The University of Calgary, Department of Psychiatry Presents
The Sebastian Littmann Research Day
Health Sciences Centre in the Libin Theatre
Friday, February 24, 2012 at 09:00 Hours

Time	
08:30	**Registration – Coffee & Muffins**
09:00 AM	**Welcome & Introductory Comments – Scott Patten**
09:15 AM	**Keynote Speaker – Royal College of Physicians & Surgeons of Canada, Region 1 Advisory Committee: Dr. Robert Drake "Health Services Research in Psychiatry"**
10:15 AM	**Refreshment Break**
10:30 AM	**Title: Implementation of a Psychiatric Screening Tool at the Calgary Drop-In Centre** **Author(s):** Aravind Ganesh, Dave Campbell, Scott Patten **Background:** To date, there has been little quantitative assessment of mental illness among the homeless in Alberta. In this regard, our study investigates whether there is a sufficiently high frequency of undetected and/or unmanaged mental illness to prioritize screening in the homeless population who stay at the Calgary Drop-In and Rehab Centre (The DI). The objectives, addressed as two study parts, were to: (i) to implement and assess the utility of a screening tool for psychiatric disorders most commonly found in the homeless, and (ii) collect preliminary data on the prevalence of undiagnosed/unmanaged mental illness in this population. **Methods:** Study participants (n=166) were recruited by local staff at the DI, Canada's largest homeless shelter. Part 1 involved a screening tool for the most common psychiatric disorders seen in the homeless, consisting of six brief questionnaires: the Alcohol Use Disorders Identification Test, the Drug Abuse Screening Test, the Kessler Psychological Distress Scale screening for affective disorders, the Mood Disorder Questionnaire for bipolar spectrum disorder, the Patient Health Questionnaire for Major Depressive Disorder, and the Psychosis Screening Questionnaire for psychotic disorders. Part 2 involved a questionnaire assessing the state of psychiatric management, with two sections – the first collecting basic demographic data (age, sex, ethnicity), and the second investigating previous diagnoses and/or treatment for mental health issues. Questionnaires were entered into an electronic database and summary statistics were calculated using STATA 11. **Results:** The screening tool was able to detect 100 persons who may have mental disorders but were previously undiagnosed (per self-report). Only 12 respondents (7%) screened negative for each of the six mental illnesses of interest. **Conclusions:** Despite the screening tool's ability to detect previously undiagnosed mental illness, the screening tool does not make a practical contribution to service provision among this population as the vast majority will screen positive. Therefore scarce resources should be preferentially directed towards assessment and treatment of mental disorders rather than screening.

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10:50.AM	**Title: Homicide in a State of Delirium** **Author(s):** Liya Xie Automatism is a legal term indicating a rare phenomenon where crimes were committed in an unconscious state. This paper describes a particularly violent, inexplicable murder of an innocent, unsuspecting wife by a loving husband. A detailed description of the incident and the outcome of the criminal trial are provided. The accused had long standing occupational exposure which had accounted for the heavy metal toxicity and related hallucinations and delusions. He was delirious at the time of the killing. Delirium is commonly associated with a disturbance of consciousness with or without hallucinations and delusions. It is a severe neuron-psychiatric syndrome resulted from an underlying disease with core features of acute onset and fluctuating course, attention deficits and generalized severe disorganization of behavior. Delirium typically involves other cognitive deficits, changes in arousal (hyperactive, hypoactive, or mixed), perceptual deficits, altered sleep-wake cycle, and psychotic features such as hallucinations and delusions. In addition, other core cognitive processes are disrupted, particularly working memory and virtually all aspects of executive functions (planning and organization of behavior). Delirium may be of a hyperactive variety manifested by agitation or combativeness, or it may be of a hypoactive variety manifested by inability to converse or focus attention or follow commands. Delirium is often caused by a disease process 'outside' the brain, such as common forms of infection, drug effects, and toxicity. It can also be caused by virtually any primary disease of the brain. While proper brain function requires the complex interaction of chemicals perpetually occupied in purposeful biochemistry, certain toxic substances have the potential to disrupt normal brain physiology and to impair neurological homeostasis. In addition to genetic predestination with aberrant DNA, psychosocial triggers due to adverse life events, recent research in neuropsychiatry has suggested that commonly overlooked determinants may account for the anguished psyche in some individuals presented with mental disorders. Consciousness, thought, mood and behavior are biological processes dependent on complex biochemical functioning. Mental disorders often result from disordered biochemistry, a potential consequence of toxicant exposure. Any sudden onset unexplainable mental disturbance with acute or chronic metal exposure should prompt suspicion of heavy metal toxicity in any patient regardless of chief complaint.

