SIONS: Medical treatment costs in the year after initiation on duloxetine decreased by a greater amount among duloxetine patients with greater persistence compared to those who discontinued early. The findings underscore the importance of sufficient length of therapy for major depressive disorder.

PMH47

THE ECONOMIC IMPACT OF ARIPIPRAZOLE AMONG PERSONS WITH SCHIZOPHRENIA IN MEXICO

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OBJECTIVES: The overall cost of care for patients with schizophrenia can increase considerably, due to management of diseases related to the metabolic syndrome such as coronary heart disease (CHD) and diabetes. In the STAR study, aripiprazole is a second-generation antipsychotic that has shown relatively less adverse metabolic effects than other antipsychotics. The objective of this study is to estimate the avoided cost of CHD and diabetes with the use of aripiprazole compared with the standard of care (SOC) treatment (olanzapine, quetiapine and risperidone) in Mexico. **METHODS:** Predictions of avoided diabetes and CHD for patients receiving aripiprazole or SOC were based on risk factor data on metabolic outcomes from the STAR study and related published articles. These calculations were applied to the Mexican population considering a schizophrenia prevalence of 0.7%. The annual cost per patient for the treatment of diabetes and CHD in Mexico was obtained from the literature review indexed to 2009 prices using the national consumption index for health. Cost calculations were discounted by an annual rate of 3.5% and expressed in US dollars at an exchange rate of $13.53 Mexican pesos per dollar. **RESULTS:** The estimated number of avoided cases of diabetes and CHD were of 23.4 and 3.7 per 1000 treated patients with aripiprazole compared with SOC. If patients were treated with aripiprazole as the first agent, the accumulated direct avoided costs over a 10 year period for diabetes would be of US$10 millions and for CHD would be of US$17 million. This represents total accumulated savings for the Mexican Health Care system of US$27 millions during this period. **CONCLUSIONS:** Usage of aripiprazole in the Mexican Health Care system can be translated into a significant reduction of health care costs due to the favorable metabolic profile of this drug when compared to SOC.

PMH48

VALIDATING A COST-EFFECTIVENESS ANALYSIS COMPARING OLANZAPINE WITH ZIPRASIDONE IN THE TREATMENT OF SCHIZOPHRENIA

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OBJECTIVES: A new cost-effectiveness model, using head-to-head data, was developed to validate results from a prior indirect analysis comparing olanzapine with ziprasidone in the treatment of schizophrenia from the perspective of a third-party payer in the United States. **METHODS:** A decision analytic modeling approach was used to estimate the annual medical costs and health outcomes associated with treatment of schizophrenia with the 2 comparators. The decision-tree structure included branches representing key clinical events such as response, relapse, and suicide attempts/completion. Patients without response to first-line treatment switched to the other comparator. Decision-tree probabilities were extracted from a head-to-head study and other published clinical literature. Direct medical costs and quality-adjusted life years (QALYs) were estimated based on resource use (inpatient, outpatient, suicide, and drug costs) and utility weights for initial and relapse episodes, maintenance therapy, and extended episodes of schizophrenia. Disutilities associated with adverse events (extrapyramidal symptoms [EPS], we ight gain, and hypotension) were also considered. One-way and probabilistic sensitivity analyses were performed. **RESULTS:** First-line treatment with olanzapine was associated with fewer hospital days, fewer EPS days, and greater number of QALYs than first-line treatment with ziprasidone. Drug costs were higher for the olanzapine pathway; however, total costs were lower for the olanzapine pathway than the ziprasidone pathway due to cost savings associated with better health outcomes and less medical resource use. The incremental cost per QALY gained indicated that the olanzapine pathway dominated the ziprasidone pathway. The one-way and probabilistic sensitivity analyses confirmed the robustness of the model and its results. **CONCLUSIONS:** The model confirms results of the previous model and indicates that olanzapine is associated with better expected health outcomes and lower costs than ziprasidone. Despite a potential increase in drug costs, treating schizophrenia with olanzapine instead of ziprasidone could lead to cost savings for payers in the United States.

