

Research INSIGHTS



Editor
J. D. Mendonca PhD CPsych

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17th ANNUAL RESEARCH HALF DAY
SEPTEMBER 15, 2016 ABSTRACTS
& RESEARCH REPORT 2015-2016

Mental Health Research Committee

Research Insights is a peer-reviewed journal designed to publish reviews, case studies and research articles authored by the mental health professionals of Parkwood Institute and Southwest Centre for Forensic Mental Health Care of St. Joseph's Health Care London (which is affiliated with Lawson Health Research Institute).

Research Insights may also provide a forum for preliminary results of ongoing research.

Editor

J.D. Mendonca PhD, CPsych

Instructions for Authors

Manuscripts submitted for publication must follow the rules of APA Style[®], detailed in the *Publication Manual of the American Psychological Association*. The manuscript should include the following main sections:

(1) Title Page; (2) Abstract (maximum of 250 words) , and up to five key words or brief phrases; (3) Introduction; (4) Method; (5) Results; (6) Discussion; (7) References; (8) Appendices. We ask that papers not exceed 4000 words. For more details, please visit the APA website at <http://www.apa.org/pubs/authors/instructions.aspx> and a helpful tutorial can be found at: <http://www.apastyle.org/learn/tutorials/basics-tutorial.aspx>

Brief Report manuscripts may be submitted for publication and should not exceed 1500 words. The *Brief Report* manuscript should include the following:

(1) Title Page; (2) Succinct Abstract; (3) Introduction (include background highlights with a clear 'purpose' statement; (4) Method; (5) Results (using a maximum of 1 table or figure if necessary); (6) Discussion (a concise outline of clinical implications and/or expected outcomes); (7) References; (8) Appendix.

The Editor may be approached for any unique manuscript stylistic variations required by the subject matter.

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**Parkwood Institute Mental Health Care and
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17th ANNUAL RESEARCH HALF DAY

SEPTEMBER 15, 2016

ABSTRACTS

&

RESEARCH REPORT

July 2015 – June 2016

by

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Message from the Director

Welcome to the 17th Annual Research Half Day at the Parkwood Institute Mental Health Program. This has been an exciting year highlighted by the consolidation of three research groups working in Complex Mood Disorders, Smart Technology and Suicide. Across the Parkwood site researchers have come together to form Parkwood Institute Research to facilitate integration of our administrative functions and collaboration between researchers and groups working at the Parkwood Institute. In the next year we hope to appoint a new Beryl & Richard Ivey Research Chair in Aging, Mental Health, Rehabilitation and Recovery to oversee all research at the Parkwood Institute.

This will be my last communication as the Director of Psychiatric Research as I will shortly be stepping down from the position. I would like to take this opportunity to thank a few individuals who have made a major contribution to the development of our research program in mental health. First and foremost, Joanne Chapman, who had been the administrative assistant for the Research and Education Unit for the last 10 years and retired from St. Josephs' Health Care in June. Kudos also to Dr. Nicole Marlatt who has worked with our research groups over the last year and who has temporarily taken on some of Joanne Chapman's roles. Thanks also to Dr. Jim Mendonca for his tireless leadership as the Editor of Research Insights. Finally, thanks to David Hill and the Lawson Health Research Institute for their ongoing, and particularly this year, considerable support to our program.

I trust you will enjoy the day and I wish you all best for the future.

Enjoy the day.

Best regards,

Dr. Richard O'Reilly

Director of Research

**Parkwood Institute Mental Health Care and
Southwest Centre for Forensic Mental Health Care**

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ABSTRACTS

Oral Presentations

AB-O1 How do we know if we have enough psychiatric beds?

Richard O'Reilly MB FRCPC, John E. Gray PhD, & Jerry Shum BMSc (Honours)

Study Objectives: Many Canadian cities struggle to meet the demand for inpatient psychiatric care. Few attempts have been made to establish the optimum number of psychiatric beds needed by a mental health service. In this study, we examine the quality of Canadian and international data on bed numbers.

Method: We extracted data on psychiatric bed numbers from the World Health Organization and the Organization for Economic Cooperation and Development databases. We compared Canadian data with those in the Canadian Institute for Health Information (CIHI) database. We further verified CIHI data, which is hospital specific, by contacting individual hospitals in two Canadian provinces. To assess the accuracy of low bed numbers in one western jurisdiction, we visited psychiatric services in two Italian regions. Finally, we polled Canadian and international jurisdictions to determine if they had targets for psychiatric beds.

Results: Germany, Canada and Italy have respectively 87, 35 and 10 psychiatric beds/100,000 population. Comparison of the CIHI data with those obtained directly from hospitals showed differences of up to 20%. Site visits established that Italy has more than twice its internationally reported numbers of beds. The Canadian Psychiatric Association (CPA) has recommended 50 acute beds and 15 long-stay beds/100,000. Ontario has established a target of 35/100,000, which is significantly lower than the CPA's.

Conclusion: Publically reported data on psychiatric bed numbers is inherently unreliable for Canada and for some international jurisdictions. Few jurisdictions or institutions have identified a target for the number of psychiatric beds.

AB-O2 Pilot study of sublimed sulfur targeting hydrogen sulfide (H₂S) and beta-galactosidase in hyper-homocysteinemia and Alzheimer's Disease: opportunities for a novel therapeutic avenue.

Simon Chiu MD PhD FRCPC, & Airudin Sulaiman Khan MD FRCPC

Introduction: Recent evidence suggests that elevated levels of homocysteinemia (eHct) correlate with the severity of cognitive decline and cortical atrophy in Alzheimer's disease (AD). Hydrogen Sulfide (H₂S) in AD translational model exerts a neuroprotective effect through regulating homocysteine (Hct) signaling in the brain. The neuroprotective action of elemental sulfur in eHct may be related to the conversion to H₂S through a transsulfuration pathway. Sublimed sulfur, formulated as oral natural health product: SULMEDOL, is approved for treatment of lactose intolerance through the activating effect of sulfur on beta-galactosidase (GALAC). It is fortuitous that aberrant expression of senescence-related GALAC results in an impaired endosomal-lysosomal autophagy system in AD.

