



Alberta Health Services | University of Calgary



Department of Psychiatry Annual Report 2017





compassion

We show kindness and empathy for all in our care, and for each other.

accountability

We are honest, principled and transparent.

respect

We treat others with respect and dignity.

excellence

We strive to be our best and give our best.

safety

we place safety and quality improvement at the centre of all our decisions.

Hospital Service Locations

Alberta Children's Hospital

2888 Shaganappi Trail NW, Calgary, Alberta T3B6A8

Foothills Medical Centre

1403 29 Street NW, Calgary Alberta T2N2T9

Peter Lougheed Centre

3500 26 Ave NE, Calgary Alberta T1Y6J4

Rockyview General Hospital

7007 14 street SW, Calgary, Alberta T2V1P9

South Health Campus

4448 Front Street SE, Calgary Alberta T3M1M4

ucalgary.ca/psychiatry



THE MATHISON CENTRE
for MENTAL HEALTH RESEARCH & EDUCATION



UNIVERSITY OF CALGARY
CUMMING SCHOOL OF MEDICINE
Department of Psychiatry



Table of Contents

Message from Dr. Adams	4
Child and Adolescent Addiction Outpatient, Community and Specialized Services	6
Child and Adolescent Psychiatry Inpatient Programs	10
Geriatric Psychiatry	15
Forensic Psychiatry	17
Community and Rural North Outpatient Psychiatry Program	18
Community and Rural Addictions South Psychiatry	20
Foothills Medical Centre	21
Peter Lougheed Centre	22
Rockyview General Hospital	23
South Health Campus	25
Residency Training Program	27
Undergraduate Program	28
Fellowship Training	28
Continuing Professional Development (CPD)	29
Quality Assurance	32
Decision Support Teams, Addiction and Mental Health	34
The Scientific Office of the Strategic Clinical Network for Addictions and Mental Health	35
Psychopharmacology Research Unit	36
Department of Psychiatry Research Report	37
Mathison Centre for Mental Health Research and Education	40
Researcher Profiles	43
Mathison Centre, Recent/New Grants, Awards & Recognitions	49
The 30 th Annual Sebastian K. Littmann Research Day	50
Medical Leadership and Administration, Addiction and Mental Health	51
Workforce Planning and Recruitment	53
Departmental Structure and Organization	53
Improvement and Innovation	55
Looking to the Future	56
Organization Charts	58
Awards & Recognitions	61
Vision, Mission, & Values	63
Publications & Related Scholarly Activities	64

Enhancing Patient Care and Promoting Innovation

Dr. Beverly Adams

Head of the Department of Psychiatry

Alberta Health Services and the University of Calgary



The Department of Psychiatry is committed to enhancing patient care, training the next generation of clinicians, generating new knowledge to advance our understanding of psychiatric illnesses and disseminating knowledge into clinical practice.

We are making significant gains. Despite ongoing capacity challenges, our dedicated team of 199 psychiatrists, nurses and support staff is delivering excellent care through Calgary's four adult acute-care sites, the Alberta Children's Hospital, the Southern Alberta Forensic Psychiatry Centre and the Claresholm Centre for Mental Health & Addictions.

We continue to work towards opening 12 satellite beds at the Claresholm Centre for Mental Health, 10 beds in the RGH Crisis Stabilization Unit, 4 beds at New Brighton NCR and 49 beds at Valleyview Complex Care.

Community Treatment Orders are a tremendous success in patient care. There are 502 in the Calgary Zone, which is an increase from 384 last year. 85% of patients on a CTO were not hospitalized within one year past CTO.

The Choosing Wisely Initiative includes recommendations for the use of Antipsychotics, benzodiazepines and antidepressants. The initial work done on antipsychotics recommends that atypical antipsychotics should not be used as a first-line intervention for insomnia in children and youth. They should also not be used routinely to treat primary insomnia in any age group.

We have been working collaboratively with the SCN to bring in rTMS for the treatment of depression. It is an exciting opportunity for integrated care and collaboration with the Non-Invasive Neurostimulation Network (N3) which is a part of the Hotchkiss Brain Institute.

The Mood Program has launched as our first Brain and Mental Health Research Clinic using the REDCap database. The early Psychosis Intervention Program and Dr. Paul Arnold's OCD Clinic at ACH are also beginning this process. Dr. Scott Patten has taken the lead on this important initiative for the Department.

Another exciting collaboration is with the Sheldon Kennedy Advocacy Centre and Warren Binford (Fulbright Palix Scholar) where a cohort of children who have suffered severe trauma will be followed and studied prospectively over a two year period. This project is also supported by the HBI and the Palix Foundation.

The Adolescent Mental Health Community Centre is moving ahead with an exciting opportunity for the integrated care of our youth. Clinical services include intensive day treatment services, a day hospital and a walk-in clinic. Clinical research will be an important focus for the centre as well as the unique opportunity for our learners. Thank-you to the Alberta Children's Hospital Foundation for funding this incredible community project.

Congratulations to Dr. Nady el Guebaly for receiving the Order of Canada for his work in addiction psychiatry. He is a recognized international leader in this field and we appreciate his significant contributions in the field. I would also like to thank Dr. Susan Carpenter for her tireless advocacy for the PDD (Persons with Developmental Disabilities) population over her many years of service.


With mental health clinics in all quadrants of the city, a large mental health program at the Sheldon M. Chumir Health Centre and psychiatrists who travel as far as Banff and Drumheller, we are working with communities to improve mental health. We provide psychiatric consultation services to a range of other facilities, such as Aventa (for women with addictions) and Wood's Homes (for children with mental illness). In addition, we are improving access to treatment and flow of patients by reorganizing current community clinics and developing new clinics in conjunction with Primary Care Networks.

Under the leadership of, Dr. Paul Arnold, the Mathison Centre for Mental Health Research and Education (Mathison Centre) is helping the department become more research intensive by bringing together mental health researchers, coordinating conferences and events to share research findings and providing funding support for seed grants and graduate students. It also provides the department the opportunity to focus on child and youth mental health and liaise with the Canadian Mental Health Association, the Calgary Police Service and other community partners.

The 2017 search confirms that the Department of Psychiatry's research productivity continues to increase rapidly. The 2015 Annual Report projected that 2016 would be the most productive year in the history of the Department. The current search confirms this, identifying 192 publications in 2016 compared to 179 publications in 2015 and 161 in 2014. As of the search date, 176 papers had been published in 2017, strongly suggesting that 2017 will surpass 2016 as the most productive year for the Department. With an AMHSP on the horizon, we hope to build on the current research strength to support integrated care.

We continue to collaborate with the Hotchkiss Brain Institute (HBI) and the Alberta Children's Hospital Research Institute. Through Mathison Centre funding made possible by the HBI, our researchers have access to pilot funding, which should translate into heightened success at national and international funding competitions.

With excellent recruits, increased research funding and a continual search for innovative solutions to capacity issues, the Department of Psychiatry is poised to serve Calgary and the broader community in the coming years.



Dr. Beverly Adams

**Department Head, Psychiatry, Alberta Health Services
and the University of Calgary**

Child and Adolescent Addiction Outpatient, Community and Specialized Services

The section of CAAMHPP, the Community Outpatient & Specialized Services, continues to provide a comprehensive and integrated mental health system which is both responsive and multi-sectoral with its partnerships. There have been some new developments regarding programs and staff. Please welcome two new psychiatrists; Dr. Sterling Sparshu recently joined CAAMHPP and works at the Northwest Clinic as well as providing support at YCSP and Unit 26 at FMC. Dr. Mike Papirny will be working at Richmond Road Diagnostic Treatment Centre with the Treatment Resistant ADHD Clinic as well as providing support at the Children's Hospital in Consultation Liaison and the Emergency Room and PAC. Unfortunately CAAMHPP has lost two experienced managers through retirement, but Lana Dunn has replaced Van McGeein with School Based Mental Health and Tom Mogan has replaced Elizabeth Hazelwood at RRDT. Both bring great energy and innovative ideas to CAAMHPP.

The Complex Kids Team which was created in 2004 to ensure access and collaboration between CAAMHPP and Child & Family Services will discontinue at the end of October, 2017 to facilitate mental health services with the Sheldon Kennedy Child Advocacy Centre and transgender services. However, the work of the many clinicians involved in Complex Kids over the years has been much appreciated and has established an excellent relationship between Child Welfare and CAAMHPP. It should be noted that Dr. Tyler Pirlot will continue to offer psychiatric consultations through the clinic embedded in Child Welfare Services. Additionally there is a bi-weekly multi-system huddle which will continue and expand beyond inpatients to include planning for complex cases involved in Children's Services and/or CAAMHPP Day Treatment, Community & Specialized Services.

Canada has one of the highest rates of cannabis use in the world with 20% of users being between the ages of 15-24. There has been an active educational campaign in the community on the impact of cannabis on the developing brain through information sessions coordinated through the Children's Community Education Service, Alberta Teacher's Association, Community Pediatrics, The Mathison Centre and the Faculty of Nursing. Consequently CAAMHPP services are actively planning to enhance integrated, comprehensive mental health care for our patients with dual disorders and Dr. Ursula Hines,



Rick Oliver and Tony Temprile have been actively planning to collaborate more closely regarding day treatment facilities. Consequently Youth Addictions Services (YAS) has gone through extensive changes in the past year. The Voluntary Detox and Stabilization Program changed its name to Recovery Stabilization and Detox (RSD). The program now incorporates the recovery approach/model for substance use and mental health as supported by AHS across all of addiction and mental health. In June 2017, RSD introduced psychiatric services to coincide with allocating one bed in the program specifically to providing a step down service to youth coming from mental health in-patient units.

In September 2017, the YAS day treatment program Action was merged with Adolescent Day Treatment Program (ADTP) to create one day treatment program for adolescents. This was facilitated to better utilize resources within CAAMHPP and maximize services

available to adolescents and families. The new ADTP program will enhance day treatment services for youth with substance use and mental health concerns. With this expansion of the program, ADTP will now serve up to 36 clients across all phases of the program (pre-treatment, core and transition), with an increase from 20 to 24 clients in the core phase in early 2018.