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11:10 AM	**Title: The presence of content in attenuated positive symptoms and associated trauma** **Author(s):** C. Marshall, E. Falukozi, M. Albertin, H. Zhu, & J. Addington, **Background:** Current research in schizophrenia has a major focus on the early detection of individuals who may be at clinical high risk (CHR) of a psychotic illness. The majority of research with CHR populations has focused on identifying predictors of conversion and clinical trials to prevent conversion. There has been little research done on the etiology and development of positive symptoms. Many quality studies have been published on social risk factors, including past trauma. Similar to those with an established psychotic illness, a high prevalence of trauma has been reported in individuals who are at risk for psychosis. **Methods:** Content was coded from participant vignettes written by two trained raters, using the Content of Attenuated Positive Symptoms Codebook. Prior to coding the current content, three other samples were used to develop, modify, and finalize the codebook. All participants (n=45) were considered to be at CHR for developing psychosis by meeting the criteria for attenuated positive symptoms based on the Structured Interview for Prodromal Syndromes. Experiences of trauma before the age of 16 were measured using a self-report scale focusing on, physical and psychological bullying, physical and sexual abuse, and emotional neglect. **Results:** Kappa scores were used to measure the inter-rater reliability of the codebook. The inter-rater reliability for the final version of the codebook revealed that the Kappa scores were in the substantial to excellent range for all positive symptoms. Scores for unusual thought content (k = 0.74), suspicious ideas (k = 0.76), and perceptual abnormalities (k = 0.65), were in the substantial range and the score for grandiose ideas (k = 0.87) was in the excellent range. Spearman rank correlations revealed significant positive correlations between increased trauma and feeling watched or followed (rho = 0.38, p <0.05), and false beliefs of status or power (rho=0.31, p<0.04). Significant negative relationships were found between increased trauma and hearing non-negative voices (rho = -0.39, p<0.01), as well as having unusual negative thoughts surrounding the self (rho = -0.31, p<0.05). **Conclusion:** The use of the Content of Attenuated Positive Symptoms Codebook offers a reliable and objective way to assess content in the CHR population. The role of trauma appears to play a role in the development of positive symptoms and warrants continued investigation.
11:30 AM	**Title: Hypnotically-Assisted Diaphragmatic Exercises in the Treatment of Stuttering** **Author(s):** Assen Alladin This paper describes a preliminary innovative study that was conducted to investigate the combined effect of intensive hypnosis and diaphragmatic exercises in the management of stuttering. Fifty-nine (59) clients with stuttering from Turkey were trained to practice abdominal weightlifting in order to strengthen their respiratory muscles and improve their diaphragmatic movement. The abdominal weightlifting exercises involved lifting a dumbbell (2.0 – 4.0 kg) with the abdomen for two hours daily for 8 consecutive days to strength the respiratory muscles and the diaphragm. Hypnotherapy was utilized to alleviate anxiety, boost self-confidence and increase motivation for abdominal weightlifting training. The hypnotherapy consisted of eight sessions spread over eight consecutive days and each session ranged from 60 to 90 minutes in duration. After each hypnotic session, the client was instructed to practice abdominal weightlifting for two hours at home. The pre- and post-measures were statistically significant (p = 0.000). The results of the study provide support for the effectiveness of hypnotically-assisted diaphragmatic exercises in the management of stuttering. This preliminary study needs to be subjected to controlled trials before one can conclude about the effectiveness of abdominal weightlifting in the management of stuttering. Nevertheless, this study illustrates how hypnosis can be applied in an innovative way in the management of stuttering. Moreover, the study shows how cultural and religious beliefs can be integrated with ego-strengthening suggestions to enhance outcome.

