

**The University of Calgary, Department of Psychiatry Presents  
The Sebastian Littmann Research Day  
Village Park Inn Friday, March 05, 2010 at 8:00 AM**

**Title: Quetiapine treatment for bipolar I disorder: a striking trend in prescription recommendations**

**Author(s):** Andrew Bulloch, CA Beck, Scott Patten

We examined trends in prescription recommendations for bipolar I disorder during 2002-2008 in Canada using data collected by IMS Health Canada. The total number of recommendations increased by 45% during this period without any indication that the prevalence of bipolar I disorder is changing. This increase was due to more recommendations for atypical antipsychotics, anticonvulsants and antidepressants. The most significant trend was a huge (481%) increase in recommendations for quetiapine. During this period another notable trend was a 55.3% decrease in the proportion of recommendations for lithium by GPs, whereas the corresponding proportion for psychiatrists stayed relatively constant. Because bipolar I disorder is usually thought to be undertreated, the overall increase of prescription recommendations could be due to increased recognition by physicians and/or increased acceptance of the diagnosis by patients. The increased use of quetiapine, however, is striking, a trend likely attributable in part to increased emphasis by CANMAT/ISBD guidelines. Since clinical trials are typically short and involve selected subjects, this observation raises the issue of long term risks in real world therapeutics. The decreased use of lithium by GPs is also noteworthy since this drug has well regarded anti-suicide properties. Use of the IMS Health Canada data provides a unique window into changes in prescription patterns.

**Title: Neural Patterns of Occipital Activity to Happy and Sad Facial Expressions Can Distinguish Bipolar and Unipolar Depression**

**Author(s):** Stefanie Hassel, Jorge Almeida, Amelia Versace, Glenda M. MacQueen, David J. Kupfer, Mary L. Phillips

**Background:** Bipolar disorder (BD) is frequently misdiagnosed as unipolar depression (UPD), delaying appropriate treatment and worsening clinical outcome. Mood dysregulation and emotional biases are associated with dysfunction in subcortico-limbic and corticoprefrontal areas in both disorders. UPD but not BD is linked with aberrant neural activation in extrastriate visual areas. Measures of dysfunction in neural systems supporting emotion processing may help discriminate BD and UPD. **Methods:** Using fMRI, neural activity to intense and mild happy and sad, and to neutral faces were measured in two event-related paradigms in 14 depressed BD, 16 depressed UPD and 16 healthy individuals (HI). Using whole-brain analysis ( $p(\text{uncorrected}) < 0.001$ ) we first compared depressed BD and UPD individuals, then each patient group to HI. **Results:** Within extrastriate visual areas, we observed 1) significantly increased activation for depressed BD relative to depressed UPD individuals within right middle occipital and lingual gyri for happy faces of all intensities ( $F(1,83)=13.08, p(\text{corrected})=0.05$ ); and 2) significantly increased activation for depressed UPD relative to depressed BD individuals within left occipital regions (BA18) for sad faces of all intensities ( $F(1,83)=14.38, p(\text{corrected}) < 0.05$ ). **Conclusion:** The double dissociation observed within occipital areas in depressed BD and UPD individuals when processing happy and sad faces, respectively, indicates that distinct physiological processes may be associated with both mood disorders. Preferential increases within visual processing areas to sad and happy faces in UPD and BD individuals respectively reflect emotional biases and impaired interpersonal functioning associated with both disorders. Differential activation within extrastriate visual face processing areas might therefore aid in distinguishing BD from UPD depression.

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**Title: The Development of an Online Spirituality Based Program for Depression in Adolescents**

**Authors:** Claire Hart, Sonya Malhotra, Jordan Cohen, Sabine Moritz, John Toews, Badri Rickhi, Patti Paccagnan, Niki Venika Rickhi