The YAS out-patient team piloted a CBT based gaming/screen time treatment group in the spring and plans to continue offering this throughout the year. The Community Health Promotion Services (CHPS) is in the midst of an extensive strategic planning process based on community consultation and best practice, and in support of improved population health outcomes. CHPS growing menu of services currently focuses on stress management (HeartMath), Mental Health Literacy/stigma reduction, education related to youth and substance use issues, forming and sustaining community coalitions, and consultation to increase protective factors in the community.

In 2017 Collaborative Mental Health (CMHC), Early Childhood Mental Health Outreach (ECMHO) and Perinatal Mental Health (PMH) merged to become Early Childhood and Perinatal Mental Health (ECAP). This shift allowed for a more broad range of infant, early childhood and perinatal mental health services, while also improving patient care and wait times.

In 2017 the Youth Community Support Program (YCSP) had its grant funding extended until March 31st, 2019 as a result of their continued good work in meeting the needs of clients with complex needs who are high users of tertiary services. Of the 30 discharged YCSP clients, prior to admission to YCSP they spent 1794 days in hospital, while admitted to YCSP they spent 349 days in hospital due to various high risk behaviors and six months post-discharge from YCSP, they spent 20 days in hospital.

In 2017, Youth Transitions Services changed their name to Emerging Adult Treatment Clinic (EATC). The new process that was implemented in the previous year has seen a reduction in time on waitlist.

The "CONeX- Mental Health Navigation & Support Team" has been shifted from the School-Based Mental Health team to Collaborative Initiatives. In addition, the team received two years of additional funding from the Calgary and Area Regional Collaborative Service Delivery (RCSD). As well as changed their inclusion criteria to include ages 6-20 (from previous 10-20). In addition, CONeX has received additional funding to add one more 1.0 FTE to accommodate the broader age range.

The CanREACH PPP program has demonstrated ability to achieve the primary objectives in making fewer referrals to emergency services overall and improved the quality of referrals being made from trained physicians to mental health services. This means that physicians who participated in the CanREACH training are better identifying mental health concerns, understanding the patient's clinical urgency and severity, and improving treatment for these patients. The results indicating program impact have been published in the peer-reviewed Medical Journal - Evidence Based Medicine, and is perhaps the first and only instance whereby Medical Education programming has been objectively measured to demonstrate patient and system impact.

In 2017, funding for More Online Resources for Educators (MORE) was annualized. Currently there is an application submitted for a grant to support a partnership between Dr Stanley Kutcher and teenmentalhealth.org, the Faculty of Education at UBC and MORE to create a national, 'central depository' for teacher education on issues related to Child and Adolescent Mental Health and Addiction.

Funding has been secured for two Family Counsellor positions and a part-time administrative support for Gender Services (Metta Clinic and FMC Gender Clinic). It is anticipated that these positions will be in place by January 2018.

Mental Health Services (Data Source: RAIS)	Number of Referrals	Number of Enrolments	Number of Discharges
CAAMHP Community Clinic-East	476	382	364
CAAMHP Community Clinic-North West	572	427	455
CAAMHP Community Clinic-South	568	469	459
PBDC	61	49	60

In October 2016, the Community Clinics launched a redesign of their service delivery model to improve both access to care and treatment. Feedback from parents has been overwhelmingly positive. The demand for service continues to rise, as does the acuity and complexity of clients being treated in the Community Clinics. There is limited staff, both clinical and administrative support, to meet the growing demands.

School Based Mental Health continues to build strong partnerships with Calgary and area school boards and have engaged in exceptional work as outlined below.

- SKCAC position now aligned with Emergency Outreach Portfolio and will have annualized funding as of January 2018.
- SMILES/ Mental Health Literacy Project received annualized funding and continues promotion of:
 - Provincial roll-out and engagement with 30+school authorities
 - Working with additional provincial interest and roll out as part of National campaign
 - Development of the teenmentalhealth.org/Alberta site for mental health literacy, training and resources.
- Regional Collaborative Service Delivery (RCSD) referrals through school authorities (CBE, CSSD, RVSD) all aligned to a common referral model (direct consultation/conversation with assigned SBMH therapist)
- New and emerging relationship with Tsuut'ina First Nations Community through partnership with RCSD including an existing 0.4FTE Family Counsellor position and possible additional FTE for mental health supports
- Potential connection to new or ongoing research projects – ACEs, Transitions from youth to adult MH, School Based MH and pathways to service
- Funding for a Clinical Supervisor has been secured and it is anticipated that the position will be in place by January 2018.

Some of the key highlights include the following:

- School Based Mental Health had 545 total cases in 2016-17 school year
 - Therapists engaged in over 3400 unregistered consultations
 - Early adopters of collecting ACEs information of clients- 97% of open clients recorded ACE scores
 - SBMH therapists continue to be a key conduit to other CAAMHPP programs and services

- SBMH therapists continue to build capacity in schools and with teachers to support the ongoing mental health of all children in their classrooms

The key challenges facing School Based Mental Health:

- Loss of one consulting psychiatrist reduces the capacity for psychiatric consultations
- Increase demand from schools for professional development for staff and students regarding topics related to mental health disorders which challenge that ability to balance direct clinical work with requests for education
- High demand for the Mental Health Literacy training locally and provincially is a challenge for 1.0 FTE
- Each year the number of cases registered with School Based Mental Health increase significantly without reciprocal increases in funding
- Ongoing challenges with availability of current technology to support the therapists in the program
- Ongoing challenges with supporting communication to, through and from services in CAAMHPP and schools
- Challenges bridging relationship with adult mental health programs, a significant number of the children and adolescents served have one or more parents/caregivers who are also struggling with mental health issues

New developments at RRDTTC in Specialized Services include the expansion of efforts related to treating Neurodevelopmental disorders. Clinicians from Specialized Services are involved with the NDD pilot in partnership with the Child Development Services, ACH Neurology, CAAMHPP and the University of Calgary with funding through the Owerko Family Fund for Brain Health to pilot Facing Your Fears, a family focused group intervention program for children with ASD and Anxiety.

The Neuropsychiatry Service (NPS) continues to collaborate with stakeholders around the management and treatment of complex co-occurring Neurological and Mental Health challenges. NPS also continues with its Post-Concussion stream (PCS) work. The PCS service takes a multi-disciplinary perspective with the focus being on psycho-education for the patient and family, medication to treat the anxiety/depression/sleep issues if necessary, the importance of CBT, and advocacy at school for appropriate accommodations and are finding excellent clinical outcomes for families. NPS and the Treatment

Resistant ADHD Clinic are striving to integrate work with Neurodevelopmental Disorders, including ASD, ADHD and epilepsy and potentially provide a critical treatment shortfall for complex clinical situations.

Specialized Services continues to integrate the Adverse Childhood Experience (ACE) and Trauma Informed Care Initiatives into their tertiary assessment and treatment. The addition of training in the Connect Attachment Model Group and identification of expertise related to trauma care have re-focused Specialized Services efforts to better serve the evolving needs of children, adolescents and families. The Mood, Anxiety and Psychosis service continues to provide tertiary care to children, adolescents and families struggling with depression, anxiety, trauma and/or early onset (14 and under) Psychotic disorders. The Parent Consultation Clinic continues to provide cutting edge intervention for parents whose Mental Health struggles are effecting and impacting their child's wellness and treatment.

All areas with CAAMHPP Community and Specialized Services continue to implement the recommendations agreed upon in the CAAMHPP Family Centre Care Action Plan, including: ensuring service area who are implementing changes/redesigns are focusing on Family Centred Care principles and involving the family voice as much as possible into these changes. There also continues to be continued support for the Family Advisory Council as well as utilization of this council for consultations.

CAAMHPP Community and Specialized Services Areas of Significant Need:

- Additional Psychiatry support for Gender Services
- Additional funding for a Clinical Supervisor position for the Community Clinics
- Additional funding for a Family Counsellor position for the Emerging Adult Treatment Clinic
- Additional funding for a Family Counsellor position for the Transition Mental Health Classrooms

Dr. Chris Wilkes, Section Chief
Child & Adolescent Psychiatry, Outpatient and
Specialized Services

Child and Adolescent Psychiatry Inpatient Programs

Child and Adolescent Psychiatry Inpatient, Day Treatment, Consultation Liaison, Eating Disorder and Psychiatry Emergency Services Programs continue to make steady progress in the positive directions. There has been addition of new child and adolescent psychiatrists in this area including Dr. Sterling Sparshu and Ben Grintuch. Inpatient programs have steadily improved their service and have successfully included Collaborative Problem Solving methods in their milieu, and have embedded ACE initiatives in their assessments and treatments methods. Inpatient units have also addressed the issue of responsive length of stay. Adolescent Day Treatment Program has added ACTION program to their protocol and added a part time Child Psychiatrist to care for this population. Eating Disorder Program is embarking on significant research activities after receiving funding for this purpose. Consultation Liaison team has added Somatization Disorder pilot project in collaboration with Paediatrics and Neurosciences. Recovery Stabilization and Rehab Program (RASP) has been added at Hull that will have a flexible option of using Social Detox Beds for Stabilization of step down patients from Unit 56 A. Psychiatric Emergency

Services has created a major shift in their working dynamics by adding acuity measurement tool. Last but not the least, a significant leap forward has been made by establishment of Inpatient Quality Improvement Leadership Group which has already resulted in number of positive gains including start of Psychiatry Ambulatory Service at Foothills Medical Centre, systematic drop in Average Length of Stay on Inpatient Units. Dr. Sylvia Lorefice has joined Community Psychiatric Unit along with Dr. Yuserly Rosas and beginning of the process of discussions on treatment guidelines for inpatient units.