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13:00 PM	**Title: Measuring depression in epilepsy: A systematic review & meta-analysis** **Author(s):** Fiest, K, Dykeman, J, Jette, N, Wiebe, S, Kaplan, GG, Patten, S **Background:** Many measures are used for assessing depression in persons with epilepsy (PWE). Our aim was to compare differences in estimates between depression measures. **Methods:** MEDLINE, EMBASE, and PsycINFO were searched using terms related to depression, epilepsy, and epidemiology. Two reviewers independently screened abstracts, full-text articles, and abstracted data. Included studies provided sufficient data to calculate a population-based odds ratio (OR) and/or prevalence of depression in PWE. Estimates [95% confidence interval] were pooled using random-effects models and mixed-effects models were used to determine significance between groups and degree of heterogeneity accounted for by depression measure using residual tau-squared. **Results:** Of 7106 abstracts, 166 were reviewed in full-text and 14 studies met all eligibility criteria. Interview methods of determining depression were: Composite International Diagnostic Interview, Structured Clinical Interview for DSM, and Electronic Medical Records. Non-interview methods were: Hospital Anxiety and Depression Scale, Center for Epidemiologic Studies Depression Scale, SF-36, Self-Report, and administrative data. Interview methods had significantly lower prevalence estimates (14.9% [11.5-19.2]) compared to non-interview methods (27.87% [23.7-32.7]) with $p<0.001$. Depression measure as a moderator accounted for 100% of heterogeneity between prevalence estimates but a significant between-group difference was not found. The OR for depression in PWE was 3 [2.2-4.0]. **Conclusions:** Significant variation in the prevalence of depression among PWE was observed across measures; depression was significantly associated with epilepsy independent of the depression measure used. As such, differences between depression estimates across measures appear to be independent of epilepsy status.
13:20 PM	**Title: Determinants of Mental Health & Well-being in MS: data collection and participant retention strategies for a prospective study** **Author(s):** Berzins, S., Patten, S.B., Bulloch,A.G.M., Williams,J.V.A.,Lavorato,D.H., Cabolo,C. Mental illness is an important dimension of multiple sclerosis (MS). People with MS have an elevated prevalence of anxiety and psychotic disorders, but mood disorders are considered the most pressing mental health concern. The Determinants of Mental Health & Wellbeing in Multiple Sclerosis Study is a prospective cohort study, designed to estimate the incidence of major depressive disorders (MD) in people with MS and to examine potential determinants of incidence and prognosis. Study participants are followed for six months, starting with two baseline risk factor assessmentsthencompleting a depression screening instrument, the PHQ-9, every 2 weeks. At 2, 4 and 6 months, information is collected on potential determinants of incidence and prognosis, using standard items from existing validated scales and instruments.Participants have the option of completing the surveys either online, by mail, or by telephone interviews. There are 194 participants; of these, 48 people chose phone interviews, 43 mail, and 103 online surveys. To date, 40 participants have completed the protocol. With such a large number (>3500) of data collection points, it is a significant challenge to monitor missing data and prevent participation dropouts. Our multi-modal data collection protocol allows for several options to follow-up missing data. We will describe these follow-up strategies as well as our participant retention strategies.

