A COST-EFFECTIVENESS COMPARISON OF OLANZAPINE AND RISPERIDONE IN THE TREATMENT OF SCHIZOPHRENIA IN ITALY
Beard S1, Lothgren M2, Giudi L3, Ramacciotto P4, Nardini M5, Berardi D6
1RTI Health Solutions, Manchester, United Kingdom; 2Eli Lilly & Company Ltd, Windlesham, United Kingdom; 3Eli Lilly Italia S.P.A, Florence, Italy; 4Centro di Igiene Mentale di Palazzo Boldu, Venezia, Italy; 5Policlinico di Bari, Bari, Italy; 6Istituto di Psichiatria, Bologna, Italy

OBJECTIVES: To assess the relative cost-effectiveness of olanzapine compared to risperidone in the treatment of acute episodes and long-term maintenance of schizophrenia in Italy. METHODS: A decision analysis approach (based on semi-markov modelling techniques) was used to consider the costs and health outcomes of initiating treatment on patients with an acute episode of schizophrenia and a history of relapsing with no prior atypical antipsychotic treatment. The model allowed two alternative atypical antipsychotics to be used before considering patients as being treatment resistant. Clinical response rates were based on changes in BPRS/PANSS scores (>40% improvement) taken from randomised clinical trials. Relapse rates for the first year of treatment were based on literature estimates. Resource use data covering periods in acute episode, stable maintenance and acute relapse health states were based on a combination of published data and clinical opinion. The model was used to compare the costs and health outcomes of olanzapine versus risperidone as 1st line treatment choices over a 3-year period. RESULTS: The base case analysis showed that 1st line use of olanzapine resulted in a reduction of relapses over the 3-year period (37 versus 38 per 100 patients treated). The olanzapine 1st line strategy was associated with an overall cost saving over risperidone of around $50,822 per 100 patients treated (approximately a 2% cost reduction) despite the increased drug costs ($6.64 versus $4.19 per day). CONCLUSIONS: With the context of the Italian health care services the use of olanzapine as a 1st line atypical antipsychotic appears to provide cost-effective health outcomes advantages over risperidone.

ESTIMATING MEDICAL COST REDUCTION IN TREATING SCHIZOPHRENIA WITH CLOZAPINE
Sendersky V1, Lothgren M2, Giudi L3, Ramacciotto P4, Nardini M5, Berardi D6
1Duke University/Novartis Pharmaceuticals Corporation, East Hanover, NJ, USA

OBJECTIVES: Clozapine is a drug of choice for treating neuroleptic resistant schizophrenia, but it has serious side effects. Risperidone has shown efficacy in managing neuroleptic-resistant schizophrenia, without agranulocytosis. To our knowledge, economic evaluations of both drugs in this patient population have not been performed. The objective of this study was to estimate a difference in hospitalization costs for schizophrenic patients on clozapine vs. risperidone over one-year period. METHODS: Estimates of length of stay (LOS) reduction in patients receiving the clozapine or risperidone were obtained from the medical literature by searching MEDLINE and HEALTHSTAR. Two articles examining LOS reduction for patients receiving risperidone and clozapine were identified, and yearly reduction in LOS was examined. To estimate a reduction in hospitalization costs, average daily hospitalization charges from the Healthcare Cost and Utilization Project database were obtained for the diagnosis of schizophrenia (defined as ICD9-codes 295.40–295.45, 295.80–295.82, 295.85, 295.90–295.92, and 295.95). Hospital charges were converted to costs by using a cost-to-charge ratio. All costs were expressed in 2000 US dollars. RESULTS: After starting risperidone, 35 patients had a decrease in LOS by 51 days per year. After starting clozapine, 172 patients had a 132-day decrease in LOS per year, with a difference of 81 hospitalization days, favoring clozapine. The resulting difference in hospitalization costs between patients on clozapine and risperidone patients was estimated as $1,052 per inpatient day. Estimated benefits of reducing hospitalization costs for clozapine patients as compared to risperidone were $85,212 per patient per year. CONCLUSIONS: Clozapine seems to result in reduction in LOS, potentially leading to lower costs of treating schizophrenic patients, as compared to risperidone. More studies are necessary to quantify economic impact of clozapine in this patient population.

A DISCRETE EVENTS MODEL OF LONG-TERM OUTCOMES AND COST OF TREATMENT WITH LONG ACTING RISPERIDONE IN SCHIZOPHRENIA
Heeg BM1, van Aalst G2, van den Arend IJ3, Mehnert A4, van Hout B1
1PharMerit BV, Capelle a/d IJssel, Netherlands; 2Mentrum Mental Health, Amsterdam, Netherlands; 3Janssen-Cilag Nederland BV,Tilburg, Netherlands; 4Janssen Pharmaceutica NV, Beerse, Belgium

