research. The SCIP is a valid and reliable tool and was tested in an international multisite study in three countries (USA, Canada and Egypt) between 2000 and 2012 (Aboraya, El-Missiry et al. 2014, Aboraya 2015, Aboraya 2016, Aboraya, Narsallah et al. 2016). A total of 700 patients were interviewed at William R. Sharpe Jr. Hospital in Weston, West Virginia (670 patients) and Chestnut Ridge Center in Morgantown, West Virginia (30 patients). Mean patient age was 34, 59% male, 95% White and 34% had less than 12 years of education. The SCIP includes 38 items covering subtypes of delusions, hallucinations and disorganization. The 38 items were short- ened by removing items with low prevalence, low sensitivity or low item-rest correlation (< 0.4). The reliability and validity of the remaining items was recalculated with repetitive iterations. The final model was developed with input from experts. The result is the Core Schizophrenia Symptoms (CSS) Scale which has 18 items: 6 items measuring hallucinations, 8 items measuring delusions and 4 items measuring disorganization. The items were scored with binary and Likert-type scales ranging from 0 to 3. The reliability of the CSS scale was measured using the kappa coefficient for inter-rater reliability of the CSS individual items and Cronbach’s alpha for internal consistency of the CSS dimension. The validity of the CSS scale was assessed using Receiver Operating Characteristic (ROC) curves to determine the best clinical cut-off point for the CSS scale that maximizes sensitivity and specificity of the scale against the SCIP diagnosis of schizophrenia (the reference standard).

Results: Table (1) shows stable kappa values and standard error of 15 CSS items. Nine items have good reliability (kappa > 0.7), three items have fair reliability (kappa values range from 0.5 to 0.7) and three items have poor reliability (kappa < 0.5). Table (2) shows the internal consistency of the CSS dimension using Cronbach’s alpha and one-sided 95% confidence interval. The Cronbach’s alpha is 0.8317, indicating excellent internal consistency. Table (3) shows the sensitivity and specificity of the Core Schizophrenia Symptoms (CSS) scale. At a cut-off of one or more positive items, sensitivity is 95.06% and specificity is 89.84%; at a cut-off of two or more positive items, sensitivity is 90.12% and specificity is 89.39%.

Discussion: The Core Schizophrenia Symptoms (CSS) Scale is reliable at the level of individual items and at the dimensional level. In addition, the CSS scale is a valid scale that differentiates between schizophrenia and non-schizophrenia cases in a clinical population.

S105. VALIDATING THE PREDICTIVE ACCURACY OF THE NAPLS-2 PSYCHOSIS RISK CALCULATOR IN A CLINICAL HIGH-RISK SAMPLE FROM THE SHARP (SHANGHAI AT RISK FOR PSYCHOSIS) PROGRAM

TianHong Zhang1, HuiJun Li2, LiHua Xu1, YingYing Tang1, HuiRui Cui1, Junjie Wang1, Chunbo Li1, Kristen Woodberry3, Daniel I. Shapiro5, Margaret Niznikiewicz1, Martha E. Shenton4, Matcheri S. Keshavan3, William S. Stone1, JiJun Wang1, Robert W. McCarley4, Larry J. Seidman1

1Shanghai Mental Health Center, Shanghai Jiao Tong University School of Medicine; 2Florida A & M University; 3Beth Israel Deaconess Medical Center, Harvard Medical Center; 4Brigham and Women’s Hospital, Harvard Medical School, Veterans Affairs Boston Healthcare System; 5Massachusetts Mental Health Center, Beth Israel Deaconess Medical Center, Harvard Medical School; 6Harvard Medical School, Veterans Affairs Boston Healthcare System; 7Harvard Medical School

Background: The present study aims to validate the predictive accuracy of the NAPLS-2 psychosis risk calculator in a clinical high-risk (CHR) sample from the SHARP (Shanghai At Risk for Psychosis) program in Shanghai, China using comparable inclusion/exclusion criteria and assessments.

Methods: Three hundred CHR individuals were identified by the Chinese version of the Structured Interview for Prodromal Symptoms. Of these, 228 (76.0%) completed neuro-cognitive assessments at baseline and 199 (66.3%) had at least a one-year follow-up assessment. The latter group was used in risk calculation. Six key predictors (baseline age, unusual thoughts and suspiciousness, symbol coding and verbal learning test performance, functional decline and family history of psychosis) were entered into the NAPLS-2 model to generate a psychosis risk estimate for each case. The area under the receiver operating characteristic curve (AUC) was used to test the effectiveness of this discrimination.

Results: The NAPLS psychosis risk calculator showed moderate discrimination of subsequent transition to psychosis in the SHARP sample with an AUC of 0.631 (p = 0.007). Whether discriminating either transition or poor treatment/clinical outcomes, the AUC of the model increased to 0.754 (p < 0.001). A risk estimate of 30% or higher had moderate sensitivity (53%) and excellent specificity (86%) for prediction of poor treatment/clinical outcome.