PMH49

COST-EFFECTIVENESS OF ATYPICAL ANTIPSYCHOTICS AS ADJUNCTIVE THERAPY IN ADULT PATIENTS WITH MAJOR DEPRESSIVE DISORDER (MDD)

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OBJECTIVES: Recent approval by the US Food and Drug Administration of three atypical antipsychotics–aripiprazole, quetiapine, and olanzapine–as adjunctive therapy in adult patients with MDD makes examination of their cost-effectiveness important from a payer perspective. **METHODS:** We developed a decision-analytic model to estimate expected outcomes and economic costs in adults with MDD receiving aripiprazole (2–20 mg/day), quetiapine (150 mg/day or 300 mg/day), or olanzapine (6–18 mg/day as a fixed-dose combination with fluoxetine [50 mg]) as adjunctive therapy to ADT. Cost-effectiveness was assessed in terms of the ratio of the expected difference in costs of MDD-related care to the expected difference in clinical response (≥50% reduction from baseline in Montgomery-Asberg Depression Rating Scale) at 6 weeks (i.e., cost per additional responder). Expected costs of MDD-related care included study medication, and monitoring and treatment of adverse events. Model parameters were estimated using data from Phase III trials and published literature. **RESULTS:** With ADT alone, the expected rate of clinical response at 6 weeks was estimated to be 30%. Adjunctive therapy with aripiprazole, quetiapine 150 mg/day, quetiapine 300 mg/day, and olanzapine was estimated to increase clinical response at 6 weeks to 49%, 34%, 38%, and 45%, respectively. Costs of MDD-related care over 6 weeks were estimated to be $164 for ADT alone, $714 for aripiprazole, $498 for quetiapine 150 mg/day, $606 for quetiapine 300 mg/day, and $669 for olanzapine. Cost per additional responder (vs ADT) was estimated to be $2798 for aripiprazole, $7996 for quetiapine 150 mg/day, $5706 for quetiapine 300 mg/day, and $3324 for olanzapine. The cost-effectiveness of adjunctive therapy was most sensitive to the estimated rate of clinical response at 6 weeks and the cost of adjunctive therapy. **CONCLUSIONS:** Adjunctive therapy with atypical antipsychotics substantially increases clinical response at 6 weeks. Cost per additional responder is lower for aripiprazole than quetiapine or olanzapine.

PMH50

COSTS AND EFFECTS OF ILOPERIDONE COMPARED WITH OLANZAPINE AND HALOPERIDOL IN PATIENTS WITH ACUTE SCHIZOPHRENIA: RESULTS FROM A COST-EFFECTIVENESS MARKOV MODEL

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OBJECTIVES: Schizophrenia is a severe chronic psychiatric disease with high treatment costs and social burden. Iloperidone is a recently FDA approved atypical antipsychotic medication for the acute treatment of adult patients with schizophrenia. The aim of this study is to compare the efficacy and cost of oral iloperidone with olanzapine and haloperidol in a cohort with acute schizophrenia over a 1 year period. **METHODS:** Published literature and clinical expert opinions were used to populate a Markov simulation model using TreeAge Pro 2009 software. The model consists of nine 6-week cycles. Clinical response is defined as ≥20% reduction in Positive and Negative Syndrome Scale total scores (PANSS-T) from baseline. Responders can exist in any of the following health states at the end of any cycle: Response with no adverse events (AEs), Response with mild-to-moderate AEs, Response with severe AEs, Relapse, Dropout and Suicide. Relapse is defined as an increase in PANSS-T scores ≥25% following a response period of more than 3 cycles. Efficacy was determined as the average time spent in the Response with no AEs or Response with mild-to-moderate AEs states. Direct costs included hospitalization, side effects, drugs and outpatient care costs. **RESULTS:** The mean time patients spent as responders with no AEs or responders with mild-to-moderate AEs was estimated to be 5.76 cycles (241.9 days) with iloperidone compared to 5.96 cycles (250.3 days) and 6.17 cycles (259.1 days) with haloperidol and olanzapine treatments, respectively. The mean monthly treatment costs were $2521, $2424 and $2292 for iloperidone, haloperidol and olanzapine, respectively. **CONCLUSIONS:** Using a Markov simulation model, olanzapine was more effective than either iloperidone or haloperidol with associated lower costs. Patients spent on average less time as responders with iloperidone treatment compared to haloperidol. These results may be of use when determining the most cost-effective treatment strategy for acute schizophrenia.