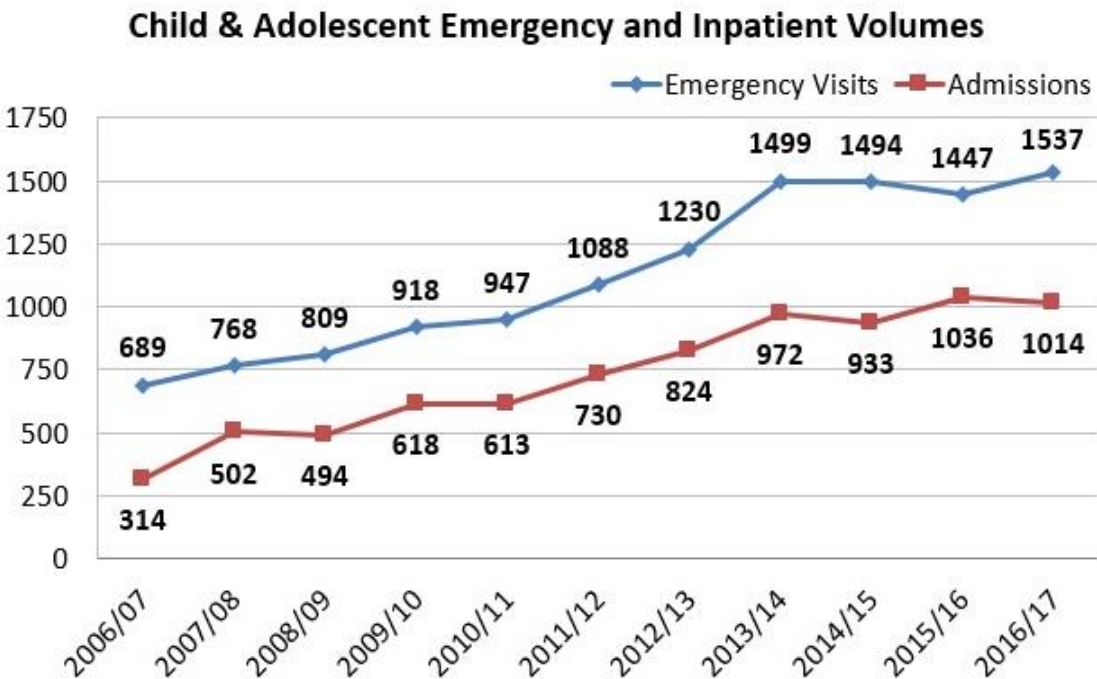
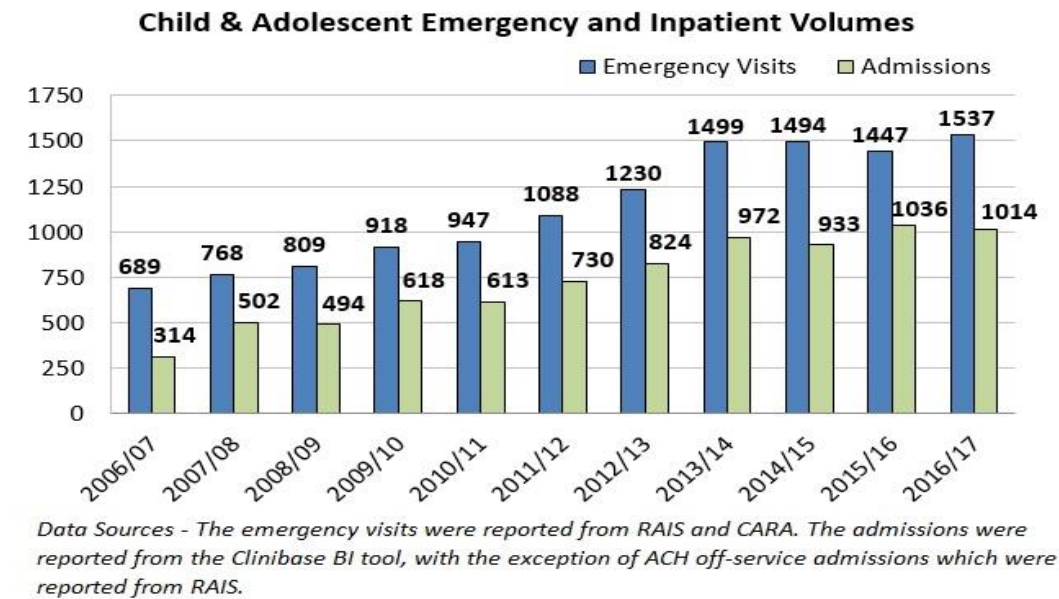
Child and Adolescent Inpatient Quality Improvement Leadership group was created to develop a forum for reviewing quality improvement practices and possibly adopt treatment pathways that could be utilized across the board on all inpatient units. In addition, this will review pressure points for inpatient psychiatry and monitor and improve admission guidelines.

Child and Adolescent Psychiatry Annual Retreat: C&A Psychiatry 4th Annual Retreat took place at University of Calgary in April 2017. Various members of the department were acknowledged for their contributions during this retreat.



Below are visuals to understand the achievement during last few years. There has been steady increase of patient coming to emergency services, but the admission rate of these patients has actually dropped in the year 2016-2017

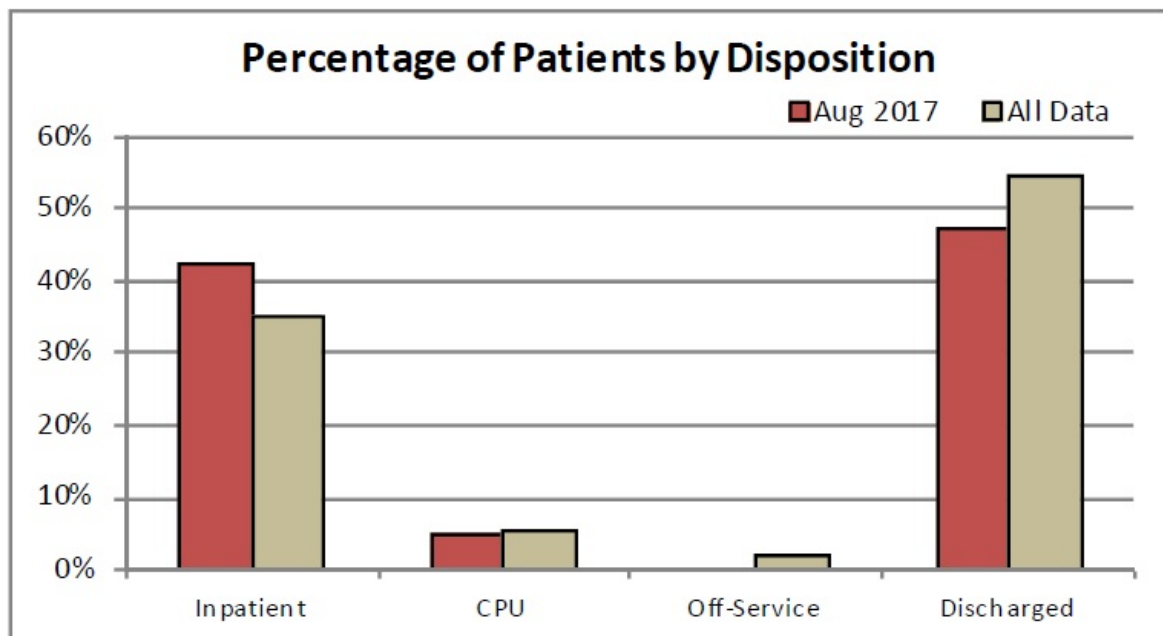
Admissions - include patients directly admitted to an on-service unit, including the ACH MHPCU, FMC Unit 23 (opened Jul 2014), FMC Unit 26, and SHC Unit 56A (opened Apr 2013), as well as patients admitted to an off-service bed at ACH or the adult psychiatry units.



Disposition for PES Patients at ACH

Disposition	Aug 2017		All Data	
	Count	Percentage	Count	Percentage
Inpatient	25	42.4%	546	35.1%
CPU	3	5.1%	87	5.6%
Off-Service	0	0.0%	32	2.1%
Discharged	28	47.5%	848	54.5%
Other	3	5.1%	43	2.8%
Total	59	100.0%	1556	100.0%

CTRS Report - August 2017



Child & Adolescent Mental Health Emergency Visits							
Fiscal Year	ACES-ACH	PES-FMC	PES-SHC	Total			
2006/07	590	99		689			
2007/08	676	92		768			
2008/09	746	63		809			
2009/10	836	82		918			
2010/11	884	63		947			
2011/12	991	97		1088			
2012/13	1129	101		1230			
2013/14	1210	130	159	1499			
2014/15	1211	98	185	1494			
2015/16	1187	69	194	1450			

Data Sources - RAIS was used for ACES-ACH Emergency Services and ACES-FMC-Emergency Services (prior to 2013/14). CARA was used for patients under 18 years seen by Psychiatric Emergency Services at FMC (beginning 2013/14) and SHC (opened Jan 2013).

Child & Adolescent On-Service Admissions							
Fiscal Year	ACH MHPCU	FMC Unit 23	FMC Unit 26	SHC Unit 56A	Total		
2006/07*	137	-	145	-	282		
2007/08*	285	-	151	-	436		
2008/09	284	-	145	-	429		
2009/10	385	-	145	-	530		
2010/11	367	-	186	-	553		
2011/12	201	-	217	-	418		
2012/13	132	-	191	-	323		
2013/14	130	-	203	226	559		
2014/15	160	195	147	240	742		
2015/16	169	241	185	222	817		

Child & Adolescent Off-Service Admissions

Fiscal Year	ACH	Adult Sites	Total
2006/07	-	32	32
2007/08	-	66	66
2008/09	-	65	65
2009/10	-	88	88
2010/11	9	51	60
2011/12	187	125	312
2012/13	349	152	501
2013/14	270	143	413
2014/15	82	109	191
2015/16	117	102	219

Total Child & Adolescent Combined Admissions

Fiscal Year	On-Service	Off-Service	Total
2006/07	282	32	314
2007/08	436	66	502
2008/09	429	65	494
2009/10	530	88	618
2010/11	553	60	613
2011/12	418	312	730
2012/13	323	501	824
2013/14	559	413	972
2014/15	742	191	933
2015/16	817	219	1036

Geriatric Psychiatry

The Geriatric Mental Health Service provides seniors experiencing late-life mental disorders with integrated and interdisciplinary services that are patient-focused, flexible and proactive.

Facilities and Services

Unit 48 at Rockyview General Hospital (RGH) is a multidisciplinary, 22 bed unit that is typically full to capacity. It is the only designated acute-care geriatric psychiatry unit in southern Alberta.

The Geriatric Mental Health Rehabilitation and Recovery Unit at Carewest Glenmore Park, a 20-bed sub-acute inpatient geriatric psychiatry unit, is a unique shared-care unit that focuses on group therapy and helps people who do not require acute care or involuntary admission.

Geriatric psychiatrists provide consultation-liaison support to medical-surgical wards at adult acute-care hospitals across Calgary, subacute facilities, long-term care & assisted living facilities, Primary Care Networks and Seniors' Health programs. Community based mental health teams are available to assist seniors with substance abuse issues, chronic illnesses (including those on Community Treatment Orders) and mood disorders. Outreach support is available for frail elderly who reside independently in the community.