Objective: We hypothesize that sublimed sulfur, via dual targeting of H₂S/eHct and GALAC, may be efficacious in attenuating hyper-homocysteinemia (eHct) and cognitive decline in AD. In our exploratory study, we examined: I) whether SULMEDOL can reverse eHct in cognitively intact patients diagnosed as hyper-homocysteinemia; II) whether in two patients diagnosed with AD, SULMEDOL is safe and efficacious in improving AD symptoms.

Methods: In study I, we recruited 46 subjects with a history of various cardio-vascular diseases, who were stratified into three groups: Group I (n=16) with elevated basal fasting homocysteine (fHcy) >9.9 micromol/L; Group 2 (n= 15) with intermediate basal fHcy (7.1 to 9.9 micromol/L); and Group 3 (n=15)

with low basal fHcy (<7.1 micromol/L). The 3 groups received a 30-day oral dosage of SULMEDOL 200 mg daily. The primary outcome measures included fHcy, at baseline, 24-hour and 30-day post-treatment. In study II, two patients diagnosed as AD of moderate severity were treated with oral daily dosage of SULMEDOL 200 mg for 3 months.

Results: In Study I: the Group I subjects had fHcy decreased significantly by 36.1%, 24 hours after SULMEDOL treatment ($t_{15, 0.05} = -3.9, p = 0.0014$), and by 29.3%, 30 days later ($t_{15, 0.05} = -3.80, p = 0.0018$). In Group 2 the fHcy did not change significantly. Group 3 demonstrated a paradoxical albeit non-significant increase in fHcy, without change in erythrocyte folic acid, serum lipids and serum vitamin B12. SULMEDOL was well tolerated in the cohort of eHct patients. In study II, clinical vignette analysis of the two community-dwelling AD patients with a clinically significant cerebro-vascular and cardiovascular history revealed that 3-month SULMEDOL treatment ameliorated a cluster of AD symptoms: nocturnal wandering, paranoid delusion, behavioral outbursts, disorientation and confusion. The marked change in Clinical Global Improvement score (CGI-I) with no adverse events was confirmed by reliable family caregivers in the community.

Conclusion: SULMEDOL in attenuating hyper-homocysteinemia holds promise as a potential therapeutic agent in AD through dual targeting of the H₂S-homocysteine inflammation signaling pathway and GALAC autophagy pathway and warrants controlled trials in AD.

AB-O3 Gold shackles or freedom band: The electronic patient wrist band and its role in patient safety and recovery oriented care

Sreelatha Varapavan MD FRCPC, Priya Sharma MD, Priya Subramanian MBBS MRCPsych, Luljeta Pallaveshi RN LLB BA, Amresh Srivastava MD MRCPsych FRCPC, & Robbie Campbell MD FRCPC

Background: Institutional environment and autonomy are important for the recovery of hospitalized individuals with mental illness. With deinstitutionalization, there is an increased momentum to create hospital environments that align with recovery principles. One such environment is the Parkwood Institute, Mental Health Building, which incorporates technological innovations that aim to balance autonomy with risk in the care of those with psychiatric disabilities.

Purpose: We explored one technological innovation within this environment, the electronic wrist band for inpatients, to explore stakeholders' reflections on how this may promote or deter recovery oriented care.

Methods: This is a qualitative exploratory study using semi-structured interviews to explore the participants' views about the electronic wrist band, challenges that can arise in the implementation of this technology, and suggestions for further strategies. Seventy-two participants from the stakeholder groups (patients, relatives and frontline staff) were interviewed in nine focus groups. The semi-structured interview data were coded and thematically analyzed.

Results: We present preliminary results from 24 participants that show a mix of both favourable and unfavourable aspects of this technological advancement and its impact on patient safety.

Conclusions: The findings can be used to inform policy locally, and assist in the design of future studies about the use of similar technologies in health care. It will also provide compassionate evidence-based care to a disadvantaged population and promote meaningful recovery from the effects of injury, disease and disability.

AB-04 A study of resilience and psychosocial capital among survivors who lost their relatives in natural disaster of Uttarakhand landslide in northern India: Indo-Canadian Study

Amresh Srivastava MD MRCPsych FRCPC, Chetan Lokhand MD, Nilesh Mohite MD, Avinash DeSousa MD, Sushma Sonavane MD, & Nilesh Shah MD

Introduction: Mental disorders are common following a natural disaster. In this study, we examined people who lost their family members in a natural disaster. We believe that survivors who lost their families may have lower resilience and low psychosocial capital than those who did not. The disaster: On June 13, 2013 in Northern India, in the foothills of Mountain Himalaya, there was a landslide due to heavy rainfall which was 375% more than normal benchmark, causing melting of the Chorabari Glacier at the height of 3,800 meters and eruption of the Mandakini River, which displaced 100,000 pilgrims and took 5,000 lives.

Method: We examined resilience, stress and psychosocial factors amongst survivors who lost their relatives, living in local rehabilitation shelters, by sending a research team from the Lokmanya Tilak Municipal General Hospital and Municipal Medical College (LTMG Medical College), Mumbai and collaborating organizations one year after the incident. Consenting survivors who lost their relatives (N=28) and controls subjects who did not (N=30) were assessed after screening (N=100) people living in the rehabilitation shelters, using the General Health Questionnaire (GHQ), Connor-Davidson Resilience Scale, (CD-RISC), Life Event Scale (LEQ) and psychosocial parameters.

Results: Survivors in both the groups were from low socio-economic group and had low resilience, which correlated with low psychopathology. Those who had lost their relatives showed lower resilience, (CD-RISC 20.61 (SD 8.33) vs. 40.57 (SD 13), $p=.01$); higher levels of stress (GHQ, 27.44 (SD 3.82) vs. 23.36 (SD 5.44), $p=.001$) and expressed higher need for social support (11 (SD 30.5) vs. 2 (SD 7.1) $p=.021$) as against commonly expected more financial support.

Conclusion: Survivors of natural disasters who lose their relatives require resilience building measures and more social support, which may prevent mental disorders.

Clinical significance: The findings may be helpful in policy development.