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13:40 PM	**Title: The Temporal Electrocortical Profile of Emotive Facial Processing in Depressed Males and Females and Healthy Controls** **Author(s):** Natalia Jaworska, Wendy Fusee, Pierre Blier, Verner Knott ***Background*:** Previous work indicates that emotive processing, such as of facial expressions, may be altered in major depressive disorder (MDD). Individuals with MDD tend to exhibit a mood-congruent processing bias, though MDD may also be characterized by blunted emotive processing in general. Females tend to exhibit enhanced facial emotive processing than males. Few groups have examined temporal electrophysiological event-related potential (ERP)-indexed profiles, spanning preconscious to sustained, conscious processing of facial expressions in MDD; systematic comparisons of ERPs to emotive stimuli between depressed males and females are also lacking. ***Methods*:** This study examined the temporal ERP profile to a simple expression recognition task in adult depressed males and females (N=52; 29 females) and controls (N=43; 23 females). ***Results*:** The MDD group rated facial expressions as sadder overall than controls. Females exhibited enhanced and speeded pre- and conscious face processing than males. Subtle group differences emerged to specific expressions at mid-latency ERPs (N2, P2) indicating both blunted late pre-conscious perceptual processing of expressions and prolonged processing of intensely sad faces. ***Limitations*:** A more involved emotive processing task, employing threatening faces, may have revealed more robust group ERP differences. Menstrual cycle should be controlled for in future work. ***Conclusions*:** This is the first study to systematically assess the temporal ERP profile, including of ERPs preceding the face-sensitive N170/VPP, to expressions in MDD. Overall, early perceptual and late conscious expression processing did not differ fundamentally between groups. Altered emotive processing may be a candidate index for monitoring and predicting antidepressant treatment outcome.
14:15 PM	**Title: Benefit and limitation of Disulfiram** **Author(s):** Fares Alharbi, Nady el-Guebaly **Objective**: The discovery of the disulfiram-ethanol reaction dates back to 1947. Since then, major studies have questioned the efficacy of disulfiram (DSF) in the treatment of alcohol dependence [(1)]. Yet, DSF remains in use! This review will explore the reasons why this is so, along with attempts to improve its efficacy in alcohol treatment, expanding its use to other substances and disorders. **Method:** A systematic review of the recent literature was drawn from a comprehensive MEDLINE (2004-2011) search (keywords: disulfiram, tetraethylthiuram disufide, carbon disulfide, antabuse, alcoholism, and alcohol abstinence). Clinical trials using disulfiram for the treatment of alcohol and/or cocaine use and/or dependence were examined in this review, in addition to disulfiram efficacy studies focusing on supervised administration and combination strategies[(2)]. **Results:** 83 articles were retrieved within the initial search criteria. Furthermore, 22 of those were clinical trials or studies on the following subjects: comparing DSF with acamprosate and naltrexone; using DSF in alcohol treatment with comorbidty, DSF in the cocaine treatment; assessing the adherence to DSF; and DSF with CBT. **Conclusions:** The rationale for DSF's continued use is explored in order to clarify its use in both alcohol and cocaine dependence. DSF's complete mechanisms of action and its optimal dosage remain subjects of inquiry. **Disclosure:** none **References:** 1. Fuller RK, Gordis E. Does Disulfiram Have a Role in Alcoholism Treatment Today? Addiction 2004;99: 21-24. 2. Alharbi F, el-Guebaly N. Disulfiram: The Survivor Medication. Addictive Disorders and Their Treatment (In Press).

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14:35 PM	**Title: Low social support as a risk factor for a major depressive episode in Canadian community-dwelling seniors** **Author(s):** TM Cook, JL Wang **Background:** Major depression represents a great cause of disease burden worldwide. Further, the proportion of Canadian citizens aged 65 years of age and older is rapidly growing. Despite this, there is a lack of longitudinal data on risk factors for a major depressive episode in seniors, while comprehensive measures of social support are rarely employed in existing literature. A longitudinal approach to examining the relationship between depression and comprehensive social support tools has yet to be conducted in Canada. **Methods:** This study will use 8-year population-based longitudinal data from the National Population Health Survey, collected by Statistics Canada. The survey will be restricted to individuals aged 65 years of age and older. Demographic and socioeconomic characteristics of the sample will be presented. The 2-year and 8-year incidence proportions of major depression in seniors will be estimated. The cross-sectional and longitudinal association between social support and a major depressive episode will be examined using multivariate logistic regression. **Results**: The majority of participants were female, married and living with partner. Roughly 80% of participants reported a chronic condition, though only 25% reported a pain problem and a third restriction to activity. Chronic pain, chronic conditions, and restriction to activity were each associated with higher incidence of major depression. Only positive social interaction, affection and emotional social support were significant in incidence and modeling. **Conclusion:** Some but not all types of social support are significant in the risk of a major depressive episode in longitudinal analysis. Chronic conditions, pain and activity limitations are important risk factors for depression.
14:55 PM	**Title: Identification of a global health index forming a basis to evaluate population-focused promotion and prevention strategies.** **Author(s):** David Cawthorpe **Introduction:** Measuring the effect of population-based interventions is often difficult. **Methods:** Using administrative data from 1993-2010, we randomly selected 205,281 patients and compared groups with and without psychiatric disorders (dependent variable) on the cumulative 16 year mean (median) cost and number of contacts (~9 million in total) for somatic and biomedical (non-psychiatric) International Classification of Disease (ICD) diagnoses (independent variable). **Results:** The cumulative 16 year prevalence of psychiatric disorder in the random sample was 37%. A ratio of 2.0 was observed between groups with and without psychiatric disorders comparing health costs and visits for somatic and biomedical disorders. **Conclusions:** Population-based interventions that reduce the numerator of this ratio overtime would reflect an improvement in overall population health. Mental health is central to this formula and intimately tied to physical health. Furthermore, nations that track and monitor such administrative data routinely have a baseline in this global health index ready-made at relatively low cost.