The Geriatric Mental Health Outreach Team at RGH, comprising one full-time nurse and one full-time social worker, provides prompt follow-up and caregiver support to inpatients on psychiatry units and medical-surgical wards, speeding up patient discharge and reducing relapse and readmission to hospital.

Ten transitional housing beds opened in the spring of 2016 at Kerby Centre.

News

We continue to seek support for a mental health-focused long-term care unit, a formal outpatient geriatric service, expanded day treatment services program and a second inpatient unit to supplement the 22 beds at RGH and serve our aging population. Our services that provide transitional support for



patients from hospital to community also lack staff. Our psychiatrist resources are stretched with the retirement of one physician and 1 year leave of absence with another.

In an effort to ensure our services are being optimally in the face of a rapidly aging population, our Community Geriatric Mental Health Service will now accept referrals from those aged 70 and over and those aged 65-69 with accompanying frailty or

chronic and severe illnesses. Our severe and chronic community population is presently being covered by acute inpatient psychiatrists. This is enabling more seamless transfers to and from hospital when required.

Ways to use the Kerby Transitional housing beds effectively are actively being explored. When funding is available and pending psychiatrist availability we would like to increase service to Indigenous population.

Our application to Royal College of Physicians and Surgeons of Canada for a Geriatric Psychiatry residency program is undergoing revision and likely will be approved in the upcoming year.

There is limited availability of accredited geriatric psychiatry training programs across Canada; as residents often prefer to stay where they train, we hope that having our own program will help us replace some of our doctors, many of whom are

approaching retirement and reducing capacity of their professional practices. Every year one to two residents in Calgary's general psychiatry program express an interest in more geriatric psychiatry training.

Research

Our section has one geographic full-time academic position dedicated to geriatric research within the Cumming School of Medicine, and we have an ongoing commitment to support research in geriatric mental health. Present studies underway include observational cognitive cohort studies involving biomarkers and brain imaging funded by the CHR, Brain Canada and the Canadian Consortium on Neurodegenerative and Aging. A 'Mild Behavioural Impairment Checklist' for the early detection of neurodegenerative disease was developed by Dr. Z. Ismail and there are 9 international translation-validation studies in process for this scale. A follow-up on an Immersive therapy study for mood disorders is also planned for the next 1-2 years.

We actively teach geriatric psychiatry to residents within psychiatry, geriatric medicine and family medicine. We also contribute to educational events, speaking frequently at conferences for general psychiatry and other disciplines with an interest in eldercare. Geriatric psychiatrists strive to take a leadership role with Medical Assistance in Dying (MAID) and in addition to hosting a conference on this topic in May 2016, section members will assist with the development of educational modules for capacity assessment in MAID.

Positions have been posted for one full-time and one locum Geriatric Psychiatrist. We are keen to recruit individuals with enthusiasm and expertise in geriatric psychiatry, patient care, teaching and teamwork.

Dr. Suparna Madan, Section Chief
Geriatric Mental Health Services

Forensic Psychiatry

The forensic psychiatry section provides assessment of and treatment for adults and adolescents with mental disorders within the legal system, and works to ensure the courts understand the individuals in order to make the most appropriate decisions for those individuals and the community.

Our work includes pretrial assessments of an accused's fitness to stand trial and assessments of criminal responsibility, mental health circumstances around infanticide, pre-sentence risk and dangerous or long-term offenders. We also perform assessments mandated by the Youth Criminal Justice Act.

The Forensic Assessment and Outpatient Service provides community-based outpatient assessment and treatment of adults mandated by the legal system.

The Forensic Adolescent Program provides community-based outpatient assessment and treatment of adolescents mandated by the legal system.

We also provide service in the areas of mental health diversion, correctional clinics, correctional transition team, telehealth and community geographic teams, which provide services to smaller centres in southern Alberta.



The Southern Alberta Forensic Psychiatry Centre (SAFPC), our inpatient facility in southern Alberta, has 25 beds for acute assessment and treatment of people in custody, as well as eight beds for those found unfit to stand trial (UFT) or not criminally responsible by reason of a mental disorder (NCRMD).

A rehabilitation home in southwest Calgary, the Lighthouse, has six beds to allow people who are NCRMD to gradually reintegrate to the community, depending on their mental stability and safety of the community.

News

With the formal recognition of forensic psychiatry as a subspecialty, we are currently in the process of obtaining accreditation for subspecialty training in forensic psychiatry.

Treatment of sex offenders in provincial custody has transferred from Alberta Hospital Edmonton to the Calgary Correctional Centre of the Rocky Mountain Program in May 2017.

A second rehabilitation home for those found NCRMD and reintegrating into the community has opened in August 2017.

Given the demands on our service for court-ordered assessments and treatment of mentally ill individuals in custody, as well as the increase in individuals who are NCRMD, we are working with Alberta Health Services and our stakeholders to optimize efficiencies in our service and enhance capacity.

Dr. Ken Hashman, Section Chief
Forensic Psychiatry

Community and Rural North Outpatient Psychiatry

Since our last annual report, there continues to be extensive plans and activities underway within the outpatient psychiatry programs here in the Calgary zone. Numerous clinics within the zone have undergone the AIM process which was designed to review and streamline various clinics throughout the zone. Many of the outpatient clinics have now moved to e-scheduler, and SCM ambulatory. Continuing from the last few years, we are still involved in a time of exciting change with the hopes of continuing to enhance and improve on the already great services provided to the mental health population within Calgary. The focus has been to improve processes, standardize care, and improve flow to ensure those that need our help get timely, accessible care.

The following are some of the activities occurring within the outpatient services in the North Calgary Zone:

- Over this past year continued work has been completed by the core clinics (NW, Central, and NE – previous Alberta Mental Health Clinics, as well as the outpatient services at South Health Campus). These clinics have been working extremely hard at creating an overall standardization of care across all three sites and thus geographically across all of Calgary.

Numerous working groups were established and worked on various aspects from standardization of forms and processes to understanding the general philosophy of care. We are pleased to report that many of these standardization processes and improvements in efficiency have been implemented in these clinics. Though there continues to be work that needs to be done, clinics have undergone numerous processes to improve efficiencies. Wait times have significantly decreased and we are continuing to look at processes on how to help patients that perhaps appeared chronically well he had deteriorated upon discharge. Ongoing discussions regarding the core basket of services and expertise continue to be discussed and we are currently entering phase two of the implementation process of this standardization. Phase 2 will now focus on the subspecialty clinics. This is proven to be more difficult given the diversity within these other clinics and the diversity of their expertise.



We have begun the process of systematically looking at the entire subspecialty services to see how care can be provided in a coordinated fashion with the overall goal to provide the right type of care, in the right place, in a timely fashion. Ideally a citywide strategy in order to provide seamless and efficient care for patients is the goal. This process is still early, and we are just embarking on engaging with her various clinics

- The Arnika Centre continues to be in great demand and discussions have begun to explore future needs, and directions. At this point they are in desperate need for further psychiatric support, and a search has begun to fill this need.
- Ongoing discussions continue to occur with respect to integrating addiction services within our mental health services.
- Ongoing and extensive discussions and work continue to occur with respect to engaging the Primary Care Networks and Family Care Centres within the Calgary zone. We continue to work with the PCNs to increase collaboration, 18 relationships, cross education, and transition of care.

The hope is that as our system continues to increase efficiencies, we can then support to our family medicine colleagues quicker in times of need, and they can help us further with their numerous patients that are stable to allow these patients to continue in the road to recovery. Specific initiatives that will be occurring over this next short time, will include providing a specialty link program that can allow family physicians to phone call consultations with psychiatrists throughout the week. Further to this upon the project with ACCESS Mental Health occurred with great success, where the family physician would remain on the telephone line and would receive immediate referral advice from our ACCESS team. This seemed to be received very well. Further to the above a trial with a transition position from what one of our core clinics to one of our University family clinics was initiated with great results. Thank you to the works of Dr. Rick Ward for helping establish such communication with the Primary Care system and ongoing discussions and work and strategies will continue over this next year.

- We are also embarking on evaluating and improving efficiencies and care to our rural populations. A committee has been set up to evaluate and look at various strategies to provide care for rural settings. Ongoing need to continue to increase in these areas as a population increases dramatically.
- Ongoing discussions and collaborations have also occurred with respect to Calgary Police Services and the Department of Psychiatry. Items that have been focused on include strategizing on how to address the numerous form 10's in the community as well as how to help and collaborate with Calgary police services in order to allow police officers to leave the emergency departments and a timely fashion. A new committee including EMS, analytics, department of psychiatry, and the Calgary police service has been initiated to address the specific issues.
- In addition to all of the above, some of our team members have embarked on various grassroots initiatives to also improve care and flow. Such initiatives include the creation of a perinatal network, as well as a grassroots initiative to increase trauma informed care, and trauma care within our services.

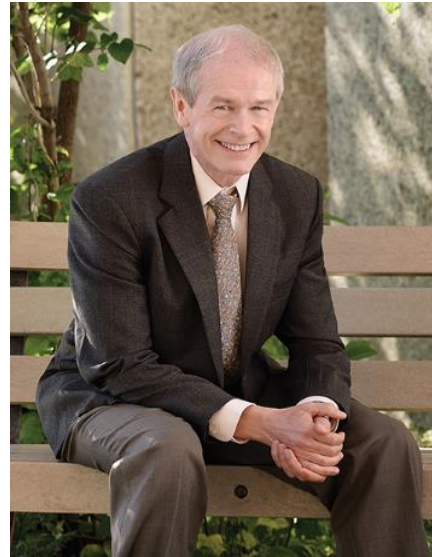
Over this next year the hope is to be able to continue to develop an overall strategy and long-term strategy as to how to organize our services to provide the best and efficient an evidence based care to our patients. Ongoing work with respect to increasing integration and communication between clinics as well as between our services and the Primary Care system will be an ongoing future challenge especially given the ever-increasing demographics.