AB-05 Efficacy of rTMS for TRD at Parkwood Institute: a quality improvement project

Amer Burhan MBChB FRCPC, & Johannes Teselink (student volunteer)

Introduction: Repetitive Trans-Cranial Magnetic Stimulation (rTMS) has evolved as an alternative option for patients with depression resistant to treatment with pharmacotherapy and psychotherapy. This group is referred to as treatment-resistant depression (TRD).

Meta analyses indicate that rTMS is overall efficacious in TRD, but several limitations have been identified including variability in stimulation parameters, duration of rTMS course, and patient population treated. Several rTMS services have developed treatment protocols to optimize treatment outcome and have published their cohort data to inform the field. The Therapeutic Brain Stimulation service at Parkwood Institute is well positioned to address efficacy of rTMS in TRD as it is mandated to assess and treat patients with this designation using the most effective tools available including ECT and rTMS, but also to develop new paradigms to increase efficacy.

Objective: Our main objective was to examine the efficacy of our current evidence-informed model of rTMS and compare it to published efficacy data.

Method: Chart-review of all patients treated at our site from time of inception of the service in January 2016 till present to extract efficacy data including HAMD-17, PHQ9 and GAD7, which are collected per standard protocol at the beginning, end, and on a weekly basis in between.

Results: This is an ongoing quality improvement project. Full description of the cohort treated and outcome data including response and remission rates will be presented. Our data thus far indicate that rTMS can induce remission and response in a significant portion of those treated despite the level of treatment resistance. Significance and implications on the model of care for TRD will be discussed.

Conclusions: rTMS is a viable option for patients with TRD in our naturalistic tertiary care specialized mental health centre. Better profiling of variables contributing to the TRD construct will be pursued via a related naturalistic study.

Poster Presentations

AB-P1 Fall prevention initiative in geriatric psychiatry

Sukhi Brar RN MScN CPMHN(c), Erin Finley MSc(OT) OT Reg ON, & Ed Black PhD CPsych.

Objectives: Dementia is an independent risk factor for falling. Most falls do not result in injury. The fact that patients with dementia fall more often than individuals without neurocognitive impairment leaves them at a higher risk of sustaining injurious falls over time. The focused area of implementation was a behavioural health unit, which has 18 patients with a primary diagnosis of moderate to severe dementia with related responsive behaviours. The objective was to reduce the rate of falls with injury or less by 15% between April and December 2015.

Methods: Several change ideas were introduced on the 18 bed unit which included: Intentional Comfort Rounding, use of falls risk assessment tool (FRAT) on admission, after incident and quarterly; visual identification for patients from low to high risk for falls; development and implementation of Senior Friendly Hospital physical environment audit for mental health and inter-disciplinary post-fall debriefs.

Results/Conclusions: Implementation of Post-Falls Debriefs and monthly reviews of unit/individual data had a positive impact on reducing the rate of falls, as it provided all team members with opportunities to suggest and implement quick win falls reduction strategies. In the start of data collection period in April 2015, there were 7 falls recorded. After implementation of these falls reduction strategies, there were no falls recorded at the end of the data collection period in December 2015.

Checking environmental hazards were associated with the highest means of intervention, with equipment not working as the most reported environmental factor. Of the patients who fell, 72.4% reported being restless and agitated before the fall. The process measures were fully met and the change ideas implemented were successful in reducing falls with injury to zero falls with injury being recorded within the last two months of the data collection period.

AB-P2 Do suicide decedents who leave notes differ from those who do not? A study of suicides in Southwestern Ontario

Rahel Eynan PhD, Ravi Shah MSc MD, Marnin Heisel PhD CPsych, & Paul Links MD FRCPC

Introduction: A suicide note is the last written communication left behind by a person who died by suicide to their loved ones or to their friends. There are contradictory findings reported in the suicide literature on the value of suicide notes as a data source, particularly the extent to which suicide decedents who leave notes differ from those who did not.

Objectives: The aims of this study were to: 1. Investigate the proportion of suicide decedents who left suicide notes; 2. Explore whether there are differences between suicide decedents who left notes and those decedents who did not.

Method: The study retrospectively reviewed coronial files of 476 consecutive deaths by suicide cases from Southwestern Ontario, which occurred between January 2012 and December 2014. Socio-demographic characteristics, history of suicidal behaviour, physical and mental health status, precipitating events, and the means used were garnered from data collected for the Southwestern Ontario Suicide Study (SOSS).

Results: Of the 476 coronial files reviewed, 218 (45.8%) files contained a final communication identified by the coroner as a suicide note. These final communications were left in a variety of formats: 77.1% were handwritten or typed notes, while 22.9% were e-mails, text messages, voice messages, or videos. The analysis indicated that decedents who left notes were significantly more likely not to have a mental illness ($p=.034$), and were less likely to have a history of self-harm ($p=.013$), to have been recently discharged from hospital ($p=.004$), or to have jumped to their death from a high place ($p=.001$).

Conclusion: The present study identified several differences between suicide decedents who left notes and those who did not. More research should be conducted on larger samples of suicides to confirm that suicide notes are a valid source of information about suicide.

AB-P3 A prospective evaluation of the Dialectical Behaviour Therapy (DBT) for adolescents

Sandra Fisman MB BCh FRCPC, Javeed Sukhera MD DABPN FRCPC, Julie Jeanson RN(NCM), Jennifer Wilson RN(CPMHN), Patrizia Travis RN, Shannon Stewart PhD CPsych, Raymond Egan MD FRCPC, David Bogaert RN, Chloe Hamza PhD CPsych, & Brenda Davidson BA (honours)

Introduction: Dialectical Behavioural Therapy (DBT) is a complex treatment that blends cognitive behavioural interventions with Eastern mindfulness practice. Developed originally for adults by Marsha Linehan, it has been adapted for use with youth and families. It is an innovative approach and shares elements from psychodynamic, patient-centered and acceptance-based approaches.

Objectives: The DBT model in adolescents has not been widely studied. This study aims to look closely at the value of DBT for adolescent patient mental health and recovery.