PMH51

THE COST-EFFECTIVENESS OF EARLY RESPONDERS VERSUS EARLY NON-RESPONDERS TO ATYPICAL ANTIPSYCHOTIC THERAPY

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OBJECTIVES: To compare the cost-effectiveness of treating early responders versus early non-responders to an atypical antipsychotic (risperidone) and the cost-effectiveness of treating early non-responders maintained on risperidone versus those switched to olanzapine. **METHODS:** This post-hoc analysis used data from a randomized, double-blind, 12-week schizophrenia study (HGMN; n = 628). Participants were initially assigned to risperidone therapy. Early response was defined as ≥20% improvement on the Positive and Negative Syndrome Scale (PANSS) total score from baseline to 2 weeks. Early responders continued on risperidone, whereas early non-responders were randomized (double-blind) to continue on risperidone or switch to olanzapine for 10 additional weeks. Early responders and early non-responders maintained on risperidone were compared on health-state utilities (benefits) and total cost over the 12-week study; early non-responders maintained on risperidone or switched to olanzapine were compared from randomization (10 weeks). Utilities were derived from the PANSS and adverse events. Treatment costs were calculated using previous methods. A mixed model was used to compare outcomes on utilities. **RESULTS:** Early responders to risperidone had significantly greater total utility and lower total treatment costs than early non-responders to risperidone. Compared to early non-responders who continued on risperidone, those who were switched to olanzapine had significantly better total utility at endpoint and numerically lower total treatment costs, reflecting significantly lower non-medication treatment cost and higher medica-

tion cost compared to generic risperidone. **CONCLUSIONS:** Treatment of early responders was more cost-effective than the treatment of early non-responders to atypical antipsychotic therapy. The treatment of early non-responders who switched to olanzapine was more cost-effective than treatment of early non-responders maintained on generic risperidone.

PMH52

ECONOMIC ANALYSIS OF ESCITALOPRAM (GENERIC DRUG) IN MAJOR DEPRESSIVE DISORDER (MDD)

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OBJECTIVES: The purpose was to conduct an economic analysis of escitalopram (generic drug) versus sertraline and venlafaxine as standard regimen in treatment of major depressive disorder (MDD) in Poland. **METHODS:** Due to lack of statistically significant differences in comparisons of escitalopram with sertraline and escitalopram with venlafaxine, economic profitability estimation was conducted as a cost-minimisation analysis (CMA). Decision model was created by using TreeAge® Pro. Data concerning efficacy and safety of compared therapies was based on the clinical-effectiveness analysis, which was conducted as systematic literature review. Total costs of analysed therapies were estimated from the perspective of both payers in Poland (National Health Fund and patient) and also from the social perspective. The time horizon of the analysis was 6 months. The costs were not discounted. The stability of results was checked in one-way and probabilistic sensitivity analyses. Additionally, optimistic and pessimistic scenarios were prepared. **RESULTS:** Based on the assumptions that clinical effects of compared treatment strategies are the same, the results of the cost-minimisation analysis are as following: treatment of one patient using escitalopram in the 6 month time horizon is 12.71 PLN more expensive then sertraline therapy and 135.95 PLN cheaper then therapy with venlafaxine. One-way sensitivity analysis conducted for comparison of escitalopram versus sertraline showed that results are sensitive on the prices of medicaments. The sensitivity analysis conducted for comparison of escitaloprom versus venlafaxine showed the stability of basic results. Therapy with escitalopram is cheaper than with venlafaxine for all parameters took into account in the sensitivity analysis. **CONCLUSIONS:** Escitalopram (generic drug) is costly comparable to sertraline and cheaper option of treatment in comparison with venlafaxine in the treatment of major depressive disorder in the 6 month time horizon.