**Dr. David Tano, Section Chief
Outpatient Services - North**

Community and Rural Addictions South Psychiatry

The Addiction Services have been focused on the opiate crisis for over a year. A major area of development has been harm reduction. One of the more exciting developments is the development of a service similar to the ARCH service in Edmonton at the Peter Lougheed Centre in Calgary. Staffing is being increased at the Opiate Dependency Program (ODP) at the Sheldon Chumir. The wait times at ODP have been reduced to a week or less. A supervised safe injection site has been established beside the Sheldon Chumir as part of an overall harm reduction strategy. Harm reduction guidelines are being developed for all of the inpatient and outpatient services. The Addiction network heavily involved in opiate substitution starts on the inpatient units. Patients who start opiate substitution on an inpatient unit can be quickly followed up at the ODP or at one of several private opiate substitution services in the city. The College of Physicians and Surgeons of Alberta have relaxed the training requirements for prescription of buprenorphine. This makes it easier for all physicians to initiate and maintain patients on buprenorphine. Plans are being drawn up for initiation of long acting oral morphine in selected patients. Beds have been made available at the Claresholm Centre for Mental Health & Addictions (CCMHA) to initiate opiate substitution in patients who require more specialized initiation. Buprenorphine initiations are now being done at the Renfrew Recovery Centre (detox). Other community service such as CUPS and Alpha House detox can now initiate buprenorphine. AHS staff are currently assisting in the development of opiate substitution programs with Corrections. Plans are underway for a long term tapering clinic opiate with built in psychosocial support.

Twelve satellite beds for psychiatric rehabilitation are being opened at CCMHA. These beds are designed to teach independent and semi-independent living skills to patients suffering from persistent and severe mental illness. They help to relieve some pressure on acute inpatient beds by increasing patients' chances of successful community placement and decrease the likelihood of readmission to acute care. CCMHA continues to provide provides active psychiatry rehabilitation beds and concurrent disorders (addiction) beds. Psychiatry, family medicine and public health residents continue to receive training in addiction medicine and psychiatric rehabilitation in both Claresholm and Calgary.



The Rural Urgent Addiction and Mental Health planning group are examining the projected and current needs of rural clinics and some pilot have been done. The mental health clinics in the Calgary zone have been affected by the general increase in population in rural communities. There are some urgent mental health services in Canmore and very limited support in Okotoks. A new psychiatric graduate has started working in Vulcan. Psychiatric staffing at the other rural south clinics is sufficient for the current demand for services.

**Dr. Hugh Colohan, Section Chief
Community and Rural South**

Foothills Medical Centre

The Foothills Medical Centre site has had a very busy year. We continue to face the challenges of capacity and overcrowding and are constantly making adjustments to improve access and quality of care.

Within the acute care portion of our site, demand from our Emergency Department continues to be very high and we are continuing to work on the goal of being able to meet the extraordinary demand. Our focus is on creating a team of psychiatrists within the ER to create strong clinical expertise and an excellent teaching unit. Our inpatient team have been working with ongoing efforts to implement collaborative problem solving, along with the ongoing QAR efforts to reduce length of stay and reduce AWOLs.

The site has a large subacute population which is supported largely by PAS and the Day Hospital. These services are operating at maximum capacity to reduce inpatient loads and work to reduce demand from the emergency department and inpatients.

Our outpatient unit has begun to engage with the process for the phase 2 redesign in order to optimize workflow through the mental health system and improve access to care for our most unwell clients. The women's mental health clinic has enjoyed community engagement and support thanks to the collaboration with Shopper's Drug Mart. Dr. Raiche and the gender clinic he operates has seen unprecedented demand as well.

We are very lucky to have recruited excellent candidates to the site. Dr. Ryan Todd has started work with the inpatient consultation-liaison team and is consulting to outpatient neurology and sports medicine clinics. Dr. Gina Vaz has begun her work with unit 22, and is bringing her educational expertise to our site. We are excited to announce that we have added Dr. Rita Watterson to join unit 22 to starting in the summer, as well.

There are ongoing challenges that we hope to focus on in the upcoming year that includes making clearer paths to get support for adolescents that are medically unwell and increasing ER staffing to help reduce the workload demand for our colleagues on call. We are also looking forward to the addition of rTMS to the neurostimulation program we already offer.

Dr. Lauren Zanussi, Site Chief
Foothills Medical Centre



Peter Lougheed Centre

Since our last report, our dedicated team in Mental Health Addictions continues to do their utmost to deal with capacity pressures across the hospital including the inpatient units and emergency department. A tremendous amount of effort has been put in to continually trying to improve our staff skill set and work towards optimal patient and family centered care. I would like to update you here on some of the new initiatives.

The PLC Day Hospital has been steadily increasing its capacity over the past two years. I am pleased to report that it is fully operational and taking referrals from inpatient units, consultation liaison, and emergency. It has two streams to better meet the needs of our patients, and is fulfilling its purpose of helping to reduce length of stay and avoid admissions.

We continue to provide length of stay data to our inpatient psychiatrists as a very important feedback tool for them. Our psychiatrists have worked extremely hard to try to provide quality care to patients and their families as efficiently as possible, being mindful to utilize the precious resources of the hospital as well as they can.

I am also pleased to report that Unit 25 and 27 have undergone some significant renovations since our last report. Both units now have been able to create double entrance doors, which helps to enhance



security and provide an elopement barrier. In addition, the high observation areas on both units have been renovated and provide better visibility and a more secure environment. In addition, there is now a space that serves as a calming area for agitated patients. In addition, televisions have been installed within the wall structure of the high observation rooms, in order to provide a more settling environment for patients.

As is in the case with other hospitals, e-simulation is being used to provide extra training for staff. This has been received very well. Staff note that it helps them to work collaboratively with each other and with protective services in a safe and secure setting and enhances their knowledge and skill set.

The “Revive 25” initiative is one we are particularly proud of. A committee of staff members on their own initiative got together to create this initiative, which incorporated the results of the patient satisfaction survey. It was geared towards making unit 25 appear more comfortable and soothing, and more welcoming to patients and their families, whilst still being in safe environment. It is remarkable what they have achieved.

In addition, we are currently in the very early phases of an initiative to trial patients using personal electronic devices. This is in keeping with what is happening in the rest of the hospital, and with trying to provide an environment that is more patient and family centered. There are many challenges still to be ruled out, but we are optimistic this can happen.

In terms of medical staff, we are pleased to announce that we were joined by two new hospital based psychiatrists; Drs. Pritpal Atwal and Daniel Sontag. In addition, as Sunridge Mental Health is part of the “PLC family”, we are happy to announce Drs. Kathleen Chivers-Wilson and Leanne Foust have joined the teams there. All four have been lovely additions. Dr. Adel Gabriel has retired from the PLC and we thank him for his years of service.

PLC staff members are excellent at being collaborative and assisting and supporting each other. We are proud of their excellent teamwork and work ethic.

Dr. Arlie Fawcett, Site Chief
Peter Lougheed Centre

Rockyview General Hospital

Emergency Psychiatry Services has been running well over the past year. We continue to work cohesively and are adding new members to our PES staff who are currently being mentored by our experienced and passionate senior nurses. We have added a new role of Resource Nurse, which has been taken on by Ms. Kira Dezall. In addition to keeping everyone organized, she has been instrumental in seeing that our patients who are waiting for beds in the ED are having one on one time and are getting started on CBT/DBT worksheets. In addition, she walks them down to the inpatient unit where they attend skills groups, physical exercise, participate in drumming, and get outside for fresh air and walks. Response has been quite positive from patients, as well as Emergency staff and site administrators. We meet on a regular basis with the CMD and manager of the ED in order to address any concerns and create a smoother process (in either direction) for the patients at RGH.

The inpatient units are running smoothly and we continue to build on the Patient and Family Centered Care model and rely on input from patients and their families. We have worked hard to build capacity in our nurses and allied staff on units 45, 48 (geriatrics), and 49 in order to provide psycho-educational and psychotherapeutic groups. Our pilot program started in July on Unit 49 and is headed by Dr. Pamela Weatherbee, who is providing a DBT informed skills group Monday through Friday. So far, patients have reported that groups are making a difference in their ability to cope with stressors and learn about emotional regulation. Unit 45 has recently re-started a CBT group, which has been helpful for patients. We will continue developing our programming for inpatients over this next year. The Drumming Group continues to be a big hit for patients and visitors alike at the RGH. Drumming is in the Chapel, and everyone is welcome!

Management has been encouraging nurses and allied staff to cross train within mental health services. We now have staff who are able to work Inpatients, Day Hospital, PES, and Groups in general. This has been a big effort, but is paying off in that staff have a better appreciation of what is happening within psychiatric services across the hospital, and are enthusiastic about gaining skills and helping out where they are most needed. It truly is building a greater sense of collaboration across all areas.



Consultation Liaison continues to be a busy service to both geriatric patients and those under 65 years. The three psychiatrists in Geriatric CL (Drs. Anderson, Madan, and Leung) continue to operate without any nursing support and the one psychiatrist (Dr. Tang Wai) works with a nurse for the under 65s. The psychiatrists at RGH are collaborating with the zone to create a common working model for CL.

Outpatient Psychiatry is being led by Dr. Reinhardt, who has been working in partnership with the teams and with management to enhance the Day Hospital, keep it running at capacity, and planning for the future. As well, he has been instrumental in supporting the streamlined service at the Urgent Psychiatric Consultation Clinic, which is seeing 140 patients per month, on average (doubled over the past three years). We anticipate having a peri-natal group that will be run weekly by Dr. Petrov, and are in the process of finalizing the details and building capacity in nursing. Perinatal service expansion is much needed at RGH given the 4,890 deliveries we had last year.

We hope to add an outpatient rTMS clinic in the near future and have been working with the department, and provincially to ensure we have a process in place that will allow us to roll out the treatment as soon as we can. We hope to get funding for this project as a pilot through the Calgary Health Trust. This program will provide a long needed service to those patients who have failed at traditional treatments for depression.

We also plan to integrate a research component into the treatment delivery, to help inform patient care.

Our meetings for the Ultra Short Stay Unit (less than 24 hours) continue and 'hoarding' has begun in the D block of the ED in order to begin the renovations. We anticipate that we will open sometime in February 2018. We welcome our new unit manager, Mr. Brock Bennett, who has come to us from the PLC SSU, and will look to him for guidance in getting the unit up and running. Mr. Bennett will also be responsible for managing the Emergency Psychiatry area. Welcome Brock!

Dr. Lisa Harpur, Site Chief
Rockyview General Hospital

South Health Campus

It has been another great year at South Health Campus.