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15:15 PM	**Title: Are across-the board standards needed to prevent iatrogenic Parkinsonism in institution-like settings and end-of-life care?** **Author(s):** Ian Kroll **Background**: Extrapyramidal side effects include symptoms such as tremor, stiffness, posturing, slurred speech, akathisia (inner restlessness resulting in constant motion, rocking or fidgeting), anxiety, distress, paranoia, and slowed thought. In early days of antipsychotic medication use, good medical practice included proficiency in clinical monitoring and recognition of these side effects. Off-label dopamine antagonists are commonly used to treat agitation, nausea and delirium in current institutional-like settings, even though this population has significant risk factors (advanced age, illness, and concomitant polypharmacy with medications causing Parkinsonism i.e. antipsychotics, antiemetics, vertigo medications, calcium channel antagonists, antiarrythmics, cholinomimetics, and occasionally antiepileptics or antidepressants. **Objectives:** To assess existing studies pertaining to standards of care aimed at preventing, recognizing and treating iatrogenic Parkinsonism and akathisia in high-risk populations. **Methods**: Broad medical and general literature review was done using the widest range of keywords to obtain best return of articles on iatrogenic Parkinsonism, akathisia, and practice standards in Cochrane, Medline/Pubmed, and Google. **Results**:Significant literature describes iatrogenic side effects associated with dopamine blocking agents such as haloperidol, especially in high-risk populations of advanced age, with concomitant illness and medications associated with Parkinsonism and akathisia. Some studies noted dose-relationship, one describing significant increase in extrapyramidal side effects daily haloperidol dosage exceeded 4.5mg. Studies recommending Haldol tended to be low dose and for short periods of time. No standards of care were found relating to prevention and recognition of iatrogenic extrapyramidal symptoms in high risk populations. **Conclusions**: Standard guidelines do not appear to exist to promote recognition and prevention of iatrogenic extrapyramidal symptoms, particularly in relation to dopamine over-blockade in high-risk populations such as institution-like settings and end-of-life care. Inclusion of iatrogenic Parkinsonism in governmental, institutional, and accreditation guidelines may help advance awareness, prevention and better treatments for a significantly growing at-risk population. Given advances in the treatment of end-of-life pain and suffering, it also appears that the old mantra "Use opioids to toxicity and treat side effects with Haldol" is outdated and carries with it significant and unnecessary risk to the patient.

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Poster Presentations

Title: Cognitive Functioning in individuals At Risk for Psychosis

Author(s): Mark A. Colijn, **Mariapaola Barbato**, Richard S.E. Keefe, Diana O. Perkins, Scott W. Woods, Jean Addington

Background: Cognitive impairment has been reported in individuals at clinical high risk (CHR) of developing psychosis. This study aimed to characterize cognition in a sample of individuals at CHR for psychosis, and to compare their cognitive functioning to a potential psychiatric comparison group. **Method**: The participant sample (172 CHR participants; 100 help seeking controls) was part of the large multisite PREICT study (conducted from 2003 to 2008), which sought to determine predictors of conversion to psychosis. Participants were tested every six months for two years using a well-established cognitive test battery. Cognition was assessed using both a composite cognitive score derived from factor analysis and individual tests.

Results: Using one way ANOVAs and ANCOVAs, there were no significant differences between the help seeking control group (N=90) and the CHR group (N=157) at baseline on the composite cognitive factor [$F(1,239) = 2.43$, N.S.] nor on any of the individual cognitive tests, although both groups were significantly impaired on most tests for which normative data was available. Using a linear mixed-effects model we found significant improvement of both groups on verbal fluency, the Stroop, Trail Making Test, letter number sequencing, finger tapping, spatial working memory, the Continuous Performance Test (CPT), and the Wisconsin Card Sorting Test. The control group alone improved on digit span distractibility. Individuals who later converted to psychosis declined on attention as assessed by the CPT between 6 and 24 months assessment ($t=3.9$; $p<.0005$) and between 12 and 24 months assessment ($t=4.11$; $p<.0001$). **Conclusions**: 1) Cognitive impairment may be a characteristic of vulnerable individuals who have varying degrees of risk for psychosis; 2) Results from the non-conversion group and the help seeking control group suggest that CHR individuals who do not develop psychosis do not cognitively deteriorate over time, but either remain stable or possibly improve; 3) Prior to developing psychosis, performance of the conversion group seems to remain relatively stable. Taken together, our results suggest that CHR individuals do not cognitively differ from individuals who are help seeking in response to recruitment efforts for those at CHR. It may be that impaired cognition exists in many groups vulnerable to psychosis, and not just those who meet the strict criteria for being at risk of developing psychosis.