Method: A multi-site study, in collaboration with Children's Hospital, London Health Sciences Centre and Parkwood Institute Mental Health Care will respectively invite 25 adolescents, 13 to 19 years of age, who are patients starting in the DBT program and one parent/legal guardian for each adolescent. Study testing will be carried out prior to the start of DBT (pre-test), at the end of DBT (post-test), and at the 3-month follow-up after completing the DBT program (follow-up test). Information collected will be from the DBT Assessment Form at pre-testing and at post-testing. Patient's DBT Weekly Diary Cards will be

collected during the adolescent's DBT treatment. Further information will be collected from the: Difficulties in Emotion Regulation Scale, interRAI ChYMH-Suicidality; Purposeful Self-Harm Clinical Assessment Profile Items Only, and the Multidimensional Adolescent Functioning Scale. The Brief Impairment Scale will be administered as a telephone interview to the parent/legal guardian at all testing time-points. Each program will be evaluated separately and both programs will be compared.

Results: On-going findings will be presented.

AB-P4 Long-term care home environmental enhancements designed to decrease responsive behaviours: not all murals are equally effective

Iris Gutmanis PhD, Catherine Blake MA, Steven J. Crawford MBA CA, & Lisa Van Bussel MD FRCPC

Background: In November 2014, all long-term care homes (LTCHs) in the South West LHIN were invited to apply for one-time funding (maximum \$5,000) for environmental enhancements that would prevent/decrease responsive behaviours.

Objectives: To understand the impact of murals and camouflaged exit points on LTCH residents and staff.

Methods: Approved enhancements were implemented between January 15 and March 31, 2015. Participating homes were sent an emailed survey in August 2015 asking them to describe the project, to discuss if the project addressed changed resident responsive behaviours, and to share any resident/family member feedback. As this was program evaluation, ethics approval was not sought.

Results: Thirteen of the 74 LTCHs that applied for funding (17.6%) used their monies to camouflage exit points or to create interactive murals. Feedback suggests that not all images are appropriate.

"...[the] type of camouflage required should not encourage residents to "pick a book from a bookshelf" or "check the time."

One home developed a three-dimensional mural where residents could interact with several elements. Through effective communication strategies staff, who were initially perplexed, eventually came to understand the purpose of the mural.

"Make sure that everyone understands the purpose of it and that touching is encouraged. Also, locate it in an area where residents will see it and be inclined to stop and interact with it."

Conclusions: Camouflaged exit points and murals need to fit with the activity level and needs of the residents on that floor. Future research should focus on impacts of environmental enhancements on care pathways.

AB-P5 Meaning-Centered Men's Groups (MCMG): an upstream intervention designed to enhance psychological resiliency among men making the transition to retirement

*Marnin J. Heisel PhD CPsych & the Meaning-Centered Men's Group Project Team**

* The Meaning-Centered Men's Group Project Team additionally includes: Co-Investigators: Gordon L. Flett PhD, **Paul S. Links** MD FRCPC, Ross M.G. Norman PhD CPsych, Sisira Sarma PhD, Sharon L. Moore PhD RN RPsych, Norm O'Rourke PhD RPsych, & **Rahel Eynan** PhD; Collaborators: Kim Wilson PhD (University of Guelph), & Paul Fairlie PhD (York University); Community Partners: Third Age

Outreach-St. Joseph's Health Care, London (Beverly Farrell R/TRO & Kristan Harris OT Reg (Ont.) MHSc CHE), Kiwanis and Hamilton Road Seniors and Community Centre City of London, the Canadian Coalition for Seniors' Mental Health (Bonnie Schroeder, MSW RSW), & the Centre for Suicide Prevention (Mara Grunau, BEd MPA).

Background: Suicide risk increases in later life, especially among men, necessitating interventions with this at-risk demographic.

Methods: We are recruiting 100-120 cognitively-intact, community-residing men 55 years or older into a study designed to develop and evaluate Meaning-Centered Men's Groups (MCMG), a 12-week intervention for men transitioning to retirement. MCMG draws on research demonstrating negative associations among Meaning in Life (MIL), depression, and suicide ideation. Sessions focus on building camaraderie over the course of guided discussion regarding finding meaning in work, retirement, leisure, relationships, and generativity. We have now completed two courses of MCMG in London, will soon begin a non-randomized controlled phase of the study, comparing MCMG with a weekly current-events control condition, and begin recruiting participants for a course of MCMG in Calgary.

Results: This presentation will focus on findings of at least our first two initial groups (N=18 men, M=65.1 years, SD=3.4; Range: 59-70), including acceptability and tolerability measures and preliminary pre-post change in psychological risk and resiliency factors. Findings from our initial group demonstrated strong ratings of participant satisfaction (M=47.6/50, SD=1.4), working alliance (M=6.1/7, SD=0.5), and attendance of group sessions. Participants also experienced a significant reduction in suicide ideation and social hopelessness, and significant improvement in psychological well-being and satisfaction with retirement.

Implications: These and other findings will be discussed in the context of a call for community outreach and upstream interventions designed to promote psychological resiliency and well-being and decrease risk for suicide.

AB-P6 Antidepressants and recurrence of depression in the postpartum period

Verinder Sharma MBBS FRCPC, Bin Xie PhD, Dwight Mazmanian PhD CPsych, Carley J. Pope MA, & Christina Sommerdyk, MA

Objective: This purpose of this study was to evaluate the effect of antidepressant use on recurrence risk of depression in women with major depressive disorder.

Method: Women between ages 18 and 45 were recruited to participate in a prospective, observational study in a tertiary perinatal care clinic where they were followed from childbirth to up to twelve months postpartum. The participants' medication use through the postpartum period was recorded and the Hamilton Rating Scale for Depression, Young Mania Rating Scale, and Edinburgh Postpartum Depression Scale were completed to assess psychiatric symptoms and recurrence.

Results: The majority of women were treated with an antidepressant alone or in combination with other psychotropic drugs; however, some women remained medication-free in the postpartum period.

Conclusion: The findings indicate that the use of antidepressants does not influence the recurrence rate in the postpartum period.