**Purpose:** Given the growing prevalence of adolescent depression, limitations with conventional treatments and evidence for the role of spirituality in depression recovery, an online spirituality based teaching program for depressed adolescents was developed. The development of the internet based LEAP project for adolescents who meet DSM IV criteria for major depression will be outlined. **Methods:** A) Needs Assessment: To assist with the development of a relevant and effective program the following was undertaken: 1. literature review, 2. consultations with experts on spirituality 3. focus groups with youth. B) Framework and Content Development: Six key symptoms of depression in adolescents were described and hypotheses were formulated on how spiritual growth could alleviate these. C) Website Features and Development: A media production company was engaged for the production of the eLearning application. D) Youth Focus Groups: All program content was tested with youth who provided feedback which was incorporated into the program. **Results:** The LEAP Project was produced as an internet based, self-study intervention consisting of eight modules: 1. Self Acceptance, 2. Appreciation of Beauty & Creativity, 3. Recognizing Mystery, 4. Gratitude, 5. Compassion, 6. Acceptance, 7. Forgiveness and 8. Celebration. The program has no ties to any faith-based tradition. **Conclusion:** It is possible to produce a spirituality based program relevant for youth. A pilot study will evaluate the LEAP Project in an adolescent population with depression.

**Title: Psychotherapy Research and Practice: What We Know, What We Don't Know, and What We Need to Know**

**Authors:** Assen Alladin, Chris Wilkes

This paper will briefly review the major findings from psychotherapy research in the past 60 years. Based on evidence, the paper will highlight the importance of shifting research from the "psychotherapy process" to the "curative process". The factors leading to therapeutic change will be examined and a preliminary theory of curative process based on the theories and findings from psychological research on happiness will be examined. Because therapeutic change takes place in the patient, this theory considers the therapy process to be superficial and indirectly related to treatment outcome. The healing processes on the other hand are the direct causes of therapeutic change, which can occur under many different circumstances, not only in psychotherapy. Future psychotherapy research should therefore focus on universal healing processes in the patient. Moreover, psychotherapy research and practice should not be narrowly confined to empiricism, creativity and innovations should be encouraged. However, for this to prevail therapists and researchers should avoid "reflexive dismissal", that is, they should not reflexively ignore or dismiss the theories of psychopathology and behavior change that they are not invested in.

**Title: CBE and CSSD/CHR School-Based Mental Health Capacity Building Project" Phase III**

**Author(s):** Trevor Seeger, Jeremy Chan, Jo Blackaby, Willow Brocke, David Cawthorpe

**Introduction:** This capacity building of the teacher to better improve handling of incidences from children exhibiting symptoms of mental illness, on the part of the instructor lays the foundation for this research. **Objectives:** Here we sought to determine if there was a relationship between the problem severity rating of children and referral to other services from Student Health Partnership (SHP). Also, confirmation was needed with respect to the significant increase in problem severity rating due to capacity building. **Methods:** Schools would refer children to SHP, which would send a therapist to treat a child in need, and on the same visit, the therapist would inquire about other children in similar need. Teachers were then invited to meet with the therapist so that the therapist could learn about classroom dynamics and attain initial problem severity scores on the children. Two meetings followed; with further instructions to the teacher and secondary and tertiary problem severity ratings. Analysis of variance were used in general linear models for all three problem severity ratings with statistical significance set to  $p < 0.05$ . **Results:** Significant comparisons were determined to be problem severity over time and referral. Milder symptoms were more prevalent in student without referral to other services at session 1, and referral of more affect students showed clearer improvement. The year, geography, therapist, and school made no significant difference. **Conclusions:** Students that were referred to other services and those that remained with SHP showed improvement in problem severity over the course of the sessions; with more severely affect children more often moving to other services.

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**Title: Members of the Medical Profession Not From Advantaged Backgrounds: Experiences of Applying for and Becoming a Doctor**

**Author(s):** Siobhán Conway-Hicks

**Objectives:** To explore the experiences of applying for and becoming a doctor amongst members of the medical profession in the broader University of Calgary Faculty of Medicine (UofC Med) community who do not come from advantaged backgrounds. To contribute to the efforts UofC Med in building diversity and social accountability by using research techniques that start with experiential knowledge.

**Methods:** Participants were recruited through an email to the medical classes of 2009-12 and posters placed around the Medical School. Eight individuals have participated in in-depth, phenomenological interviews from different levels of training. Interview transcripts were analyzed using a phenomenological approach.