OBJECTIVE: To estimate the costs and effects of long-acting risperidone (the first long-acting injectable atypical) as first-line treatment for non-compliant schizophrenic patients, versus a conventional depot and continuing short-acting oral atypical formulations over a five year period in the Netherlands. METHODS: A discrete event model was developed comparing three scenarios. In scenario 1, patients start with haloperidol depot, after which they may be treated with olanzapine and clozapine. Scenario 2 is similar to 1 except that patients start with long-acting risperidone. In scenario 3, patients start (or continue) with olanzapine, after which they may subsequently be treated with risperidone (oral) and clozapine. The model takes account of patient characteristics...
and time dependent variables. Patient characteristics are age, gender, severity, being prone to side effects and the potential to be dangerous. Variables changing in time are outpatient visits, being in a psychotic episode, symptom score, treatment, compliance, having side effects and treatment location. Dependencies are taken into account. Costs are calculated guided by visits, medication and location. Outcomes are expressed in terms of the number and duration of psychotic episodes and the cumulative PANSS-score. Information on treatment alternatives, transition probabilities, model structure and health care utilisation was derived from literature and an expert panel. RESULTS: It is estimated that first-line treatment with long-acting risperidone is economically dominant over the alternatives. Per 1000 patients, it is estimated to prevent approximately 200 and 410 relapses in five years compared to scenario 1 and 3. Correspondingly, it is estimated to save £15,115 and €6,972 per patient. Sensitivity analyses show that the conclusion of economic dominance is very robust. CONCLUSION: Long-acting risperidone combines additional effectiveness with cost savings in patients with a high probability of being non-compliant, and should be preferred first-line treatment over oral atypicals and conventional depots.

PMH6

DIRECT MEDICAL COSTS FOR TREATMENT OF PATIENTS EXPERIENCING BIPOLAR DISORDER EPISODES IN THE UK
Finnern HW1, Lothgren M1, Gandhi G2
1Eli Lilly & Company Ltd, Windlesham, United Kingdom; 2Lilly Research Centre, Windlesham, UK

OBJECTIVE: To estimate resource use and direct medical costs associated with treatment of Bipolar I Disorder (BPDI) and Bipolar II Disorder (BPDII) episodes in the UK. METHODS: A retrospective chart review was conducted covering 19 months of observations on a sample of 134 UK patients aged 18 years or over (average age 48.4 years) diagnosed with Bipolar Disorder. RESULTS: Patients with BPDI experienced an average of 1.11 episodes per year whilst BPDII patients experienced 1.21 episodes per year. The yearly average direct cost for patients who experienced at least one episode during the study period was £7,714 for BPDI patients (n = 68) and £2,980 for BPDII patients (n = 25). There were 103 hospitalisations during the study period and these hospitalisations formed the major component of the total treatment costs with a yearly average hospitalisation cost of £6,280 for BPDI patients and £1,636 for BPDII patients. The average yearly drug cost for BPDI patients was found to be £383 (5% of total cost) and £194 (6.5% of total cost) for BPDII patients. Manic Episodes required twice as many hospitalisations per episode and were associated with a longer length of stay in hospital compared with Depressive Episodes. The average hospital cost was found to be £7,015 for a Manic Episode, £4,574 for a Mixed Episode and £3,787 for a Depressive Episode. CONCLUSIONS: The average treatment cost of a BPDI patient was found to be more than twice the cost of a BPDII patient. The cost difference is driven by the finding that Manic Episodes required more hospitalisations and were associated with a longer length of hospital stay compared with Mixed or Depressive Episodes.

PMH7

BOTTOM-UP OR TOP-DOWN? IMPACT OF PATIENT SELECTION ON COST-OF-ILLNESS
RESULTS
van Asselt AD1, Dirksen CD1, Severens JL2, Arntz A2
1University Hospital Maastricht, Maastricht, Netherlands; 2University Maastricht, Maastricht, Netherlands

OBJECTIVES: Currently in the Netherlands a randomised clinical trial is executed to compare two outpatient psychotherapies for patients with Borderline Personality Disorder (BPD). The goal of the present study was to calculate the cost-of-illness (COI) of BPD for Dutch Society. METHODS: We used a prevalence-based approach, which takes into account total yearly costs of all patients who are diagnosed with BPD at a certain point in time. COI was calculated both top-down and bottom-up. For top-down calculation, prevalence figures from existing registrations and costs of the Dutch health care system from government publications were used. Baseline cost interviews of 88 BPD-patients in the trial were used to estimate bottom-up COI. BPD was defined according to ICD-9 and ICD-10 (top-down) and DSM-IV (bottom-up) classifications. RESULTS: Based on literature, prevalence of BPD in the Dutch general population was estimated at 1.1%. For all cost items, large differences arise between the bottom-up and the top-down approach. Total yearly societal are €200,184,828 top-down, and 16 times as high €3,258,240,100 for bottom-up. Healthcare costs represent 0.03% and 1.03% of total Dutch health care expenditure, respectively. CONCLUSION: Our results show large differences between the two methods. The bottom-up figure probably is an underestimation of true costs due to incomplete registrations. On the other hand, the bottom-up patient group may not be representative of the Dutch BPD population because of the in-en exclusion criteria used in the trial, which exclude the very mild and the very severe cases. In conclusion, we recommend to assess COI and prevalence in a combined design. First, prevalence in the general population is assessed. Subsequently, those subjects diagnosed with the disease under study should be followed, receiving care as usual, in order to determine COI. This is the only way to match bottom-up patient group and total population.