underestimate the complexity of both treatment and outcomes for those with schizophrenia.

**PMI18**

**PERFORMING EPIDEMIOLOGICAL STUDIES IN SCHIZOPHRENIA: A PROPENSITY SCORE MODEL TO PREDICT SELECTION OF ATYPICAL ANTIPSYCHOTIC**

Irish W1, Neighbors D1, Grogg A2, Lopez R1, Girts T2, Degen K3

1RTI Health Solutions, Research Triangle Park, NC, USA; 2Janssen Pharmaceutica, Titusville, NJ, USA; 3Middlesex Hospital, Middletown, CT, USA

**OBJECTIVE:** Medical records provide a potential wealth of information about treatment effects; however, differences in pretreatment patient or other characteristics may influence treatment assignment. This, in turn, could lead to biased estimates of treatment effects in nonrandomized studies. We developed a statistical model using propensity scores to reduce treatment selection bias in analyses based on retrospective data.

**METHODS:** As part of a study described elsewhere, we abstracted retrospective data from the medical records of 327 patients treated for schizophrenia or schizoaffective disorder with risperidone, olanzapine, or quetiapine at 3 acute inpatient mental health facilities. Data were collected on patients from the inpatient hospitalization through 60 days following initiation of study drug. Using a multinomial logistic regression analysis of pretreatment patient and other characteristics, we developed a predictive model of treatment assignment to risperidone, olanzapine, or quetiapine.

**RESULTS:** The following variables were significantly predictive of treatment assignment: age at admission, gender, race, smoker at admission, history of substance abuse, prior use of clozapine, and facility. The following variables were among those not significantly predictive of treatment assignment: prior use of atypical antipsychotics other than clozapine, body mass index at admission, age at first hospitalization for mental illness, and history of suicide attempts, violence, glucose abnormalities, or seizures.

**CONCLUSION:** The propensity score model offered a means to adjust for treatment selection bias in a nonrandomized study comparing treatment effects of risperidone, olanzapine, and quetiapine in an inpatient setting. In addition, the propensity score methodology can be used by researchers responsible for designing nonrandomized studies of healthcare interventions and decision-makers who are responsible for evaluating and interpreting the results in this disease area.

**PMI19**

**THE USE OF PHARMACY CLAIMS DATA TO EVALUATE QUALITY OF PHARMACOLOGIC CARE FOR ATTENTION-DEFICIT/HYPERACTIVITY DISORDER**

Hankin C1, Pierson P2, Cooper D1, Wright A2

1McNeil Consumer and Specialty Pharmaceuticals, Fort Washington, PA, USA; 2Advance PCS, Hunt Valley, MD, USA

**OBJECTIVES:** Although effective pharmacologic treatment for attention-deficit/hyperactivity disorder (ADHD) is widely available, little is known about the quality of such care. This is unfortunate, because the burden of inappropriate or inadequate treatment, in terms of increased risk for psychiatric comorbidity, chronic decrements in functioning, and higher medical costs, is borne by patients, families, employers and healthcare systems. We therefore sought to develop a methodology to evaluate quality of ADHD pharmacologic care.

**METHODS:** Among members continuously enrolled in a pharmacy benefits management plan during the year 2000, we used claims data to identify all psychostimulants filled for ADHD-related treatment during a 3-month index period (108, 819 fills for 51, 486 patients). We next calculated average daily dose by psychostimulant class (methylphenidate, amphetamine salts, dextroamphetamine, pemoline, and methamphetamine). Based upon previous research, we then created a metric to convert average daily dose across psychostimulant classes into “Methylphenidate Equivalent Units” (MEU).

**RESULTS:** Average daily MEU dose was 27.3 mg. Patients averaged 2.1 fills per 3-month period, at an average of 25.5 days supplied per fill. Thus, patients typically received medication coverage throughout 51 of the 91-day index period (56%). This is the equivalent of receiving medication coverage for 3.9 days per week. If medication was, in fact, taken every day, average daily MEU dose would be nearly halved (15.3 mg).

**CONCLUSIONS:** We describe a methodology for evaluating quality of ADHD pharmacologic care. Whether findings suggest under-treatment requires future research linking average daily MEU dose to targeted outcomes of care. Guidelines recently published by the American Academy of Pediatrics note that ADHD treatment requires continuous monitoring “to maximize function across multiple domains.” By incorporating our methodology into large-scale prescription feedback and monitoring systems, the burden of inappropriate or inadequate ADHD treatment that is borne by patients, families, employers, and healthcare systems may be ultimately mitigated.