Discussion: The NAPLS-2 risk calculator largely generalizes to a Shanghai CHR sample but is meaningfully improved when predicting an individual’s poor clinical outcome as well as conversion. Our findings provide a critical step in the implementation of CHR risk calculation in China.

S106. SUBMISSION WITHDRAWN

S107. HEALTHCARE UTILIZATION AND COST IN SCHIZOPHRENIA AND BIPOLAR DISORDER: REAL-WORLD EVIDENCE FROM US CLAIMS DATABASES

Mallik Greene1, Tingjian Yan2, Eunice Chang2, Ann Hartley*3, Jennifer Munday4, Michael S. Broder4

1Otsuka Pharmaceutical Development & Commercialization, Inc.; 2Phar; 3Phar, LLC

Background: Schizophrenia (SCZ) and bipolar disorder (BD) are distinct psychiatric disorders, but patients may be diagnosed with both. The objective of this study was to explore healthcare resource utilization (HCRU) and cost in patients with claims-based diagnoses of SCZ, type 1 BD (BD-I), and both in a real-world setting.

Methods: This retrospective study used (1/1/12–6/30/16) Truven MarketScan® Commercial, Medicaid, and Medicare Supplemental databases. SCZ was defined as 1 inpatient or 2 outpatient claims for SCZ; BD-I was defined analogously. Three mutually exclusive groups were included: 1) SCZ alone: new episode with SCZ (e.g., met the claims-based diagnostic criteria for SCZ); 2) BD-I alone: new episode with BD-I (e.g., met the claims-based diagnostic criteria for BD-I, but not for SCZ), and 3) a diagnosis of both SCZ and BD-I: new episodes with both SCZ and BD-I (e.g., met the claims-based diagnostic criteria for both SCZ and BD-I). Descriptive statistics were reported; costs were adjusted to 2016 US$.

Results: Of the 63,725 patients in the final sample, 11.5% had SCZ alone, 80.8% had BD-I alone, and 7.7% had a diagnosis of both SCZ and BD. In the year following diagnosis, the group having a diagnosis of both SCZ and BD-I had the highest all-cause hospitalization rates (67.4% versus 39.5% in SCZ alone and 33.7% in BD-I alone) and the highest mean (SD) number of emergency room visits [3.44 (7.1) versus 1.39 (3.5) in SCZ alone and 1.29 (3.2) in BD-I alone]. All-cause total healthcare costs were highest in the group having a diagnosis of both SCZ and BD-I [mean (SD): $51,085 (62,759)], followed by the SCZ alone group [$34,204 (52,995)], and the BD-I alone group [$26,393 (48,294)].
Discussion: Patients with a diagnosis of both SCZ and BD-I had higher HCRU and cost than patients with either diagnosis alone. Physicians who recognize these diagnostically challenging patients may be able to effect improved treatment early in the disease process.

S108. ASSOCIATIONS BETWEEN GLOBAL BRAIN MEASURES AND STATE- AND TRAIT-RELATED SYMPTOM EXPRESSION OF SCHIZOPHRENIA

Laila Asmai1, Stéfan Du Plessis*1, Bonginkosi Chiliza1, Sanja Kilian1, Riaan Olivier1, Freda Scheffler1, Lebogang Phahladira1, Paola Dazza2, Robin Emsley1
1Stellenbosch University; 2Institute of Psychiatry, Psychology and Neuroscience, King’s College London

Background: The course of schizophrenia is characterised by episodes of psychotic symptoms and enduring deficits of negative symptoms, cognition and functioning. We investigated the relationship between global brain measures and trait-related symptoms (endpoint scores), and global brain measures and state-related symptoms (change scores).

Methods: We examined global cortical, subcortical and white matter volume, and cortical thickness in 54 first-episode schizophrenia patients at baseline. We performed clinical, cognitive, and neurological assessments at baseline and twelve month follow-up. We used hierarchical multiple regression to predict baseline brain measures.

Results: State-related clinical predictors accounted for 8% of variance in white matter volume, trait-related clinical predictors accounted for 7% of variance in subcortical volume. Trait-related cognitive scores accounted for 15% of variance in subcortical volume and 13% of variance in cortical volume. Baseline subcortical gray matter volume was significantly associated with sensory integration (0.02) and verbal learning (0.04) trait scores, cortical thickness with social and occupational functioning (0.03) trait scores, and white matter volume with motor coordination (0.007) state scores.

Discussion: Impaired verbal learning may be the cognitive domain that is particularly trait-related, and possibly closest to the neurodevelopmental deficit underlying schizophrenia. State and trait components of neurological soft signs may be differentially related to brain structure. Mediators of the relationship between trait functional deficits and cortical thickness needs consideration.