PMH53

ESTIMATION OF UTILITY GAINED FROM METHADONE MAINTENANCE TREATMENT FOR OPIOID DEPENDENCE

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OBJECTIVES: Opioid addiction is a chronic brain disease with severe withdrawal symptoms and decompensated condition in the vicious circle of compulsive drug seeking behavior, including needle sharing, psychosocial dysfunction, and criminal acts due to financial decompensation. Methadone maintenance therapy is the service under the concept of harm reduction. We analyzed the estimated utility of prevention in the implementation of methadone maintenance therapy introduced in Taiwan since 2006. **METHODS:** By using the methadone registry data and the estimation of incidence rates of decompensation with versus without methadone maintenance, the expected number of decompensated cases reduced by harm reduction can be calculated. The utility possibly gained is estimated based on assumption of different values of quality of life (QOL) for the decompensation. **RESULTS:** Based on the imprisoned registry of Ministry of Justice and estimations of the Center for Diseases Control, the number of heroin addicts in Taiwan was about 100,000, with a total of 15,000 regularly in prison. The yearly number of methadone registry cases reached 15,500 by the year-end of 2008. Assuming that annual incidence rates of decompensation were about 0.1 and 0.7 for heroin addicts with and without methadone therapy, then the annual expected number prevented by such treatments would be 9000 with a possible gain of utility of 1800 and 4500 QALY (quality-adjusted life year), respectively, depending on the reduced utility of 0.2–0.5 for the QOL among decompensated cases. **CONCLUSIONS:** As the annual cost for administration of methadone program was about 40,000 NTD, which leads to an incremental cost of 66,640 to 166,600 NTD (1 USD = 32 NTD) per QALY, without counting the cost of possible harm produced to the society by decompensated behaviors. With improved accessibility of methadone maintenance therapy, the utility of prevention for the decompensation of heroin addiction may be further increased.

PMH54

ECONOMIC EVALUATION OF ESCITALOPRAM TO TREAT MAJOR DEPRESSIVE DISORDER

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OBJECTIVES: Major depressive disorder (MDD) is a psychiatric condition principally characterized by depressive mood, loss of appetite, decreased interest in daily activities, sleep, behavioural or attentional disorders, diminution of energy, and feelings of guilt. Because MDD is associated with substantial health care costs and productivity losses, it wields a considerable economic impact. The aim of this study was to assess, in the Canadian context, the economic impact of escitalopram in the treatment of MDD. **METHODS:** A cost-utility analysis was performed over a one-year time horizon from

societal and health care system perspectives in Canada. A decision tree was developed to compare the cost per quality adjusted life year (QALY) associated with the use of escitalopram and citalopram. The decision tree, which included patients with MDD who had received escitalopram or citalopram as initial treatment, takes into account the probability of initial and subsequent treatment remission, of relapse, of suicide attempts, and of suicide-related death. Costs included were those of the antidepressant drugs, medical visits and hospitalizations, and those associated with remission/non-remission, relapses, suicide attempts and suicide-related deaths. Costs related to productivity loss and societal costs associated with suicide-related deaths were also included in the analysis with the societal perspective. Utility values associated with remission and non-remission were obtained from the literature. **RESULTS:** From a health care perspective, the incremental cost-utility ratio of escitalopram compared to citalopram was estimated at $12,869/QALY. From a societal perspective, escitalopram provided more QALYs (+0.0085 QALY/patient) and entailed fewer costs (–$144.70/patient) compared to citalopram. Deterministic and probabilistic sensitivity analyses confirmed the robustness of the base-case results. **CONCLUSIONS:** The results of this economic evaluation indicate that escitalopram is a more cost-effective alternative than citalopram to treat MDD from both the health care system and societal perspectives.