AB-P7 Treatment-seeking for depression in individuals meeting criteria for mood disorders with suicide ideation

Carley J. Pope MA, Dwight Mazmanian PhD CPsych, & Verinder Sharma MBBS FRCPC

Study Objectives: To assess and compare the rates of suicide ideation and treatment seeking in individuals with Bipolar Disorder (BD) and Major Depressive Disorder (MDD).

Method: Data derived from the 2012 Canadian Community Health Survey was analyzed. We compared rates of suicide ideation (SI) and treatment seeking in individuals meeting criteria for BD and MDD in the last 12 months.

Results: 1,341 (5.7%) met survey criteria for a mood disorder in the past 12 months: 1,112 for MDD, 123 for bipolar I disorder (BDI), and 106 for bipolar II disorder (BDII). Rates of recent SI were found to be 54.7% and 61.4% for MDD and BD, respectively. No significant difference was found for SI when comparing the groups. Of the individuals who endorsed SI, 82.9% and 79.5% of those with MDD and BP reported receiving treatment for depressive symptoms in the corresponding 12-month period. When excluding those meeting criteria for a recent mood episode, lifetime BD was associated with higher rates of SI than lifetime MDD (19% vs. 10.7%). In this group, only 32.7% and 24% of those meeting lifetime criteria for BD and MDD endorsed receiving treatment for depression in the time period corresponding with SI.

Conclusion: While no difference between rates of SI were found when comparing MDD to BD for a recent mood episode, it appears that individuals with BD endorse more SI outside of recent mood episodes compared to MDD. For both groups, treatment seeking was lower when SI was experienced outside of a mood episode.

**Parkwood Institute Mental Health Care and
Southwest Centre for Forensic Mental Health Care**

ANNUAL RESEARCH REPORT

July 1, 2015 – June 30, 2016

Peer Reviewed Journal Publications

Vasudev, A., Arena, A., **Burhan A.M.**, Ionson, E., Hirjee, H., Maldeniya, P., Wetmore, S., & Newman, R.I. (2016). A training programme involving automatic self-transcending meditation in late-life depression: preliminary analysis of an ongoing randomised controlled trial. *British Journal of Psychiatry Open*, 2(2), 195-198. doi: 10.1192/bjpo.bp.115.002394.

Burhan, A.M., Anazodo, U.C., Chung, J.K., Arena, A., Graff-Guererro, A., & Mitchell, D.G.V. (2016). The effect of task-irrelevant fearful face distractor on working memory processing in mild cognitive impairment versus healthy controls: An exploratory fMRI study in female participants. *Behavioural Neurology*, 2016. Retrieved from <http://www.hindawi.com/journals/bn/2016/1637392/>.

Burhan, A.M., Marlatt, N.M., Palaniyappan, L., Anazodo, U.C., & Prato, F.S. (2015). Role of hybrid brain imaging in neuropsychiatric disorders. *Diagnostics*, 5(4), 577-614. doi: 10.3390/diagnostics5040577.

Vasudev, A., Shariff S.Z., Liu, K., **Burhan, A.M.**, Herrmann, N., Leonard, S., & Mamdani, M. (2015). Trends in psychotropic dispensing among older adults with dementia living in long-term care facilities: 2004–2013. *The American Journal of Geriatric Psychiatry*, 23(2), 1259-1269.

Tudhope, R., & **Burhan, A.M.** (2015). Cholinesterase inhibitors as a treatment for post-stroke anxiety: a case report. *Acta Psychopathologica*, 1(4), 1-4.

Burhan, A. M., Subramanian, P., Pallaveshi, L., Barnes, B., & Montero-Odasso, M. (2015). Modulation of the left prefrontal cortex with high frequency repetitive transcranial magnetic stimulation facilitates gait in multiple sclerosis. *Case reports in neurological medicine*, 2015. Retrieved from <http://www.hindawi.com/journals/crinm/2015/251829/>.

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Sharma, V., Bowen, R., & Sharma, P. (2015). A Case of major depressive disorder with mixed features: Diagnostic and treatment issues. *Primary Care Companion for CNS Disorders*, 17(4). doi: 10.4088/PCC.15101775.

Chapters in Books

Arbeau, K. Stewart, S. L. **Fisman, S.,** Neufeld, E. Rabinowitz, T. Theall, L. & Hirdes, J. (2015). Suicidality and Purposeful Self-Harm CAP In S.L. Stewart, L.A. Theall, J.N. Morris, K. Berg, M. Björkgren, A. Declercq et al. *interRAI Child and Youth Mental Health Collaborative Action Plans (CAPs): For Use with the Child and Youth Mental Health Assessment Instrument.* (pp. 43-51). Washington, DC: interRAI.

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Abstracts / Presentations

Maldeniya, P., Arena, A., Ionson, E., **Burhan, A.**, Wetmore, S. Newman, R., & Vasudev, A. (September, 2015). *Sahaj Samadhi Meditation May Improve Depressive Symptoms in Late-Life Depression: a Preliminary Analysis of an Ongoing RCT Study*. Canadian Academy of Geriatric Psychiatry annual meeting, Vancouver BC. [Abstracted in: *Canadian Geriatrics Journal*, 2016, 19(1), 20].

Burhan, A.M., Knuff, A., **Pallaveshi, L.**, Ross, T., & Seitz, D. (October, 2015). *Utility of Actigraphy as an Agitation-Monitoring Tool in Advanced Dementia Patients: a Pilot Study*. Presented at the Canadian Conference on Dementia, Ottawa, ON. [Abstracted in: *Canadian Geriatrics Journal*, 18(4), 250–300].

McIntyre, A., Thompson, S.R., Mirkowski, M.N., **Burhan, A.M.**, Miller, T., & Teasell, R.W. (October, 2015). *The Use of Repetitive Transcranial Magnetic Stimulation for Spasticity Post Stroke*. Presented at the 92nd Annual American Congress of Rehabilitation Medicine (ACRM). Dallas, TX. [Abstracted in: *Archives of Physical Medicine and Rehabilitation*, 10(96), 118].