**Results:** Five themes have been developed including: 1) the meaning of becoming/being a doctor and career choice in medicine related to economics; 2) changing class status, which may start much earlier than when a person enters medical school, and may even be a prerequisite for gaining admission; 3) social support from family, friends, teachers and doctors; 4) barriers in the application process and 5) the prevalent culture regarding economic diversity in medical school which includes silence and subtle class cues.

**Conclusion:** Common themes were found, and yet there was diversity within the common experience of not being from an advantaged background and applying for and becoming a doctor. The insights into economic diversity provided by the participants is discussed in light of well-developed education, diversity and equity theory to enhance our understanding of the varied backgrounds of members of the medical profession and the work that we do.

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**Title:** HoNOS (Health of the Nation Outcome Scales): Frequently Asked Questions  
**Author(s):** Aleta Ambrose, Brian Marriott

HoNOS (Health of the Nation Outcome Scales) is a brief client-level outcome measure designed to evaluate the health and social status of service-users with a mental illness. It uses a problem severity rating for a broad range of domains including psychiatric symptoms, physical health, functioning, and relationships and housing. It can be used in inpatient, outpatient and community-based settings.

This presentation will explore four frequently asked questions about the HoNOS: 1) what are the scales of the HoNOS? 2) what is the evidence base and research to support its use in mental health and addictions services? 3) in what jurisdictions are the scales currently being used? and 4) what are the plans for implementing the HoNOS in the Calgary Zone and the province of Alberta?

In exploring question one, the presenters will provide a brief overview of the tool itself, highlighting its five-point scale and its four domains. Part two of the presentation will provide information on the psychometric properties of HoNOS and will explore findings from previous research using the HoNOS. This will highlight items such as reliability, inter-rater reliability, and validity. In answering question three, the presenters will outline briefly how the HoNOS has been used in Europe, the Pacific Rim, and North America. Finally, a brief outline of HoNOS implementation in the Calgary Zone and province of Alberta will be provided. The presenters will provide an opportunity for those attending to ask questions and will distribute relevant research references as a resource for participants.

**Title:** Recovery Trajectory After Harm in Medical Care

**Author(s):** Trew, ME, Nettleton, S , Flemons, W

Unanticipated harm within the context of medical care is not uncommon. As safety initiatives within healthcare systems grow, it is clear that there is an important place for the voice of those who have experienced such harm either themselves, or in family members. It is vital to have the voice of this experience “at the table”. At the same time, some individuals suffer substantial mental health symptoms after such an experience, and this can interfere with their ability to partner in safety initiatives and may put them at risk for further re-traumatization.

This presentation will consist of a summary of a modified grief model which is under development and validation for use by the Canadian Patient Safety Institute and Patients for Patient Safety Canada. It is the aim of this model to assist in helping both the individuals who have been harmed to recover, as well as healthcare institutions understand better how to select and support those with lived experience in patient safety initiatives.

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**Title:** A pilot study of improving health care workers' work environment and mental health

**Author(s):** Kirsten M Fiest, Shawn R Currie, JianLi Wang

**Objectives:** The overall goal of this pilot project was to improve work environment, mental health and productivity of staff in a large hospital unit at the Rockyview General Hospital in Calgary, Alberta. Specific objectives of this abstract were to (1) describe the procedures of the intervention, (2) present the results of baseline assessment, and (3) outline the next steps. **Methods:** A baseline questionnaire package, including the PHQ-9, the Work Environment Scale, and the Stanford Presenteeism Scale, was distributed to all staff (n = 53). In addition to the qualitative section, two open-ended questions about how to improve the work environment were appended to the package. Following receipt of the questionnaires, a newsletter was sent to unit staff to inform them of the project's progress and the next steps the team would be taking in the development of a solution to their concerns. After a preliminary analysis of the data, two focus group sessions were held to solicit more detailed information about the unit's work environment directly from staff. **Results:** The initial questionnaire had a response rate of 66% (35 responses out of 53), with a total of 117 responses to the two open-ended questions. The mean score for physical comfort ratings was 42.9 (population norm = 50.0), and this issue was also raised in 42% of all qualitative responses. Peer cohesion was rated at 56.5, which was close to the population norm. The two focus group discussions elucidated information related to difficult peer relationships, which was found to be one of the greatest sources of discontent for staff while at work. **Conclusions:** Difficult peer relationships may negatively influence the work environment and mental health of nursing staff. Through the process of developing a communication workshop, staff have the opportunity to participate in the implementation and continuity of unit standards.

