risperidone and olanzapine at the end of six months. Average prescriptions costs
were $17.44, $9.21 and $13.96 ans the cost/(change in BPRS) were $2.91, $4.13 and $2.41 for clozapine, risperidone and olanzapine respectively indicating olanzapine as the most cost-effective. The difference between the cost/(change in BPRS) for olanzapine and risperidone was statistically significant ($P = 0.036$, $t = -2.1234$, $df = 98$) ($-1.72$--$-3.34$--$-0.10$). CONCLUSION: Results of our evaluation indicate that olanzapine is the most cost-effective antipsychotic in our population of severe and persistently mentally ill patients with schizophrenia and schizoaffective disorders. We recommend that simple cost-evaluative evaluations be made in every institution before deciding on the formulary or the preferred status of any atypical antipsychotic as it depends upon many variables.

**PMH8**

COST-EFFECTIVENESS OF STRATIFIED CARE IN THE MANAGEMENT OF MIGRAINE

Rapport A, Lipton RB, Williams P, Sawyer J

1 New England Center for Headache, Stamford, CT, USA; 2 Albert Einstein College of Medicine and Innovative Medical Research, New York, NY, USA; 3 Genesis Pharma Strategies, Beaconsfield, UK; 4 AstraZeneca, Macclesfield, UK

The Disability In Strategies for Care (DISC) study demonstrated that stratified care (where more disabled patients commenced treatment with zolmitriptan 2.5mg) resulted in superior clinical outcomes compared with conventional stepped care (where patients commenced the same treatment regardless of disability). However, there are no prospective studies of the cost-effectiveness of stratified care. OBJECTIVE: To assess the cost-effectiveness of stratified care in managing migraine. METHODS: A decision-analytic model was built to represent primary care treatment of migraineurs under stepped and stratified care, according to the treatment regimens in the DISC study. A health service perspective was adopted, with a one year time horizon. Data inputs were (i) the frequency and disability of migraine, derived from population-based studies. (ii) disability level-specific treatment response rates for OTC analgesics, aspirin/metoclopramide and zolmitriptan were obtained from an international Delphi study; (iii) unit costs of healthcare in the US (drug costs, primary and secondary care consultation costs) obtained from health service sources. RESULTS: The model estimated the cost per successfully treated attack as $80 for stepped care and $45 for stratified care. The estimated one-year direct healthcare costs were $534 for stepped care and $546 for stratified care. Estimates of treatment response rates were 40% and 71% for stepped and stratified care respectively. The incremental cost-effectiveness for stratified care was $2.12 per additional successfully treated attack. The cost-effectiveness of stratified care was robust when tested in a wide range of sensitivity analyses. CONCLUSION: Stratified care is a highly cost-effective method of managing migraine delivering improved clinical outcomes at minimal additional cost.

**PMH9**

A MANAGED CARE VALIDATION PROGRAM FOR A PHARMACOECOOMIC MODEL OF MAJOR DEPRESSION

Casciano J, Arikian S, Doyle JJ, Casciano R

1 The Analytica Group Ltd., New York, NY, USA; 2 Columbia University, School of Public Health, New York, NY, USA

Managed care companies vary substantially in the healthcare management of their membership as well as the financial and contractual arrangement with their provider networks. Therefore, formulary decision-makers could benefit from customization of pharmacoeconomic decision models with planspecfic information. OBJECTIVE: The purpose of this analysis was to validate results of a pharmacoeconomic model for major depression by customizing clinical and financial datasets specific to five managed care organizations (MCOs). METHODS: A pharmacoeconomic model was developed using decision tree analysis over a six-month time horizon to assess the acute phase of major depression for inpatients and outpatients. Success and failure rates for TCAs, SSRIs and SNRIs were obtained from a recent meta-analysis. Healthcare resources were incorporated into the model to determine the inpatient and outpatient costs of patient outcomes. To facilitate site-specific customization of the model, a software tool was developed enabling revisions to the base-case practice patterns, resource valuation and epidemiologic data. The model calculated expected cost per patient, expected cost per-member-per-month (PMPM), total annual cost, and 5-year total cost. RESULTS: Over the five plans, the expected annual cost per outpatient was the lowest for venlafaxine at $1,364 to $3,177 and the highest for SSRIs at $1,881 to $4,311. Similarly, the expected annual cost per inpatient again was the lowest at $6,477 to $16,305 for venlafaxine and the highest at $6,963 to $18,171 for the TCAs. CONCLUSIONS: Although results varied across the five customizations of the model, venlafaxine XR was the lowest cost alternative for all plans, validating the pharmacoeconomic results of the original model.

**PMH10**

A MODEL TO PERFORM ECONOMIC EVALUATIONS OF INTERVENTIONS FOR ACUTE MUSCULAR LOW BACK PAIN

Neighbors D, Earnshaw SR, Bell L, Bhatacharya SK

1 Research Triangle Institute, Research Triangle Park, NC, USA; 2 Procter and Gamble Pharmaceuticals, Mason, OH, USA

Acute muscular low back pain (LBP) accounts for over $30 billion in US annual medical costs, and is a leading cause of absenteeism. LBP represents 16% of workers’ compensation claims and 33% of worker’s compensation costs. Successful LBP treatment can yield substantial savings for the healthcare system and employers. OBJECTIVE: To develop a model to estimate changes in healthcare utilization, absenteeism, and cost resulting from LBP...