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Poster Presentations

Title: Clinical Outcome from a Prodromal Clinic

Author(s): C. Marshall, J. Addington, I. Epstein, L. Liu, S. Deighton, R. Zipurksy

Background: There has been an increasing interest in early detection during the prodromal phase of a psychotic disorder. A few treatment studies have been published with promising results. In a recent study examining psychological treatments in a clinical high risk sample of individuals meeting criteria for prodromal risk syndrome for psychosis, 48 out of 51 individuals did not convert to psychosis over the 18 month course of the study. The purpose of this part of the study was to examine the extent to which clinical improvement was experienced in those who did not transition to psychosis. **Methods:** The sample consisted of 48 individuals, who all met criteria for attenuated positive symptoms based on the Structured Interview for Prodromal Syndromes. Treatment consisted of ongoing psychiatric management, individual psychological treatment of up to 20 sessions over a 6 month period, and regular monitoring of clinical symptoms. Anxiolytics and antidepressants were prescribed, but no antipsychotics were utilized. Measures used included the Scale of Prodromal Symptoms (SOPS), Global Assessment of Functioning (GAF), Calgary Depression Scale (CDSS), General Health Questionnaire (GHQ), Alcohol/Drug Use Scale (AUS/DUS), Social Functioning Scale (SFS), and 2 anxiety scales - SIAS and SAS. Assessments occurred at baseline, and follow-up assessments at 6, 12 and 18 months.

Results: A generalized linear model for repeated measures was used to examine change over time. There were significant improvements in attenuated positive symptoms ($F=31.65$, $p<0.0001$), GAF ($F=11.02$, $p<0.001$), CDSS ($F=5.10$, $p<0.01$), GHQ ($F=7.97$, $p<0.001$) SFS ($F=5.62$, $p<0.01$) and both anxiety scales ($F=8.75,7.65$, $p<0.001$). Positive symptoms and social functioning improved up to 18 months, GHQ and anxiety by 6 months and all other measures up to 12 months. There were no changes in the rate of substance use but ratings were relatively low at baseline. **Conclusion:** Results demonstrate that individuals who met criteria for prodromal risk syndrome do improve over time on a range of outcomes in particular positive symptoms. Although the actual impact of the treatment cannot be determined, the clinical improvement in this group of vulnerable patients occurred without the use of antipsychotic medication.

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Poster Presentations

Title: Increases in Subcallosal Gyrus in First Episode Patients with Bipolar Disorder Compared to those with Major Depression

Author(s): Stefanie Hassel, Kaan Yucel, Kathryn Macdonald, Valerie Taylor, Glenda M MacQueen

Introduction: The anterior cingulate cortex (ACC) is critical for mood regulation and cognitive function, in particular its rostral-ventral (affective) subdivision, comprising areas BA24 (subgenual prefrontal cortex) and BA25 (subcallosal gyrus). Aberrant functioning of the ACC has consistently been reported in mood disorders, and activation within the ACC, specifically BA24, predicts response to antidepressant treatment. **Methods**: We compared regional brain volumes in the subgenual prefrontal cortex (BA24) and subcallosal gyrus (BA25), in 56 first-episode (FE) patients with major depression (MDD) and 30 FE patients with bipolar disorder (BD). Sixty seven age matched healthy controls were also assessed. We used analysis of co-variance (ANCOVA) and controlled for total cerebral volume. **Results**: There were significant differences in BA25 when FE patients were compared against age matched controls ($F(2,149)=8.7$, $p<0.001$). FE patients with BD had significantly increased ACC25 volumes relative to controls ($p=0.001$) and relative to FE patients with MDD ($p=0.001$). FE patients with MDD did not differ from control subjects. There were no significant differences between groups when BA24 was assessed. **Conclusion**: Our findings suggest that there are differential increases in ACC BA25 volume for FE patients with BD compared to FE patients with MDD. As neither patient group had extensive exposure to medication at the time of assessment, observed differences are unlikely to be secondary to differences in treatment between the diagnostic groups.

