70). Acute and maintenance phase costs were estimated by assigning prices (in year 2000 dollars) from a standard list to units of applicable medical services. Using a trimmed-means (25% on each tail of the cost distribution) comparison to overcome the skewness in the distribution of cost data, the medication treatment groups were compared.

**RESULTS:** Overall per-patient costs were not significantly different between the olanzapine-treated patients (15.9 ± 4.5 mg/day) and the divalproex-treated patients (1596.4 ± 492.7 mg/day). However, olanzapine treatment was associated with significantly higher medication costs (p < .001), but significantly lower outpatient (p < .001) and overall inpatient (p < .05) costs over the course of treatment. Outpatient costs were higher in divalproex-treated patients due to higher emergency room and other outpatient visits.

**CONCLUSIONS:** These findings suggest that differences in medication acquisition cost are offset by lower costs for other clinical services during olanzapine treatment. Further research is needed to determine the extent to which the present findings can be generalized to practice settings outside of the clinical trial context.

**PMH24**

**THE COST CONSEQUENCES OF CONTINUED TREATMENT-RESISTANCE IN DEPRESSION**

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**OBJECTIVE:** To profile treatment-resistant depression (TRD) patients healthcare costs and medical care patterns as their illness progresses.

**METHODS:** The MEDSTAT MarketScan® Database for 1995–2000 was used. Patients with a depression diagnosis, suicide attempt, or those treated with electroconvulsive therapy were considered. TRD patients were those who either switched or augmented their initial four-week (minimum) antidepressant prescription with at least one more antidepressant prescribed for at least four weeks. Demographic, treatment, and cost profiles were constructed for periods covered by each subsequent antidepressant medication switch or augmentation. Total medical expenditures per day (year-2000 dollars) were calculated and compared for periods between the index date (entry into study) and each subsequent medication switch or augmentation. Negative binomial count regression models were used to assess the impact of factors on number of medication switches or augmentations occurring during the study period.

**RESULTS:** The sample included 7,737 TRD patients; 72% female, 60% employees and 39% in managed care plans. The mean number of medication switches or augmentations following the index prescription was 2.4. Average total healthcare expenditures increased 102% from $363 per month at the initial antidepressant switch date to $1140 per month after six additional medication switches or augmentations. The number of medication switches or augmentations was significantly influenced by the following factors: existence of comorbid mental health problems, type of antidepressant prescribed at the index date, type of depression diagnosis, treatment under a managed care plan, single or family insurance coverage, and length of time patients were followed.

**CONCLUSIONS:** Most treatment-resistant patients had multiple medication switches or augmentations. Average monthly expenditures more than doubled as the TRD illness progressed through six additional medication switches or augmentations. A better understanding of factors associated with the number of medication switches may lead to promising interventions improving care for patients with treatment-resistant depression.

**PMH24**

**MODELING THE ECONOMIC IMPACT OF GALANTAMINE TREATMENT IN PATIENTS WITH ALZHEIMER’S DISEASE IN DIFFERENT HEALTH CARE SYSTEMS**

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**OBJECTIVES:** To estimate the long-term health and economic impact of treating patients with Alzheimer disease with galantamine (Reminyl) in different countries.

**METHODS:** A pharmacoeconomic model, The Assessment of Health Economics of Alzheimer’s Disease (AHEAD), was used to predict the time until Alzheimer’s disease patients require full-time care and the associated costs. Full-time care was the consistent requirement for a significant amount of care giving and supervision each day. Efficacy data were obtained from three clinical trials comparing galantamine with placebo. For each country, local data were obtained on service use, balance of care between community and institutions, and relevant unit costs. Analyses were completed for The Netherlands, Sweden, Finland, Germany, UK, Canada and New Zealand. Forecasts were made for up to ten years. Costs are reported in 2001 currencies and determined from a perspective somewhat broader than that of a comprehensive payer, including the cost to a national health service as well as other relevant stakeholders such as providers of social care services. Both health benefits and costs were discounted at 3%. Sensitivity analyses were carried out on key input parameters and combinations of these parameters.

**RESULTS:** In each country, full-time care was estimated to account for at least two-thirds of the cost of caring for patients over ten years, and more than 60% of this cost was from providing institutional care. Galantamine is predicted to reduce the duration of full-time care by
almost 12%. Approximately five patients need to be placed on treatment to avoid one year of full-time care, resulting in incremental savings in the majority of countries.