We have completed the restructuring of our Psychiatric Emergency Services and are now able to handle more volume in a more efficient manner. The collegiality with our Emergency colleagues continues to grow and the parallel clearance process is helping us decrease the wait times for patients in the emergency department. We boast to have the presence of our mental health team on site throughout the night, yet again helping with decreasing length of stays in the emergency department. Our Psychiatric Outreach Response Team (PORT) has continued to provide crisis stabilization in the community but with the restructuring of the program we are now able to provide increased continuity of care as well as longer term outreach support within a case management model. The restructuring has also benefitted our mobile clients with the South Mobile Response Team (SMRT) now having full coverage, role clarity, and dedicated team members. This has increased our responsiveness to clients in the community as well as to our community partners.

Our Psychiatric Urgent Assessment Clinic is running smoothly and at capacity, further helping direct traffic away from the Emergency department. Our ER colleagues are doing an excellent job at referring to this clinic, as is Access Mental Health and our Psychiatric Outreach Response Team.



Our Inpatient units continue to take pride in collegiality and team work. We were part of Aggression on the Units Town Hall meeting earlier this year and were thrilled to hear that we have the least amount of aggression on our units compared to other acute care sites. We have also had the least number of Code Yellows initiated as compared to other hospitals in the city. We attribute this to our excellent teams, our collegiality, our communication, our infrastructure, the presence of our security colleagues on our units and of course our leaders. We continue to champion Collaborative Problem Solving and all of our Psychiatrists were part of the Non Violent Crisis Intervention training earlier this year. Our Inpatient ECT has built up to capacity now and we are actively meeting with our Operations, OR, and Anesthesia colleagues to build capacity for Outpatient ECT.

Our Consultation Liaison and Addictions Treatment Service continues to work with our inpatient and emergency units to provide both mental health and addictions support. This team represents an effective model of functioning with a team size of merely four staff, trying to ensure there is minimum redundancy of work and maximum efficiency.

Our Day Hospital team has been running at full capacity for the past year and continues to assist with helping decrease length of stay and admission to the inpatient units. We have been helping with capacity issues by taking patients from other hospitals as well whenever we have capacity for the same. We will be looking at increasing our numbers over time as we look for more space on site. Our team works collaboratively and takes pride in providing multidisciplinary acute mental health support to patients who otherwise would have been admitted to inpatient Psychiatry.

Our South Outpatient Mental Health clinic is also busy and continues to provide a myriad of outpatient services including various therapy modalities, groups, clozapine and injection clinics, CTOs, transition and outreach services as well as regular Psychiatric follow up. We cater to moderate to severe mental illness south of the city. We continue to be a goal focused clinic and look at our length of stays on an ongoing

basis in an attempt to ensure we keep our intake wait time at a reasonable length. Our wait times are at par with some of the other Outpatient Clinics in the city, if not better. Our team cohesiveness and communication is again something we take pride in.

Our goals for the new year are to look at developing Outpatient ECT, building perinatal mental health outpatient services in the south, expanding Day Hospital numbers, and providing ongoing support to our existing services. We are excited to offer continued wrap around mental health services at South Health Campus and are prepared as a team to support what we have already built and expand into areas that are targeted as high need areas for mental health in the city.

Dr. Novin Ihsan, Site Chief
South Health Campus

Residency Training Program

We continue to enjoy a very high retention rate for graduates becoming faculty including 4 of our recent graduates joining faculty and 2 others continue on with the Child and Adolescent sub-specialty training stream. Residents are distributed equitably for regular rotations to all 5 acute care sites across the Calgary zone and use our community based clinics regularly, including the Alex Youth Centre newly moved to northeast Calgary and expanded to take on additional Shared Care rotations.

Innovation is an important quality of our program, and we continue to use various tools to assess residents and our programming. Schedules and manpower fell into place for an inaugural OSCE Day in April 2017 with very favorable feedback from both residents and faculty. We are planning for this event on March 16, 2018 for all PGY-2 to-5s to assist in their preparation for the certifying exams. Innovation is the theme in the curriculum, which has a new chair, to include different structures for learning including off-site visits, flipped classrooms and using OSLE for some of the more didactic teaching materials. These changes will support and align with the RCPSC's impending Competency by Design (CBD) format that will revamp resident evaluation. On the same theme, the January 2017 STACER workshop led to the suggestion of a regular mini-retreat for all faculty involved in residency training. The inaugural min-retreat will be on December 1, 2017.

Incoming residents requested more learning around the various encounters that are seen in the Emergency Psychiatry setting. From the pilot in the summer of 2016, we continued summer teaching for the PGY-1s in this area. For the summer of 2018, we are investigating a summer 'refresher' course for the PGY-2s on this topic in addition to a series of STACER preparation sessions.

Feedback for faculty occurs twice a year after each residency retreat enabling preceptors an enhanced awareness of the teaching qualities we wish to reinforce. On the ONE45 online evaluation system, residents are able evaluate their rotations, with these evaluations viewable by both the program and the faculty involved.

Faculty with an interest in medical education and global health continue to work with residents that have a similar interest to establish wonderful medical-education collaboration with a medical school in Tanzania with additional faculty and residents travelling in November 2017 to continue this work.

The formalized mentorship system has now gone through its seventh year, and a research outcome study by PGME is in process to review the benefits and challenges of this system as they plan implementation in other UofC residency program.

Residents are expected to present a formal research project by the time they complete their training; this is a requirement of the Royal College Specialty Committee in Psychiatry. We continue to develop our teaching of research and links with partners in research at the Cumming School of Medicine (e.g. Mathison Centre for Mental Health Research & Education and the Sheldon Kennedy Foundation).

**Dr. Greg Montgomery, Director
Residency Training Program**

Undergraduate Program

Our medical students continue to show strong interest in pursuing psychiatry as a career. Excellent faculty, residents and administrative support have resulted in students again rating the psychiatry program, Course 7, amongst the highest preclinical course this year.

Course 7 is offered late in the curriculum, so extra effort is made to introduce psychiatry as a specialty, including a student-run psychiatry interest group that organizes talks by faculty, presents workshops and holds movie nights to spark students' interest in the field.

Our six-week clerkship includes four weeks of adult psychiatry and two week of child and adolescent psychiatry. Our undergraduates can also take a variety of electives across the spectrum of psychiatry. Our clerkship continues to be the most highly ranked rotations. Out of town elective students have more than doubled in numbers.

We continue to have a significant percentage of the graduating class apply to our post graduate psychiatry program, as well as, to programs across Canada. This is well above the national average.

Nancy Brager, Undergraduate Program Director



Fellowship Training

Fellowships provide an opportunity to qualified Canadian and international physicians to further develop their clinical, teaching, and research knowledge in a specific area of psychiatry. We continue to expand the range of fellowship opportunities in the Department, and this year we are excited that Dr. Aaron Mackie has been actively working with interdisciplinary colleagues to put together a fellowship program in Behavioral Neurology and Neuropsychiatry that would be accredited by the United Council for Neurologic Subspecialties.

Dr. Iliana Ortega completed a two-year fellowship in Child and Adolescent Psychiatry in 2017. During her training, she actively contributed to the Department through teaching and research as well as through her multiple clinical rotations, and she was honoured at the Department's 2017 Fall Social with the Patrick Conway Award for "outstanding contributions to Mental Health by and international medical graduate". This is a reminder of the important part that international trainees and graduates have played throughout the history of our Department. We look forward to Dr. Ortega joining us in several Calgary mental health programs.

In addition to the opportunities we offer for unaccredited post-residency training through fellowships, there are now three psychiatric subspecialties approved by the Royal College. Dr. Waqar Waheed led the successful application for accreditation of the Child and Adolescent subspecialty program, which has now had two years of graduates under his leadership as the Residency Program Director for that subspecialty. This fall, this sought-after program had ten applicants for just two residency spots in July 2018. Dr. Suparna Madan continues to progress on the application for a training program in Geriatric Psychiatry, which we are looking forward to seeing accredited soon. We are very pleased that Dr. Denis Morrison has agreed to take over the application for accreditation of the Forensic Psychiatry subspecialty, and he is working with Postgraduate Medical Education to move this forward as quickly as possible.

Cindy Beck, Fellowship Program Director

Continuing Professional Development (CPD)

2017 was a year of consolidation of our activities and of our structure. The main change was that Ms. (Trang) Van Pham accepted a promotion and transferred to the Department of Medicine in September 2017. Ms. Anne Enders took over Ms. Pham's position and has been providing administrative support for CPD since September 2017. Please join me in thanking Ms. Pham for her numerous contributions to the CPD activities of the Department of Psychiatry. One of Ms. Pham's main contributions was the implementation of a calendar of events for all CPD activities through our department. This calendar of events can be found on our departmental home-page (<http://www.ucalgary.ca/psychiatry/calendar>).

Continuing Professional Development Committee

This committee plans and implements educational events based on the identified needs of the Department of Psychiatry, and also implements a series of regularly scheduled learning activities and events that fulfil the requirements of the Royal College of Physicians and Surgeons of Canada. Committee membership is multi-disciplinary and includes the director of Continuing Professional Development as chair, representatives for the site coordinators from Alberta Children's Hospital, Foothills Medical Centre, Peter Lougheed Centre, Rockyview General Hospital and South Health Campus and the four academic division chiefs. In addition, psychiatrists with an interest in CPD as well as non-psychiatrist education co-ordinators from the clinical departments are invited to attend to help coordinate events schedules and develop needs assessments.

Activities and Events

The committee supports a range of activities:

- Region-wide Grand Rounds that are linked by teleconference across Calgary and southern Alberta. Grand Rounds are held on Tuesdays from 12 noon until 1 pm. Over 70 psychiatrists and residents participated in these activities. From January 2017 until June 2017 we hosted 25 Grand Rounds. The preliminary schedule for the fall semester (September 2017 until December 2017) includes 16 Grand Rounds. The topics of Grand Rounds cover a wide range of topics in psychiatry. The schedule is determined by the CPD-committee and is based on suggestions and requests from attendees. Speakers include local, national and international speakers.
- Site-based and division-based education programs, including journal clubs and lunch-and-learn rounds.
- Online education program (Psychiatry Online Literature Review Course) aimed at urban and rural psychiatrists from across western Canada. In 2017 29 psychiatrists participated in this program.
- Continuing medical education in other departments and groups, supported by individual psychiatrists and psychologists:
 - Healthy Minds Healthy Children, organized by the social work department at Alberta Children's Hospital.
 - Provincial Concurrent Capable Learning Series of the Alberta Health Services' addictions medicine group.
 - Community Mental Health Rounds that are held four times per year.