Thompson, S.R., McIntyre, A., Mehta, S., **Burhan, A.M.**, Janzen, S., & Teasell, R.W. (October, 2015). *Treatment of vascular depression and post stroke depression using repetitive transcranial magnetic stimulation: systematic review*. Presented at the 92nd Annual American Congress of Rehabilitation Medicine (ACRM). Dallas, TX. [Abstracted in: *Archives of Physical Medicine and Rehabilitation*, 10(96), 118].

Burhan, A.M., & Park, H. (November, 2015). *Simulated Complex Reasoning in Psycho-geriatric Training (SCRIPT): Interactive Case Session*. Presented at the 13th Annual Geriatric Psychiatry Symposium, London, ON.

Burhan, A.M. (November, 2015). *Delirium*. Presented at Owen Sound Hospital Physician and Staff Monthly Grand Rounds, Owen Sound, ON.

Al-Qadhi, S., Chawla, T., Seabrook, J., & **Burhan, A.M.** (April, 2016). *Competency by Design Curriculum for Electroconvulsive Therapy for Canadian Residency Training*. Presented at the Canadian Conference on Medical Education, Montreal, QC.

Burhan, A.M. (May, 2016). *Origins of rTMS and its mechanism of action*. Presented at the rTMS: Its origins, current practice and future direction workshop, Parkwood Institute-Mental Health.

Burhan, A.M. (June, 2016). *Repetitive Transcranial Magnetic Stimulation (rTMS) in Psychiatry: Basics and Current Indications*. Presented at the Goderich Mental Health Annual Educational Day.

Chan, E., **Subramanian, P.**, Varapravan, S., **Rybak, I.**, **Pallaveshi, L.**, & **Burhan, A.M.** (June, 2016). *Enhancing suicide risk assessment skills through simulation in a virtual environment*. Presented at the Academic Research Day, Department of Psychiatry, Western University, London, ON.

Al-Qadhi, S., Chawla, T., Seabrook, J.A., & **Burhan, A.M.** (June, 2016). *Competency-by-design curriculum for electroconvulsive therapy in Canadian psychiatry residency*. Presented at the Academic Research Day, Department of Psychiatry, Western University, London, ON.

Chiu, S. (August, 2015). *Exploring the kaleidoscopic oasis of epigenetics-based diet, brain games and physical exercise in cognitive aging and Alzheimer Dementia: evidence, promises and challenges*. Presented at the 3rd International Conference on Alzheimer's Disease and Dementia, Toronto, ON.

Chiu S. & Khan, A. (August, 2015). *Pilot study of Sulmedol (patented Sublimed sulfur) for hyperhomocysteinemia: implications for cognitive decline in Alzheimer's disease*. Presented at the Natural Health Product (NHP) Research Society of Canada Annual Conference, Western University, London, ON.

Chiu, S., Cernovsky, Z., Sadek, G., Husni, M., Copen, J., & Bureau, Y. (September, 2015). *How is Gambling craving linked to Smoking-nicotine and Alcohol craving? Results of an exploratory study of clients with methadone-maintained opiate dependence*. Presented at the 16th Annual NCRG Conference on Gambling and Addiction, Las Vegas, NV.

Chiu, S., Cernovsky, Z., Husni, M., Copen, J., Terpstra, K., Raheb, H., Jirui, H., Bureau, Y., & Woodbury-Farina, M. (May, 2016). *Pilot study of Cardio-vascular Risks and Insulin resistance in Neuroleptic-induced Parkinsonism in Schizophrenia: a post-hoc secondary analysis of RCT Ginsana-115 study*. Presented at the American Psychiatric Association Annual Meeting, Atlanta, GA.

Varghese, J., Terpstra, K., **Chiu, S.**, Mishra, R., & Bureau, Y. (June, 2016). *Differential expression of cerebral dopamine neurotrophic factor (CDNF) in the hippocampus and in the striatum of LRRK-2 mutant rat model of Parkinson's disease*. Presented at the 20th International Congress of Parkinson's Disease and Movement Disorders, Berlin, Germany. [Abstract in: *Movement Disorders*, 31(suppl. 2)].

Corring, D., **O'Reilly, R.**, & **Sommerdyk, C.** (July, 2015). *A systematic review of qualitative research and the lived experience of community treatment orders*. Presented at the International Academy of Law and Mental Health Conference, Vienna, Austria.

Corring, D., & **O'Reilly, R.** (July, 2015). *A systematic review of qualitative research on community treatment orders*. Presented at the 34th International Congress on Law and Mental Health, Vienna, Austria.

Corring, D., O'Reilly, R., & Sommerdyk, C. (September, 2015). *A systematic review of qualitative research and the lived experience of community treatment orders*. Presented at St. Joseph's Health Care London Parkwood Institute 16th Annual Research Half Day. London, ON.

Forchuk, C., & **Corring, D.** (September, 2015). *Transitions in vocational engagement*. Presented at St. Joseph's Health Care London Parkwood Institute 16th Annual Research Half Day. London, ON.

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Corring, D., Lamarre, L. Ruddell, ME. & Basnett, C. (January, 2016). *The importance of family inclusion: a vital partnership for recovery oriented mental health care*. St. Joseph's Health Care London, London, ON.

Corring, D., Meier, A., Rudnick, A., & Forchuk, C. (April, 2016) *Using smart technology to support rehabilitation: A feasibility study*. Presented at the Med-e-Tel Conference, Luxembourg.

Corring, D., Forchuk, C., Rudnick, A., Reiss, J., Hoch, J., Donelle, L., Godin, M., Osaka, W., **Campbell, R.,** Capretz, M., Reed, J., & McKillop, M. (April, 2016). *Smart technologies in mental health: the MHEN project*. Presented at the Med-e-Tel Conference, Luxembourg.

Lam, J., Zaheer, J., Law, S., Shera, W., Tsang, A.K., Fung, A., Zhang, A., Liu, P., **Eynan, R., & Links, P.S.** (May, 2016). *The role of filial piety in mediating risk and recovery in Chinese women with a history of suicidal behaviour: a cross-cultural qualitative study*. Presented at the 6th Qualitative Research on Mental Health Conference, Chania, Greece. [Abstracted in: 6th Qualitative Research on Mental Health Conference, *Conference Timetable & Abstracts*, 20-21].