Title: Increased Prefrontal Activation during an Affective Go-NoGo Task in Bipolar Disorder

Author(s): Stefanie Hassel, Glenda M MacQueen

Introduction: Increased accuracy in diagnosing bipolar disorder (BD) is a long-term goal. Identifying biomarkers, which reflect underlying pathophysiologic neural mechanisms in BD, may facilitate achieving this goal. A first aim therefore is to find disease specific markers by examining functional neural abnormalities in BD during neuropsychological tasks related to its core clinical features, e.g. impaired emotion regulation and social cognition. **Methods:** Using functional magnetic resonance imaging (fMRI), we measured neural activity in response to an Affective Go-NoGo Task, consisting of emotional stimuli (fear, happy, anger faces) and non-emotional control stimuli (neutral female and male faces) in euthymic BD and healthy individuals (HI). FMRI data were preprocessed and analysed using Statistical Parametric Mapping (SPM8) software. In whole-brain analyses ($p(\text{uncorrected})=0.001$) we compared patterns of neural activity in BD and HI. **Results:** Preliminary results comparing emotional Go versus emotional NoGo trials yielded increased activation in BD within the right ventro-medial prefrontal areas (BA11/10), the left insula and cingulate gyrus (BA24). HI showed increases in activation in the right cingulate gyrus. Comparing all Go (emotional and control) versus all NoGo trials revealed increased activation within the right cingulate gyrus (BA24) and dorsolateral PFC (BA9) in BD to Go trials, but to NoGo trials in HI. **Conclusion:** Preliminary findings point to cognition-emotion interference in BD and observed neural differences indicate a possibly altered emotion modulation of cognitive processing in BD. Increased activation in brain regions previously shown in emotion regulation and response inhibition tasks could represent a disease-specific marker for BD.

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Poster Presentations

Title: Pathways to Care for those at Clinical High Risk of Developing Psychosis

Authors: Jacqueline Stowkowy, Mark A Colijn, Jean Addington

Background: Understanding the pathways to care is a prerequisite for early detection in first episode patients with psychosis. Less in known about the pathways to care for individuals at clinical high risk for psychosis.

Methods: A sample of 35 clinical high risk for psychosis individuals were administered a semi structured questionnaire inquiring about pathways to care. **Results:** The majority of contacts were made to GPs (31.3%). Various symptoms were reported among the sample, the most common being depression (15.9%) followed by anxiety (11.0%). Delusions/paranoia were the most frequent symptoms associated with successful referral to contacts (14.3%). **Conclusion:** Education on the pathway to successful access to care and treatment in a putatively prodromal for psychosis group of individuals is valuable information that can potentially aid in a faster discovery of these individuals and their access to treatment and care.

Title: Predictors of Disengagement from Treatment in an Early Psychosis Program

Authors: Jacqueline Stowkowy, Donald Addington, Lu Liu, Brett Hollowell, Jean Addington

Background: Disengagement from treatment is a major concern in psychiatry. This is of particular concern for those presenting for care at their first episode of psychosis (FEP). The purpose of this study is to determine the rate of disengagement from a three year FE treatment program and the predictors of disengagement.

Method: We used a longitudinal cohort design. The cohort consisted of 286 FEP individuals. Measures included assessments of positive and negative symptoms, depression, substance use, premorbid and current functioning, cognition and duration of untreated psychosis. Disengagement from treatment was defined as leaving the program before the 30 months. **Results:** At 30 months after treatment, the estimated rate of disengagement from treatment was 31%. Predictors of disengagement were examined via Cox proportional hazards models which revealed that lower ratings on negative symptom scores at baseline (HR = 0.946; CI=0.909 - 0.985), a shorter duration of untreated psychosis (HR = 0.997; CI=0.994 – 0.999), and not having a family member involved in the program (HR = 0.310; CI=0.196 – 0.490) contributed significantly to predicting disengagement from treatment. An examination of those who dropped out at different times revealed that those who dropped out prior to 6 months had significantly greater cannabis ($p<0.05$) and other drug use ($p<0.01$). **Conclusions:** Engagement in early services may be helped by attending carefully to substance use to prevent early dropout, to those who may have had a short duration of untreated psychosis and to working with families to engage families in the program.

Revised: 2012-02-25