We continue to work with the CME-office of the Cumming School of Medicine and also participate in special events through the Department of Psychiatry. In 2017 we provided support to the following events:

- Mood Day, January 2017
- Sebastian K. Littmann Research Day, March 2017
- Women's Mental Health Day, May 2017
- Addiction Day, September 2017
- Psychotherapy Half-Day, October 2017
- Concurrent Disorders Telehealth series (addictions program of Alberta Health Services), throughout the year

We also contributed to the 2017 Calgary Therapeutics Course, which is organized by the Cumming School of Medicine Office of Continuing Medical Education

Looking ahead

The Department of Psychiatry will continue to offer weekly Grand rounds. We strive to make our Grand Rounds program even more interesting and relevant, reflecting the educational needs of our attendees.

The planning for future events for 2018 and 2019 includes Mood Day 2019, Sebastian-Littmann-Day in March 2018, and Psychosis Day in the fall of 2017.

The development of skills transfer courses that are accredited at the Section 3—assessment level for the Royal College of Physicians and Surgeons of Canada's Maintenance of Certification Program remains a further focus for CPD. Over time we will also incorporate Competence by Design (CBD) into our programs as requested by the Royal College of Physicians and Surgeons of Canada.

Dr. Thomas Raedler, CPD Director

Grand Rounds Schedule 2017

Jan 3, 2017	No Rounds	
Jan 10, 2017	Dissecting the Depressive Phenotype: Lessons for the Future of Neurostimulation	Dr. Alex MCGirr, MD, MSc
Jan 17, 2017	The Personalization of Psychiatric Treatment with Non-Invasive Neurostimulation	Dr. Fidel Vila-Rodriguez, MD, FRCPC, FAPA
Jan 24, 2017	Individual Parent, and Family Factors in Child Physical and Mental Health: A Multi-Method Approach	Kathryn Birnie, PhD
Jan 31, 2017	Social, Biomedical and Genetic Contributions to Child Neurognition: An Approach to Developmental Psychopathology	Mark Wade
Feb 7, 2017	Aggression on Inpatient Units	Lisa Gagnon, MD and Robert Bush
Feb 14, 2017	Epilepsy and Psychosis	Aaron Mackie, MD and Jacqueline Bobyn, BSc, MSc
Feb 21, 2017	Cannabis Legalization 101 – What do you need to know	Rebecca Saah, PhD
Feb 28, 2017	The Fentanyl Crisis	Christian Schutz, MD, PhD, MPH, FRCPC
Mar 7, 2017	Mindfulness – based Cognitive Therapy	Derek Luk, RN, MN
Mar 14, 2017	Ketamine in Psychiatry – the Grey Nuns Experience	Reji Thomas, MD
Mar 21, 2017	Preventing Mental Illness	Rudolf Uher
Mar 28, 2017	The Psychopharmacology Research Unit (PRU) – Update	Thomas Raedler, MD and Iliana Garcia-Ortega, MD
Apr 4, 2017	Mitochondrial Dysfunction in Schizophrenia and Bipolar Disorder	Marquis Vawter, PhD
Apr 11, 2017	Medical Assistance in Dying	Suparna Madan, MD and Michael Trew, MD
Apr 18, 2017	Legislation of Cannabis – What Can We Learn from the Colorado Experience?	Christian Thurstone, MD
Apr 25, 2017	Cardiovascular Risk Prevention: A Primer	Todd Anderson, MD
May 2, 2017	Suicides within Calgary Zone Addictions and Mental Health, as Compared with Alberta Rates	Lisa Gagnon, MD, Kim Conlon and Mara Grunau
May 9, 2017	Lessons Learned	Trevor Theman, MD
May 16, 2017	The Mathison Centre – an update	Paul Arnold, MD, PhD, FRCPC
May 23, 2017	Addictions & Mental Health Strategic Clinical Network – an update	Frank MacMaster, PhD
May 30, 2017	QAR – Suicides in Alberta	Lisa Gagnon, MD and Kim Conlon
Jun 6, 2017	Descriptive Epidemiology of Generalized Anxiety Disorder in Canada	Rita Watterson, MD and Scott Patten, MD
Jun 13, 2017	Kolabo: Collaborative Mental Health Education in Tanzania	Rachel Grimminck, MD & Team
Jun 20, 2017	Indigenous Mental Health in Southern Alberta	Marie Claire Bourque, MD
Jun 27, 2017	The Revolving Door: Coordinated care intervention to reduce acute care use in low-income patients with complex social needs, health and mental disorders	Van Nguyen, MD
Sep 5, 2017	Quality and Access to First Episode Psychosis Services	Don Addington, MD
Sep 12, 2017	Pedaling for Well-Being	Doug Detwiller
Sep 19, 2017	Treatment-Options in Opioid Dependence	Hugh Colohan, MD and Ron Lim, MD
Sep 26, 2017	Anti-psychotic Associated Side Effects	Ric Procyshyn, BSc (Pharm), MSc, PharmD, PhD
Oct 3, 2017	Methamphetamine – What Can We Learn from Vancouver?	Bill MacEwan, MD
Oct 10, 2017	Choosing Wisely	Doug Urness, MD
Oct 17, 2017	Canadian Schizophrenia Guidelines: Schizophrenia and Other Psychotic Disorders with Coexisting Substance Use Disorders	David Crockford, MD
Oct 24, 2017	Initiatives to Reduce Aggression	Lisa Gagnon, MD and Robert Bush
Oct 31, 2017	TBD	TBD: A Psychiatry Headship Candidate
Nov 7, 2017	Tourette Syndrome: Epidemiology, comorbidity and treatment	Tamara Pringsheim, MD
Nov 14, 2017	Complex Visual Hallucinations: A Case report and review of the clinical approach to complex visual hallucinations	Kimberly Williams, MD, Mimi Fatmi, MD and Aaron Mackie, MD
Nov 21, 2017	Gender Gap in Academic Medicine	Janet de Groot, MD
Nov 28, 2017	How would Carl Gustav Jung present Grand Rounds	Manuel Mah, MD

Quality Assurance

The position of Quality Assurance for the Department of Psychiatry started in late 2015. The aim for this position was to identify and improve upon system issues within clinical services. Patient Complaints and Quality Assurance Reviews are venues to bring positive system change out of untoward events. Working closely with Patient Relations and the Site Chiefs, Drs. Fawcett, Harpur, Ishan and Zanussi, we have resolved the 24 complaints involving Psychiatrists over the last year. There has been one recommendation made, which involves our treatment of victims of domestic violence on inpatient mental health units.

Chairs for Quality Assurance Reviews, including Drs. Stokes, Ishan, Harpur and writer, work with the Clinical Safety Leader, Kim Conlon, to investigate negative outcomes for system flaws. This includes patient deaths, aggressive incidents and others. Over the last year we have modified this process due to the high volume of reviews. Since April of this year, we now complete a brief review in most instances, while in more in-depth review involving the front-line staff in less than 9% of reviews. In the last year, we have completed 76 Quality Assurance Reviews (in-depth reviews), 36 concise reviews and of these 3 will go on to full Quality Assurance Reviews. We have 19 recommendations as a result of negative patient related events, which will improve patient outcomes.

Our team continues to work diligently to reduce aggression within our programs. Both Collaborative Problem Solving and Nonviolent Crisis Intervention programs, which are aimed at preventing aggression, have been implemented in a large-scale fashion across acute-care sites. Town Hall meetings around aggression have been held on adult inpatient mental health units at every site. This is provided front line staff an opportunity to problem solve and discuss the issues at a local level, as well as get feedback from front-line staff to target change. We also have had two Grand Rounds on the topic of aggression, one involving Constable Richard Wall. Constable Wall introduced a new algorithm within Calgary Police Services to standardize their approach to aggressive incidences on inpatient mental health units. Dr. Tano was central to this work. Moreover, there are various pilot projects underway to identify patients at high risk of aggression. Robert Bush has been the operational lead around reducing aggression.

Aggression may be closely tied with one of our other critical issues, which is overcrowding and capacity pressures. Our teams both in the emergency department and inpatient mental health units are working hard to try to improve flow through our system. At any given time, we can have up to 20 patients waiting in emergency departments across the city for an inpatient bed. Our Length of Stay (LOS) Initiative has provided quarterly feedback to sites, units, and physicians with regards to their median patient length of stay. We will be broadening our work to reduce capacity inpatient mental health bed pressures, with a planning meeting scheduled shortly.

Another issue that has been identified involves is care of admitted mental health patients who become medically unwell. With the help of the Department of Family Medicine, we have renamed family doctors who provide consultations to inpatient mental health from “Hospitalists” to “Psychiatry Primary Care”. The rationale for the change was to differentiate from family doctors who admit patients to their medical service, who are also called hospitalists. The Department of Family Medicine has clarified the reporting structure for the Psychiatry Primary Care. We are working on clarifying their roles across the inpatient sites currently, and then we will be standardizing this and embedding them within the inpatient mental health teams. We feel that this ongoing collaboration will improve medical outcomes on inpatient mental health units.



Patients leaving from inpatient units with granted leaves (AWOLs) or escaping from a locked inpatient unit (elopements) have been the focus of the AWOL Committee. We have identified several factors contributing to this problem, including boredom, addiction issues, engagement with staff, patient factors, treatment team factors, etc. The Unit Standardization Committee has been struck to look at all inpatient groups that are offered on mental health units which potentially could help combat boredom. Aleta Ambrose leading this group. We have also completed a six-month pilot project at the Foothills Medical Centre on the acute mental health adult units which highlighted repeat AWOL patients and takes a team approach to granting leaves. This was a successful pilot project showing a 35% reduction in the number of Code Yellows (AWOLs and elopements). It continues at the Foothills Medical Centre and this pilot project will begin shortly at the Peter Lougheed Centre.