PMH55

CANADIAN COST-EFFECTIVENESS ANALYSIS OF LONG-ACTING RISPERIDONE VERSUS ORAL ATYPICAL AND CONVENTIONAL DEPOT ANTIPSYCHOTICS IN PATIENTS WITH SCHIZOPHRENIA AT HIGH-RISK OF NON-COMPLIANCE: UPDATED BASED ON NEW CLINICAL DATA

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OBJECTIVES: The Canadian cost-effectiveness analysis of long-acting risperidone versus oral atypical and conventional depot antipsychotics in the treatment of schizophrenia was updated based on results from a study comparing long-acting risperidone to depot zuclopenthixol. **METHODS:** An extensive pharmacoeconomic discrete event model was developed to estimate the costs and health benefits of patients treated with long-acting risperidone versus oral atypical and conventional depot antipsychotics in the treatment of patients with schizophrenia at high-risk of non-compliance over a five-year period. In the original analysis, oral risperidone was considered in the oral atypical arm and haloperidol decanoate was considered in the conventional depot arm. At the time of the original analysis there were no head-to-head clinical studies which compared long-acting risperidone to conventional depots. Since, an open-label, randomized, controlled, assessor-blinded, six-month study comparing long-acting risperidone to depot zuclopenthixol has been published. Using these study results, the model was updated to consider depot zuclopenthixol as the treatment for the depot comparator arm. The comparator of oral risperidone for the oral atypical arm remained the same. **RESULTS:** The model projected the five-year cumulative direct costs of $155,601, $178,153, and $182,942 (discounted) for long-acting risperidone, oral risperidone, and depot zuclopenthixol, respectively. Thus, treatment with long-acting risperidone saved approximately $22,552 and $27,341 (discounted) over 5 years compared to oral risperidone and depot zuclopenthixol. Moreover, long-acting risperidone resulted in greater decreases in the number of relapses, total time spent in psychosis and a greater increase in quality-adjusted-life-years (QALYs) compared to oral risperidone or depot zuclopenthixol. Hence, long-acting risperidone is the dominant strategy, being more effective and less costly than oral risperidone or depot zuclopenthixol. **CONCLUSIONS:** Consistent with the original analysis, the current analysis demonstrates that long-acting risperidone is a cost-effective option which results in better clinical outcomes and lower total health care costs than oral risperidone or depot zuclopenthixol.

PMH56

ADULT ATTENTION DEFICIT HYPERACTIVITY DISORDER, LABOR FORCE STATUS AND WORKPLACE ABSENTEEISM AND PRESENTEEISM

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OBJECTIVES: This analysis considers the impact of ADHD in adults on 1) labor force status, and 2) workplace absenteeism and presenteeism in the US. **METHODS:** Data from the 2009 US National Health and Wellness Survey (NHWS) were used to identify all those in the labor force 18 to 49 years of age with a diagnosis of attention deficit disorder (ADD) or ADHD. The analysis was in two stages: 1) an evaluation of the prevalence of adult ADHD (n = 40,428), and 2) the estimation of logistic regressions to assess the contribution of unmedicated/medicated ADHD to labor force status and the estimation of ordered probit regressions (n = 25,862) to assess the contribution of unmedicated/medicated ADHD to absenteeism and presenteeism. Additional variables that are considered are socio-demographic status and health risk factors, together with the Charlson Comorbidity Index (CCI). **RESULTS:** An estimated 2.7% had diagnosed ADHD. This had a significant negative impact on labor force participation (odds ratio 0.817), although medicated ADHD had no impact. The presence of unmedicated ADHD and medicated ADHD were, however, significant at the 1% level in both the absenteeism and presenteeism models. Odds ratios in the absenteeism model were 4.79 for those with unmedicated ADHD and 3.27 for those with medicated ADHD. These were of a similar magnitude to odds ratios for health risk factors (obesity 3.40 and morbid obesity 6.34) but less than the CCI odds ratio 17.43. In the presenteeism model, the odds ratios were also significant at the 1% level at 8.07 for medicated and 6.99 for unmedicated ADHD. **CONCLUSIONS:** The presence of