Heard, C.P., Scott, J., & Yeo, S. (June, 2016). *Walking the labyrinth: Considering mental health consumer experience, meaning making, and the illumination of the sacred in a forensic mental health context*. Presented at the 2016 Psychosocial Rehabilitation Canada National Conference, Thunder Bay, ON.

Links, P.S., Eynan, R., Shah, R., Schiavone, F. Bergman, Y., Heisel, M.J. (October, 2015). *Narcissistic pathology in a multidimensional theory of suicide among middle-age men*. Presented at the 14th Congress of International Society for the Study of Personality Disorder, Montreal, QC.

Links, P.S. & Gunderson, J.G. (October, 2015). *Good Psychiatric Management (GPM) of BPD: A generalist model*. Presented at the International Society for the Study of Personality Disorders (ISSPD) XIV: Personality Disorders Across the Lifespan. Montreal, QC.

Kolla, N., Dunlop, K., Downar, J., **Links, P.S.,** Bagby, M., Simpson, A., & Meyer, J. (October, 2015). *Ventral striatum monoamine oxidase A level relates to functional connectivity of ventral striatum in violent offenders with antisocial personality disorder*. International Society for the Study of Personality Disorders (ISSPD) XIV: Personality Disorders Across the Lifespan. Montreal, QC.

Links, P.S., Eynan, R., Shah, R., & Heisel, M.J. (November, 2015). *Southwestern Ontario Suicide Study (SOSS) for Quality Improvement: Preliminary Findings*. Presented at the coordinated CPD program. Parkwood Institute Mental Health Care Program Southwest Centre for Forensic Mental Health Care & the Mental Health Care Program, Victoria Hospital, London, ON.

Links, P.S., Eynan, R., Shah, R., & Heisel, M.J. (June, 2016). *Southwestern Ontario Suicide Study (SOSS) for Quality Improvement*. Presented at the Lawson Mental Health Annual Research Day Retreat, London, ON.

Norman, R., MacDougall, A., Manchandra, R., Harricharan, R., & **Northcott, S.** (June, 2016). *Recovery at five years from initial treatment of a schizophrenia spectrum disorder*. Presented at the Academic Research Day, Department of Psychiatry, Western University, London, ON.

O'Reilly, R., & Corring, D. (July, 2015). *Are community treatment orders really necessary for patients on ACT teams?* Presented at the 34th International Congress on Law and Mental Health, Vienna, Austria.

O'Reilly, R. (July, 2015). *Buying into RCTs of CTO: caveat emptor*. Presented at the 34th International Congress on Law and Mental Health, Vienna, Austria.

Castelanni, C.A., Melka, M.G., Gui, J.L., Laufer, B.I., Diehl, E.J., **O'Reilly, R.L.**, & Singh SM. (October, 2015). *Assessing the threshold model for schizophrenia using the in-depth genome sequence and methylation differences in monozygotic twins discordant for the disease*. Presented at the World Congress Psychiatric Genetics (WCPG) Conference. Toronto, ON.

O'Reilly, R., Gray, J., & Shum, J. (April, 2016). *How many psychiatric beds per capita do we need?* Presented at the Schizophrenia International Research Society 2016 Biennial Meeting. Florence, Italy.

O'Reilly, R., Gray, J., & Shum, J. (June, 2016). *How many psychiatric beds per capita do we need?* Presented at the Academic Research Day, Department of Psychiatry, Western University, London, ON.

Shah, R., Eynan, R., Heisel, M.J., & Links, P.S. (June, 2016). *Southwestern Ontario Suicide study (SOSS) for Quality Improvement*. Presented at the Academic Research Day, Department of Psychiatry, University of Western Ontario, London, ON.

Sharma, V., Sommerdyk, C., & Xie B. (June, 2016). *Quetiapine in the acute treatment of bipolar postpartum depression*. Presented at the International Society for Bipolar Disorders, Toronto, ON. [Abstracted in: *Bipolar Disorders*, 17(suppl.1), 79].

Pope, C.J., **Sharma, V.**, Sharma, S., & Mazmanian, D. (June, 2016). *Psychiatric Disturbances and Endometriosis: A Systematic Review*. Presented at the Annual Conference of the Canadian Psychological Association, Victoria, BC.

Pope, C.J., Mazmanian, D., & **Sharma, V.** (June, 2016). *Suicidal Ideation and Mood Disorders*. 77th Annual Conference of the Canadian Psychological Association, Victoria, BC.

Misbah, S., Anderson, K., and **Sharma, V.** (June 2016). *Rates of Recurrence of Bipolar Disorder during Pregnancy: A Systematic Review*. Presented at the Academic Research Day, Department of Psychiatry, University of Western Ontario, London, ON.

Campbell, R., Kaushai, M., Johnston, M., & **Srivastava, A.** (May, 2016) *Behavioral traits of eating disorder amongst psychiatric patients with high BMI*. Presented at the American Psychiatric Association, Annual Conference, Atlanta, GA.

Srivastava, A., Kaushal M., Jonhston, M., Campbell, R., & Nelson, C. (May, 2016). *Assessment of suicidality in Psychiatric patients using a new scale: SISMAP – Brief Scanner*. Presented at the American Psychiatric Association, Annual Conference, Atlanta, GA.

Srivastava, A. *Engaging the Unengaged Patient With Severe Mental Illness*. (May, 2016). Presented at the American Psychiatric Association, Annual Conference, Atlanta, GA.

Srivastava, A. (May, 2016). *Deconstructing depression*. Presented at the American Psychiatric Association, Annual Conference, Atlanta, GA.

VanBussel, L., Mihailidis, A., Coahran, M., Churchyard, R., Michael, K., Hillier, L., Ross, T., Gutmanis, I., **Black, E.**, & **Burhan, A.M.** (October, 2015). *Nurse's Perceptions of the Use of Artificial Intelligence to Detect Falls in a Geriatric Psychiatry Inpatient Care Setting*. Presented at the Canadian Association on Gerontology, Calgary, AB.