CONCLUSIONS: Delaying the time to full-time care is expected to produce savings in the majority of health care systems. Galantamine was considered to be an economically dominant strategy compared to no treatment in most health care systems.

PMH25
COST IMPACT OF DEPOT DOSAGE FORMS OF ATYPICAL VERSUS TYPICAL ANTIPSYCHOTICS
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“Revolving door” schizophrenia, characterized by frequent hospitalizations, is very costly to the health care system. Standard treatment is depot injection of typical antipsychotics. Atypical antipsychotics in depot form are expected to be more efficacious that typical depots yet will cost much more.

OBJECTIVES: We estimated the total healthcare costs, from a third party payer perspective, of treating revolving door schizophrenia with depot formulations of risperidone and olanzapine as compared to the status quo, haloperidol decanoate.

METHODS: Because depot forms of risperidone and olanzapine are in development, a modeling approach was used. The Markov model depicted events (medication adherence and relapse, defined as hospitalization and switch to clozapine) leading to three Markov states: in community on depot, hospitalized, and in community on clozapine. Clinical probabilities were derived from randomized, controlled trials of comparable oral drugs. Unit costs were obtained from an administrative database and provincial fee schedule and formulary. Product costs for the atypical depots were based on their respective oral costs. Monte Carlo simulation of 10,000 patients was done with a cycle length of one month and time horizon of 5 years. Probabilistic sensitivity analyses were done on all data estimates using Monte Carlo simulation. Threshold analyses were also done on the drug costs.

RESULTS: Total 5-year base case costs (SD) for haloperidol, risperidone and olanzapine alternatives were (Can,) $17,865 (10,867), $15,146 (9797) and $22,362 (6509) respectively. Mean hospitalizations per patient were lowest for olanzapine (0.68) and highest for haloperidol (1.07). Total costs were sensitive only to the risperidone and olanzapine product costs with thresholds of $160 and $177 per month, respectively.

CONCLUSION: Compared with haloperidol decanoate, total healthcare costs for treating “relying door” schizophrenia were greater for olanzapine depot and less for risperidone depot. For olanzapine hospitalization savings were insufficient to offset its much higher product cost. The relative impact of atypical depots on total healthcare costs will depend strongly on their price.

PMH26
A COMPARISON OF RISPERIDONE AND OLANZAPINE MENTAL HEALTH COSTS FOR MANAGED CARE PATIENTS WITH SCHIZOPHRENIA
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The new atypical antipsychotics, although more expensive than traditional agents, may reduce the financial burden posed by schizophrenic illness.

OBJECTIVE: The objective of this study was to compare risperidone versus olanzapine on their impact on the mental health care costs of schizophrenia in a “real-world” setting.

METHODS: This was a retrospective, comparative study based on claims data obtained from two large health care plans during 1996 and 1997. The primary variable analyzed was net patient mental health care cost per member per month (PMPM), defined as total mental health care cost excluding antipsychotic drug cost during treatment episodes with risperidone or olanzapine. The individual components of net mental health care costs were also analyzed. Between-group comparisons (for patients who received one or the other of the antipsychotics) were performed, controlling for differences in patient characteristics. Data was obtained from medical and prescription drug claims of individuals with schizophrenic disorders. Regression models combining risperidone and olanzapine treatment episodes were estimated to determine their effects on mental health resource use.

RESULTS: A total of 129 risperidone (128 individuals) and 273 olanzapine (271 individuals) treatment episodes for schizophrenic disorders fell within the study period. Most components of mental health care costs were lower with risperidone than with olanzapine. Depending on the method of estimation, between-group regression models showed that risperidone reduced net mental health care cost PMPM by 36% (p < 0.01) or 53% (p < 0.01) and total mental health care cost PMPM (inclusive of antipsychotic drug cost) by 32% (p < 0.01) or 44% (p < 0.01) compared with olanzapine. The major difference between risperidone and olanzapine users was in inpatient costs, which were 58% or 68% ($168 or $266) lower PMPM with risperidone, depending on the method of estimation.

CONCLUSION: Relative to olanzapine, risperidone is associated with reduced mental health costs for schizophrenic patients in managed care populations.