## **Symposium - Medical Education Research**

**Moderator – Dr. Janet deGroot**

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**Title: Expressing Affect during Supportive Expressive Group Therapy Sessions Reduces Trauma Symptoms in Metastatic Breast Cancer Patients**

**Author(s): Janine Giese-Davis**

Emotional expression has been proposed as one of the primary therapeutic ingredients in the efficacy of supportive-expressive group therapy (SET) and other emotion-focused and exposure therapies with goals to reduce depression and trauma symptoms. We used frame-by-frame observational methods to examine the role of specific emotional expressions over 1 year in reducing depression and trauma symptoms. Women with metastatic breast cancer's speaking time in 16 group SET sessions over 1 year were coded from videotape using Specific Affect Coding for Breast Cancer (N = 37). Change in expression was used to predict change in depression and trauma symptoms. Trauma symptom decline was significantly predicted by an increase in the mean duration of a moment of primary negative affect (fear, direct anger, sadness) and also by a decrease in constrained anger. Emotional expression did not predict change in depression symptoms. Ability to tolerate distress expression may be crucial to trauma-symptom recovery.

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**Title: Relationship Between Mental Health Risk Factors and the Development of Delirium Post Elective Surgery at Foothills Hospital**

**Author(s): Suparna Madan**

Delirium is an acute confusional state characterized by altered cognition (or the development of a perceptual disturbance) and difficulty in focusing, maintaining or shifting attention. Patients who become delirious are at greater risk for negative outcomes including cognitive and physical decline. Mental health risk factors for delirium include executive dysfunction and depression and various patho-physiological mechanisms have been proposed to explain the relationship between mental health diagnoses and delirium. Preliminary findings of the relationship between mental health risk factors and the development of delirium post elective surgery at Foothills hospital in 2008 will be presented and the implications of these findings will be discussed.

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**Title: Neuroimaging and Psychiatric Symptoms in Neurologic Illness**

**Author(s): Aaron Mackie**

Functional Neuroimaging has greatly advanced our understanding of brain circuitry and the pathophysiology of psychiatric illness. However, it has also allowed us to further understand the psychiatric symptoms seen in neurologic illness, particularly as it pertains to structural neuroimaging. As this field continues to advance, it becomes ever more important that psychiatrists further their understanding of brain structure and function. A few case examples will be presented to illustrate the application of understanding functional connectivity in the context of abnormalities seen on structural neuroimaging.

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**Title: Descriptive epidemiology of stigma against depression in a general population sample in Alberta**

**Authors:** Trevor M Cook, JianLi Wang

**Background:** Mental health illnesses, such as depression, are responsible for a growing disease burden worldwide. Unfortunately, effective treatments are often impeded by stigmatizing attitudes of other individuals, which have been found to lead to a number of negative consequences, including reduced help-seeking behavior and increased social distance. Despite the high prevalence of depression in Canada however, little research has been conducted to examine stigma against depression in the Canadian general population. Such information is crucial to understanding the current state of stigmatizing attitudes in the Canadian communities, and framing future stigma reduction initiatives. The objectives of this study were to estimate the percentages of various stigmatizing attitudes toward depression in a general population sample and to compare the percentages by demographics and socioeconomic characteristics. **Methods:** We conducted a cross-sectional telephone survey in Alberta, Canada, between February and June 2006. The method of random digit dialing was used to recruit participants, aged 18-74 years old (n = 3047). Participants were presented a case vignette describing a depressed individual, and responded to a 9-item Personal Stigma questionnaire. The percentages of stigmatizing attitudes were estimated and compared by demographic and socioeconomic variables. **Results:** The response rate of this study at the individual level was 75.2%. We found that 45.9% of the participants endorsed that depressed individuals were unpredictable and 21.9% held the view that people with depression were dangerous. Significant differences in stigmatizing attitudes were found by gender, age, education, and immigration status. A greater proportion of men than women held stigmatizing views on each stigma item. No consistent trend emerged by age in stigma against depression. Participants with higher levels of education reported less stigmatizing attitudes than those with less education. Participants who were not born in Canada were more likely to hold stigmatizing attitudes than those who were born in Canada. **Conclusion:** In the general population, stigmatizing attitudes towards depression differ by demographic characteristics. Men, young people, those with less education and immigrants should be the targets of stigma reduction campaigns.