Grants

Forchuk, C., Booth, R., **Burhan, A.M.**, Hoch, J., Isaranwatchai, W., Lewis, M., Lizotte, D., Reiss, J., Rudnick, A., Seth, P., Vasudev, A., Chambers, M., Heisel, M., Nolan, F., Flint, A., Looper, K., Rej, S. *TELEPROM-G: A multicentre study evaluating access and care delivery of telehealth services among community-based seniors*. Canadian Frailty Network (previously TVN). \$100,000; 2016-2017.

Palaniyappan, L., St. Lawrence, K., Theberg, J., Finger, E., **Burhan, A.M.**, **Sharma, V.**, Poolacheria, R. *Inflammation-related excitotoxicity in neuropsychiatric disorders*. Lawson's Annual Strategic Research Fund Competition, Lawson Health Research Institute. \$49,800; 2016-2018.

Borrie, M., **Burhan, A.M.**, Fogarty, J., Pasternak, S., Bartha, R. *Jazzercise to improve physical fitness and brain function in sedentary post-menopausal women with subjective cognitive impairment: a pre/post feasibility study*. Cognitive Vitality and Brain Health Research Seed Fund Competition, St. Joseph's Health Care Foundation. \$24,779; 2016-2018.

Montero-Oddasso, M., **Burhan, A.M.**, Hachinski, V., Speechley, M., & Doherty, T. *Non-invasive brain stimulation, mobility and executive dysfunction in older adults*. Dean's Research Grant Initiative. \$40,000; 2015-2017.

Chiu, S., Li, F., & Hirui, J. *Pharmacological study of patented compound: Ginsenoside Rg3, putative PPAR (Peroxisome Proliferator Activator Receptor complex) modulator, in MPTP (1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine) model of Parkinson disease*. Dalian Fusheng Pharmaceutical Inc. Dalian Province, China. Amount unknown; 2014-2016

Desjardins, N., Tomlinson, M., & Duzois, D. *Designing and evaluating a modified Dialectical Behavioral Skills Training Program for Forensic Psychiatric Patients*. St. Joseph's Health Care Foundation. \$5,549; 2015-2016.

Links, P.S. *Zero Suicide Pilot Year 1 for Parkwood Institute Specialized Mental Health Care*. St. Joseph's Health Care Foundation. \$184,900; 2016-2017.

O'Reilly, R. Gray, J., & **Shum, J.** *Psychiatric bed numbers: An analysis of available public information*. The Coalition of Ontario Psychiatrists. \$5,000; 2015-2016.

Sharma, V., Anderson, K., Bureau, Y., & **Khan, M.** *Adjunctive use of celecoxib in the treatment of postpartum depression: a randomized, double-blind, placebo-controlled trial*. The Stanley Medical Research Institute. \$155,181; 2015-2018.

Sharma, V. *Mood disorders in pregnancy and the postpartum period: course of illness and obstetrical outcome*. Sunovion Pharmaceutical Canada Inc. \$19,874; 2016-2017.

Sharma, V. & Anderson, K. *Risk of adverse outcomes in women with treated for bipolar disorder during pregnancy*. Department of Psychiatry Seed Funding. \$7,487; 2016.

Van Bussel, L., Gutmanis, I., **Marlatt, N.M.** *Problem Solving Therapy (PST) Education: Providing Excellence in Mental Health Care through Staff Skill Development*. St. Joseph's Health Care Foundation. \$19,124; 2016-2018.

Barel, A., & **Van Bussel, L.**, Gutmanis, I., & **Marlatt, N.M.** *Surveillance of Responsive Behaviours in Older Adults with Mental Health Issues*. President's Grant for Innovation, St. Joseph's Health Care London. \$6,040; 2016-2017.

Internal Approved Projects

July 2015 – June 2016

Burhan, A. (Principal Investigator), Al-Qadhi, S. (Co-Investigator). *Competency-by-design curriculum for electroconvulsive therapy for Canadian Residency training*. REB 107058; R-15-398.

Montero Odasso, M. (Principal Investigator), Borrie, M., Doherty, T., Hachinski, V., **Burhan, A.**, Speechly, M., Bartha, R. (Co-Investigators). *Improving mobility and cognition in older adults: establishment of an interdisciplinary clinical research program using non-invasive brain stimulation (NIBS)*. REB 107526; R-16-086.

Hoaken, P. (Principal Investigator), Tomlinson, M., **Desjardins, N.**, **Balsom, R.** (Co-Investigators). *Evaluating six months of DBT in a forensic psychiatric population*. REB 107046; R-15-396.

Hoaken, P. (Principal Investigator), Tomlinson, M., Neufeld, R., Smith, M., **Desjardins, N.** (Co-Investigators). *Neurocognitive functioning and its relationship with risk and rehabilitation among forensic psychiatric patients*. REB 107052; R-15-395.

Heard, C. (Principal Investigator), **Scott, J., Tetzlaff, A.** (Co-Investigators). *Transitional housing in forensic mental health: understanding the consumer experience.* REB 106795; R-15-468.

Links, P.S. (Principal Investigator), **Shah, R., Eynan, R.,** Heisel, M., Elfakhani, M., Flett, G. (Co-Investigators). *Testing the modified escape theory of suicide in an inpatient population.* REB 104113; R-16-084.

Sharma, V. (Principal Investigator), **Eastwood, E., Sommerdyk, C.** (Co-Investigators). *A phase 3, open-label, safety and tolerability study of NBI-98854 for the treatment of tardive dyskinesia.* REB 106953; R-15-772.

Sharma, V. (Principal Investigator), **Khan, M.,** Xu, F. (Co-Investigators). *Impaired bonding in postpartum mood disorders: prevalence and risk factors.* REB 106862; R-15-430.

Sharma, V. (Principal Investigator), Thomson, M., **Sommerdyk, C.** (Co-Investigators). *Mood disorders in pregnancy and the postpartum period: Course of illness and obstetrical outcome.* REB 107713; R-16-133.

Varapravan, S. (Principal Investigator), Subramanian, P., **Campbell, R., Srivastava, A.,** Sharma, P. (Co-Investigators). *Gold shackles or freedom band: the electronic patient wrist band and its role in patient safety and recovery oriented care.* REB 107337; R-16-023.