**PMI20**

**TRENDS IN PEDIATRIC HEALTH ECONOMIC EVALUATION: 1980 TO 1999**

Ungar W1

1The Hospital for Sick Children Research Institute, Toronto, ON, Canada
OBJECTIVES: The Pediatric Economic Database Evaluation (PEDE) Project features a database of 787 pediatric economic evaluations published between 1980 to 1999. Our research objective was to use the PEDE database to examine trends in the application of health economic methods to a pediatric population.

METHODS: Frequency distributions and cross-tabulations were performed on the following variables: period of publication, age group, ICD-9-CM category, intervention, outcome and analytic technique.

RESULTS: The number of publications increased six-fold between 1980–84 to 1995–99 from 61 to 440 citations per 5-year period. Thirty-two percent of all studies were published in journals for pediatrics or perinatal medicine and 26% appeared in sub-specialty journals. Cost-effectiveness analyses were most frequent, representing 74% of all studies. Throughout the period, the proportion of cost-effectiveness analyses increased by 50%, and decreased for cost-benefit and cost-minimization analyses. Although most studies were performed in children (1–12 years of age), this frequency decreased with time while studies in infants became more prevalent. Most publications were classified under the infective and parasitic ICD-9-CM category, comprising 24% of studies. Health prevention studies became less frequent and health treatment studies more predominant with time. Most studies consisted of malaria control and vaccination strategies for hepatitis B, Hemophilus influenzae type B, measles, and varicella. The most common health outcome measure was cases of abnormality, which accounted for 42% of outcomes.

CONCLUSIONS: The number of pediatric economic evaluations is steadily increasing with most publications representing health prevention interventions. The majority of publications include cost-effectiveness analyses, especially among children aged 1 to 12 years. Further research is ongoing to determine how the quality of the studies has changed over time.

PMI21

EVALUATING HEALTH PLAN MANAGEMENT OF EMPLOYER INDIRECT COSTS:

METHODOLOGICAL ISSUES

Ricci J. Chee, E. Matousek, DM
AdvancePCS, Center for Work and Health, Hunt Valley, MD, USA

OBJECTIVE: Information on Managed Care Organizations’ (MCOs) performance in managing direct and indirect costs (absenteeism and presenteeism) allows employers to make more informed purchasing decisions. This paper examines challenges in evaluating MCOs’ management of indirect costs.

METHODS: The framework for evaluating MCOs compares “observed” to “expected” performance in managing lost productive work time (LPT) for a specific health condition. A credible and fair evaluation requires: i) a reference database defining “expected” LPT for a health condition; ii) LPT data on a random sample of the MCOs membership who work for pay defining “observed” performance; iii) metrics comparing observed to expected LPT for a specific health condition; and iv) a method to translate metrics into an understandable performance score. Issues related to each component are discussed below.

RESULTS: i) The reference must provide credible data on expected LPT for a specific health condition that includes missed workdays and lost productive time while at work. Self-reported information using a validated interview in a representative sample of US workers is one method. Recall period and essential data elements need to be considered. ii) Data collection should be in a representative sample of MCO members, interviewed using the reference population instrument. Cost/interview and prevalence of specific health conditions will drive sample size needs. iii) Two comparative metrics of interest include a) condition-specific prevalence; and b) LPT/week among those with the condition. We propose logistic regression to model LPT (a non-normally distributed variable) and adjust for covariates. iv) Resulting metrics must be translated into simple, easy-to-use, and universally understood terminology.

CONCLUSIONS: In operationalizing the MCO evaluation process, we consider a hypothetical application using data from the American Productivity Audit (an on-going national survey of health-related LPT) as a reference. We will examine the 10 health conditions with the greatest impact on work loss.

PMI22

ITEM REDUCTION OF A NEW PHARMACEUTICAL THERAPY RELATED QUALITY OF LIFE (PTRQoL) INSTRUMENT:

FACTOR ANALYSIS METHOD OR CLINICAL IMPACT METHOD?

Sankaranarayanan J, Bhor M, Murawski MM
Purdue University, West Lafayette, IN, USA

In this study, two available methods of item reduction (factor analysis and clinical impact) are compared to determine the effect of the method of item reduction on the final PTRQoL instrument.

OBJECTIVE: To perform a factor analysis of 57-items of the developmental-version of the PTRQoL (d-PTRQoL) and to determine if the results differ from a previous clinical impact method item reduction of the same 57-items.

METHODS: Factor analysis (using principal axis factoring and direct oblimin method of rotation with 125 iterations) was performed on a dataset accumulated from a previous work to compare results of the clinical impact item reduction from a separate dataset. The dataset (n = 182) used was obtained earlier by a survey of patients from various community pharmacies using the d-PTRQoL (93-items on a six-point likert scale). Factor analysis was restricted to the same 57 items used in the