**Title: The stigma of mental illness impacts help-seeking behaviors in medical students**

**Author(s):** Andriyka Papish, Zahinoor Ismail

**Objectives:** The goal of this study was to assess the attitudes of medical students towards seeking help for mental illness. Four different areas were assessed which might influence help-seeking decisions: perceptions of others, barriers to help-seeking, perceived effects on career aspirations and personal feelings of shame and weakness. These attitudes were compared with attitudes towards type-2 diabetes (T2DM), a non-mental health related illness. The level of student comfort in speaking with various community members about personal mental illness was also assessed. **Methods:** A cross-sectional study was designed to survey the medical school population at the University of Calgary. An on-line anonymous questionnaire was available to all students in their pre-clinical and clinical years. **Results:** 60% of medical students (179/299) responded to the survey. Of these, 82% of medical students would be embarrassed if their colleagues knew they were being treated for mental illness vs 19% for T2DM. Male students were more concerned with having their colleagues know about their mental health concerns. Although only 1% of students would be ashamed to seek help for T2DM, a quarter of students would be ashamed to seek help for a mental illness. The majority (70%) of medical students think that having a known mental illness will affect their career opportunities and 62% agree that their preceptors would think less of them (vs 8% for T2DM). **Conclusions:** The results of this study strongly suggest that there is a stigma towards mental illness amongst medical students, and that this stigma impacts their help-seeking behaviors. Despite 97% of medical students agreeing that untreated mental illness can have a negative impact on their work and patients, there is a reluctance to seek help that appears to be related to a sense of shame, weakness and perceived negative impact on career aspirations.

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**Title:** **The Potential Influence of Social Desirability on Clinical Outcomes: Phase II**  
**Author(s):** Trevor Seeger, Jeremy Chan, Willow Brocke, David Cawthorpe

**Introduction:** Continuous client feedback (CCF) is essential in the therapeutic process for mental illness as CCF can be used to guide therapy sessions and further ameliorate the patient's well-being, using their own perceptions of the patient-therapist relationship. **Objective:** The presentation will be used to retest the results that were obtained in previous years with a different data set, maintaining that CCF should be solely beneficial and a useful tool to improve patient-therapist relations. **Methods:** School-aged children that were newly accepted into the Student Health Partnership (SHP) in Calgary, completed this year's sample and were placed alternating between CCF or the control. The CCF students, at each session, performed a survey to evaluate the patient-therapist relationship with simplified versions for younger children. Statistics used were a general linear model of repeated measure ANOVA with significance set to  $p < 0.05$ . **Results:** In quarter 3, control group CGAS was lower than CCF students, but 95%CI overlap was present, only possibly indicating bias. In quarter 4, a similar, but lessened result was observed, with CCF students showing greater increase from Admission to discharge CGAS, but with a population of such small size, that it is impossible to make a firm conclusion as to significance, which was not present in any time frame of study. However, the most recent time frame shows significance between CGAS scores at admission and discharge. Quarter 4 showed greater survey scores in CCF than previous models would indicate, but this may be a fluctuation with the small sample and randomization seems to begate any bias suspected from quarter 3. **Conclusion:** Randomization appears to bring regression lines pertaining to survey scores closer to previously established models with a large sample, however, 95%CI for this model, and quarters 3 and 4 show overlap with at least one of the others, indicating no significance. Noting CGAS and survey scores from other organizations may be necessary for a more complete inference to be made and providing therapists with rigid and clear directions to alleviate bias.