S109. SYMPTOM NETWORK MODELS OF PSYCHOSIS

Adela-Maria Isvoranu*1
1University of Amsterdam

Background: Disorders within the psychosis spectrum are highly heterogeneous and multifactorial (Weinberger & Harrison, 2010). However, in spite of decades of research, causes of psychosis are still uncertain (e.g., Tandon et al., 2008). In an attempt to overcome these shortcomings, recent years have seen a rise in the modeling of psychotic disorders as networks of interacting symptoms (Borsboom, 2017). The centerpiece of network modeling lies in the idea that symptoms are active causal agents in producing disorder states, and that the study of their causal interaction is central to progress in understanding and treating mental disorders (Isvoranu et al., submitted). This presentation aims to introduce the network approach to mental disorders in the context of psychotic symptomatology.

Methods: The network approach is a novel psychometric framework based on a dynamical systems perspective. In network models, mental disorders such as schizophrenia are no longer conceptualized as common causes of symptoms, but as conditions that arise from the interaction between symptoms. The pattern on interactions can be visualized in a network structure, in which variables (e.g., symptoms, environmental factors, genetic factors) are represented as nodes and the presence of an edge between any two nodes implies the existence of a statistical association, which does not vanish upon controlling for all of the other nodes in the network (Isvoranu et al., 2016). This talk will include two examples of network models. First, using general population data a network model for the relation between three environmental risk factors (cannabis use, developmental trauma, and urban environment), dimensional measures of psychopathology and a composite measure of psychosis is constructed (Isvoranu et al., 2016). Second, using the GROUP dataset (Korver et al., 2012) which includes patients, siblings of patients, parents and controls, a network model is constructed for the relation between a polygenic risk score for psychosis liability and symptoms of psychotic disorders.

Results: The results of the first study indicate specific paths between environmental factors and symptoms, most often involving cannabis use (Isvoranu et al., 2016). In addition, the analysis suggests that symptom networks are more strongly connected for people exposed to environmental risk factors, indicating that environmental exposure may lead to less resilient symptom networks. The second study indicates that genetic vulnerability assessed via a polygenic risk score is associated with several individual psychotic symptoms – especially positive psychotic symptoms – suggesting that part of the missing heritability problem may be lie in the psychometric conceptualization of psychosis.

Discussion: Psychotic disorders feature a multitude of symptoms and problems, which lead to an inherent heterogeneity of psychosis. Current (psychometric) conceptualizations of pathology cannot fully encompass the complexity of these problems – this yields to the need of developing tools that could aid our understanding of psychotic disorders and could ultimately be implemented in clinical practice. Network modeling may provide such a tool. It is unlikely that there is such a thing as “one-size fits all treatment” for psychosis spectrum disorders, and intervention planning may require personalized network modelling (Isvoranu et al., submitted). In the coming years we are likely to learn the extent to which the network approach could aid research and clinicians.

S110. THE CLINICAL IMPLICATION OF CLINICIAN-RATED DIMENSIONS OF PSYCHOSIS SYMPTOM SEVERITY (CRDPSS) FOR DIAGNOSIS BY DSM-5

Beomwoo Nam*1, Won-Myong Bahk2, Sang-Yeol Lee3, Kwanghun Lee4, Duk-In Jon4, Eunsung Lim5, Sung-Yong Park5, Min-Kyu Song5, Seongwoo Jo6, Youngsoon Jeon7
1Konkuk University; 2Yeuido St. Mary’s Hospital, The Catholic University of Korea; 3Wonkwang University, School of Medicine; 4College of Medicine, Dongguk University; 5College of Medicine, Hallym University; 6Shinsegae Hospital; 7Keyo Hospital; 8Yesan Mental Health Clinic

Background: The most recently published the 5th edition of the DSM proposed a dimensional approach with continuous of schizophrenia and other psychoses. The newly proposed Clinician-Rated Dimensions of Psychosis Symptom Severity (CRDPSS) in the DSM was recommended to be evaluated in all disorders with psychotic symptoms in eight dimensions; Hallucinations, Delusions, Disorganized speech, Abnormal psychomotor behavior, Negative symptoms, Impaired cognition, Depression, Mania. The purpose of this study is to examine if Clinician-Rated Dimensions of Psychosis Symptom Severity (CRDPSS) can usefully be used for the Non-Affective Psychoses (NP) and Affective Psychoses (AP).

Methods: Participants in the study were 175 diagnosed with Schizophrenia, or Schizophreniform Disorder, Schizoaffective Disorder, mood disorder with psychotic symptoms (Major Depressive Disorder, Bipolar Disorder) based on DSM-5 diagnostic criteria and were assigned to either the NP (n = 154) or AP (n = 21) group. CRDPSS was performed jointly by a psychiatrist and a psychiatric resident to assess the severity of the psychotic