**Title:** **Approaches to measuring complex medical phenomena in the age of information and accountability: A new approach to monitoring treatment responses and client tracking (TRACT).**

**Author(s):** David R.L. Cawthorpe

**Simple survey method for complex medical phenomenon**

**Objectives:** Measuring clinical and functional outcomes in mental health is becoming an increasingly complex and costly endeavour. It is with considerable regularity that tens and hundreds of millions of dollars are spent to develop electronic health records, yet today functional integrated products that can operate across domains of health have yet to be identified. The purpose of this paper is to describe ways and means of measuring functional and clinical outcomes across complicated case mixes and treatment domains in hospital and community treatment settings. **Methods:** Data from several electronic records and data sources are used to illustrate the burden of measurement, data quality and related issues that practitioners face when collecting, analyzing and interpreting data in the age of information and accountability in health care. A practical, flexible, modular, and dynamic tool for measuring functional and clinical outcomes across treatment and education settings is described (TRACT: treatment response application for client tracking: [www.internationalgme.org](http://www.internationalgme.org)). **Results:** Relatively simple, modular approaches to clinical and functional outcome measurement that are integrated into medical practice have the lowest burden and highest yield in terms of demonstrating evidence-based practice, treatment effectiveness, and system level accountability. **Conclusions:** Simple modular approaches to measuring complex phenomena, such as the effect of multiple treatment interventions in complex environments and against backgrounds of comorbid disorders, are likely to have high quality yields in terms of identifying promising and evidence-based practices through use of the highest standards available to an examination of practice in the field.



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**Title: Report on Ten Years Surveillance of Suicide in Addiction and Mental Health - Calgary Zone**

**Author(s):** Iris Penwarden, Donna Rutherford, Michael Trew

Suicide risk is a major focus of risk assessment in addiction and mental health. In spite of considerable efforts to avert suicide in A&MH patients, deaths by suicide continue. From April 1999 to March 2009, all known deaths by suicide associated with Addiction & Mental Health programs in the Calgary Zone (initially primarily hospital-based MH with extension to previous AMHB clinics and rural areas over the course of the decade) were systematically reviewed in efforts to learn as much as possible. When appropriate, recommendations were developed, reviewed and passed back to the programs.

This presentation will summarize the findings including numbers of deaths, mode of death, age distribution, timing related to hospitalization, etc. A brief summary of some of the recommendations of these reviews will be presented as examples of this systematic quality assurance work.

**Title: Methylphenidate-mediated reduction in prefrontal hemodynamic responses to working memory tasks: A functional near-infrared spectroscopy study**

**Author(s):** Harinder Dhaliwal, Jeff Dunn, Rajamannar Ramasubbu

**Objective:** Methylphenidate (MP) improves attention and working memory by enhancing the brain catecholamine function. However the neural mechanisms underlying its cognitive effects remain unclear. In this study we investigated the effect of MP on hemodynamic responses to resting condition and working memory tasks in bilateral prefrontal cortical brain regions using near infrared spectroscopy (NIRS). **Methods:** Thirteen right handed healthy subjects underwent N-back working memory tasks with increasing difficulty (0-back, 2-back) before and after a single oral dose of MP 20 mg and placebo administered in a double blinded random order fashion on two separate days in a within-subject design. We measured changes in oxy-hemoglobin (Oxy-Hb) and deoxy-haemoglobin (Deoxy-Hb) concentration during the tasks and resting conditions before and after MP and placebo administration using 2-channel NIRS. **Results:** MP significantly decreased Oxy-Hb and total haemoglobin concentration in right lateral prefrontal regions during working memory tasks compared to resting state, whereas placebo did not show significant changes. Furthermore, baseline adjusted Oxy-Hb in 2-back task (2-back minus resting) was significantly decreased in MP condition compared to placebo condition. There were significantly more correct responses and few omission errors during 2-back task performance with MP than with placebo. MP showed non-task related decreases in Deoxy-Hb significantly in the left side. **Conclusions:** This NIRS study results corroborated with previous PET findings that methylphenidate may reduce cognitive task-related lateral prefrontal activation probably by improving the task-specific neuronal signaling (efficiency of neural activity). The clinical utility of NIRS in the prediction of treatment responsiveness to psycho stimulant medication needs further evaluation.