The Perinatal Mental Health Network Chair also falls under the scope of Quality Assurance and there are a number of exciting changes. Kim Frache, who is the Director for Calgary South, has been named the Director for Perinatal Mental Health Services. She has been a great addition to the team. We recently secured funding through Calgary Health Trust to begin a collaboration between the Canadian Mental Health Association, Families Matters and ourselves to provide peer support to pregnant and postpartum mom struggling with mental health problems in rural centers. This is a much-needed service, as most programs available to these women would be within the city of Calgary. Moreover, the *Shoppers Drug Mart Run for Women* continues to be a huge success and funds support goes to the Women's Mental Health Clinic at the Foothills Medical Centre. The funds raised this year was \$150,000 and will support a full-time therapist, as well as a part-time social worker to this clinic. This clinic provides psychiatric services to pregnant and postpartum moms and serves approximately 400 women a year.

Our thanks to Shoppers Drug Mart, the Running Room and Calgary Health Trust for their ongoing support. The Women's Mental Health Day Conference, whose committee was chaired by Dr. Mohammed, had nearly 100 participants in May, educating front-line staff around ADHD, father's perinatal mental health and other mental health issues in pregnant and postpartum women.

Dr. Lisa Gagnon, Quality Assurance Lead

Decision Support Teams

Addiction and Mental Health

Our Vision

To be recognized and valued as leaders in decision support and education within addiction and mental health.

Our Mission

To provide expertise, tools and collaborative support for Addiction and Mental Health in the areas of evaluation, information management, research and education to help inform decision making, improve service delivery and build capacity to deliver quality patient- and family-centered care.

The members of the Decision Support, (DST), are experts in the domains of data management, system management, program evaluation, system improvement, research, performance measures, outcome measurement, and education initiatives. This group of professionals form the three main branches of the DST teams; Information Management, Education, & Evaluation.

DST Highlights

Education Team:

- Provided workshops and professional development opportunities to over 5000 AHS staff during the last fiscal year.
- Continued to develop their strategic direction to align with the AHS vision of advancing the existing learning culture within the organization by building capacity in learning opportunities offered to AHS staff through facilitated and online learning methods.
- Knowledge Translation – work with service areas, professionals, committees and working groups in the capacity of advising, providing support, educational planning, and collaboration
- Assist and support provincial partners in engaging staff in policy initiatives and required operational practices for the Calgary Zone

Evaluation Team:

- Access Mental Health Flow Improvement Project
- Evaluation of CAAMHPP's (Child and Adolescent Addiction and Mental Health and Psychiatry Program's) Adverse Childhood Experience (ACE) Initiative
- Evaluation of CBSST (Cognitive Behavioural Social Skills Training)
- Frequent Form 10 Apprehensions Chart Audit & Review
- Client Experience Survey
- Rapid Review: Methadone and Suboxone for Opioid Detoxification

Information Management (IM):

- Support of AMH information systems and improving the quality of data, and the provision of timely reports and numerous adhoc requests
- Data standards and data quality projects for AMH data systems and using software for report development aligning with provincial standards
- Provide training to users across all data systems supported by the team

Annual Report:

DST highlights some of its current projects and activities in its 2017 Annual Report which can be found on the DST program page on AHS Insite: <http://insite.albertahealthservices.ca/10350.asp>.

Year End Service Summary (YESS):

Released each November, the YESS is the most all-inclusive collection of individual service data and is the 'source of truth' for program statistics and is a comprehensive summary of clinical and program activity in over 200 Addiction & Mental Health services within the Calgary Zone. This report, as well as many others from IM and Evaluation, are available on AHS Insite in the Calgary Zone tab: <http://insite.albertahealthservices.ca/9355.asp>.

The Scientific Office of the Strategic Clinical Network for Addictions and Mental Health™

The Scientific Office of the Strategic Clinical Network for Addictions and Mental Health™ (AMH SCN) has 6 pillars of activity common to all offices: Knowledge Translation; Advancing Knowledge; Engaging and Building Partnerships for Research and Innovation; Research Prioritization; Research Capacity Building and Training; and Research Facilitation. The AMH SCN has led a number of initiatives over the past year of special relevance to the Department of Psychiatry at the University of Calgary and its stakeholders.

Funding

Building on the success of the Clinical Engagement Grant, and Clinical Connections Grant (in partnership with the Mathison Centre at the University of Calgary and the Institute for Neuroscience and Mental Health at the University of Alberta), we have been able to launch a number of funding opportunities.

We have the Addiction & Mental Health Strategic Clinical Network Scientific Office Publication Grant opportunity (\$7,500 total) to support researchers acquiring open access for their manuscripts. This helps disseminate Alberta based research more broadly.

As part of the Valuing Mental Health initiative we have launched two opportunities. We awarded six Pathways to Innovation Grants (\$300,000 total) looking to: (1) foster and strengthen applied research and innovation to support implementation recommendations from the Valuing Mental Health Report (VMHR), (2) identify and test evidence-informed practices and programs to improve community-based system integration, (3) create opportunity to spread the most effective integrated systems, and (4) improve the quality of care for addiction and/or mental health patients in Alberta.

We also have a launched the larger (\$600,000 total available) Valuing Mental Health opportunity to support research that addresses the identification of evidence-informed research practices and programs to improve community-based system integration in the addiction and mental health sector in Alberta, as outlined as a strategic priority in the Valuing Mental Health (VMH), Alberta Mental Health Review.

We have also garnered support (\$537,000 total) to fund a number of additional Clinical Engagement Grants, a project examining the experiences of youth in mental health crisis at the Emergency Department, and the Supporting Child and Youth Mental Health Outcomes in Alberta School Settings – Early Career Award Competition.

We have also been supportive of fund raising efforts for Alberta based foundations (> \$600,000 to date) for a variety of initiatives involving mental health and addictions.

Research Activity

We have also been supporting the research priorities of the overall AMH SCN. These include transcranial magnetic stimulation (TMS) for depression, the implementation of a provincial community based naloxone program to combat opioid deaths, creation of interprovincial indicators of addiction and mental health system effectiveness, and working with the SPOR patient engagement platform in to prioritize depression research questions from the perspective of people with lived experience and clinicians. We are also actively supporting applications to several national competitions.

Research Capacity

Finally, we have also endeavored to develop a better understanding of psychiatry research locally and our position nationally. To that end, we have published studies with more under review on residency research requirements, resident perceptions on the role of neuroscience, scholarly impact benchmarks for psychiatry in Canada, and finally, the investment of CIHR in psychiatry research across Canada. Based on this knowledge, we are seeking to further develop research capacity in the province in addictions and mental health.

Frank P. MacMaster, PhD and Katherine Rittenbach, PhD

Psychopharmacology Research Unit

The Psychopharmacology Research Unit (PRU) focuses on conducting clinical trials as a way of finding new medications that will be more effective and better tolerated than the currently available treatments. We also participate in studies looking at new indications for established medications. Over the past year we have been participating in the following clinical trials:

1. Real Life Assessment of Abilify Maintena (ReLIAM) (sponsor Lundbeck Canada; NCT02131415): The main objective of this non-interventional, Canadian Phase IV study is to describe the impact of treatment with Abilify Maintena™ on global functional status. P.I.: Thomas Raedler, MD; Co-I's: Toba Oluboka, MD, David Crockford, MD, Rory Sellmer, MD, Zahinoor Ismail, MD, Novin Ihsan, MD. \$4550.00 per patient. Study ended June 2017.
2. Adaptive Phase II Study to Evaluate the Safety & Efficacy of Sodium Benzoate as an Add-on Treatment for Schizophrenia in Adolescents (sponsor SyneuRx International (Taiwan) Corp; NCT01908192). PI: Thomas Raedler, MD. Co-I's: Beverly Adams, MD, Iliana Garcia-Ortega, MD. \$11,004.50 USD per patient. Recruitment ongoing.
3. Interventional, randomised, double-blind, placebo-controlled, active reference (fluoxetine), fixed-dose study of vortioxetine in paediatric patients aged 7 to 11 years, with Major depressive disorder (MDD). PI: Thomas Raedler, Co-I's: Iliana Garcia-Ortega, MD, Chris Wilkes, MD. \$21,500.42 per patient. Recruitment ongoing.
4. Interventional randomized, double-blind, placebo-controlled, active reference (fluoxetine), fixed-dose study of vortioxetine in paediatric patients aged 12-17 years, with Major depressive disorder (MDD). PI: Thomas Raedler, Co-I's: Iliana Garcia-Ortega, MD, Chris Wilkes, MD. \$21,500.42 per patient. Recruitment ongoing.
5. Long-term, open-label, flexible-dose, extension study of vortioxetine in child and adolescent patients with Major depressive disorder (MDD) from 7 to 18 years of age. PI: Thomas Raedler, Co-I's: Iliana Garcia-Ortega, MD, Chris Wilkes, MD. \$15,531.81 per patient. Recruitment ongoing.

Studies awaiting REB approval and initiation:

1. A phase II randomised, double-blind, placebo-controlled study to evaluate the efficacy, safety, and tolerability of orally administered BI 409306 during a 52-week treatment period as an early intervention in patients with attenuated psychosis syndrome. PI: Thomas Raedler, Co-I's: Iliana Garcia-Ortega, Greg Montgomery, MD. \$20,746.38 per patient. Ethics submission phase.
2. An adaptive, phase IIb/III, multi-center, prospective, randomized, double-blind placebo-controlled study of the safety and efficacy of NaBen® (sodium benzoate), a d-amino acid oxidase inhibitor, as an add-on treatment for schizophrenia in adults. PI: Thomas Raedler, Co-I's: Rory Sellmer, MD, Beverly Adams, MD. \$23,277.58. Ethics submission phase.
3. An adaptive phase II/III, double-blind, randomized, placebo controlled, two-part, dose-finding, multi-center study of the safety and efficacy of NaBen® (sodium benzoate), a d-amino acid oxidase inhibitor, as an add-on therapy with clozapine, for residual symptoms of refractory schizophrenia in adults. PI: Thomas Raedler, Co-I's: Rory Sellmer, MD, Beverly Adams, MD. \$11,004.50. Ethics submission phase.
4. A phase II randomized, double-blind, placebo-controlled study to evaluate the efficacy, safety, and tolerability of orally administered BI 409306 during a 28-week treatment period as adjunctive therapy to antipsychotic treatment for the prevention of relapse in patients with schizophrenia. PI: Thomas Raedler, Co-I's: Rory Sellmer MD, David Crockford MD. \$17,841.24. Ethics submission phase.

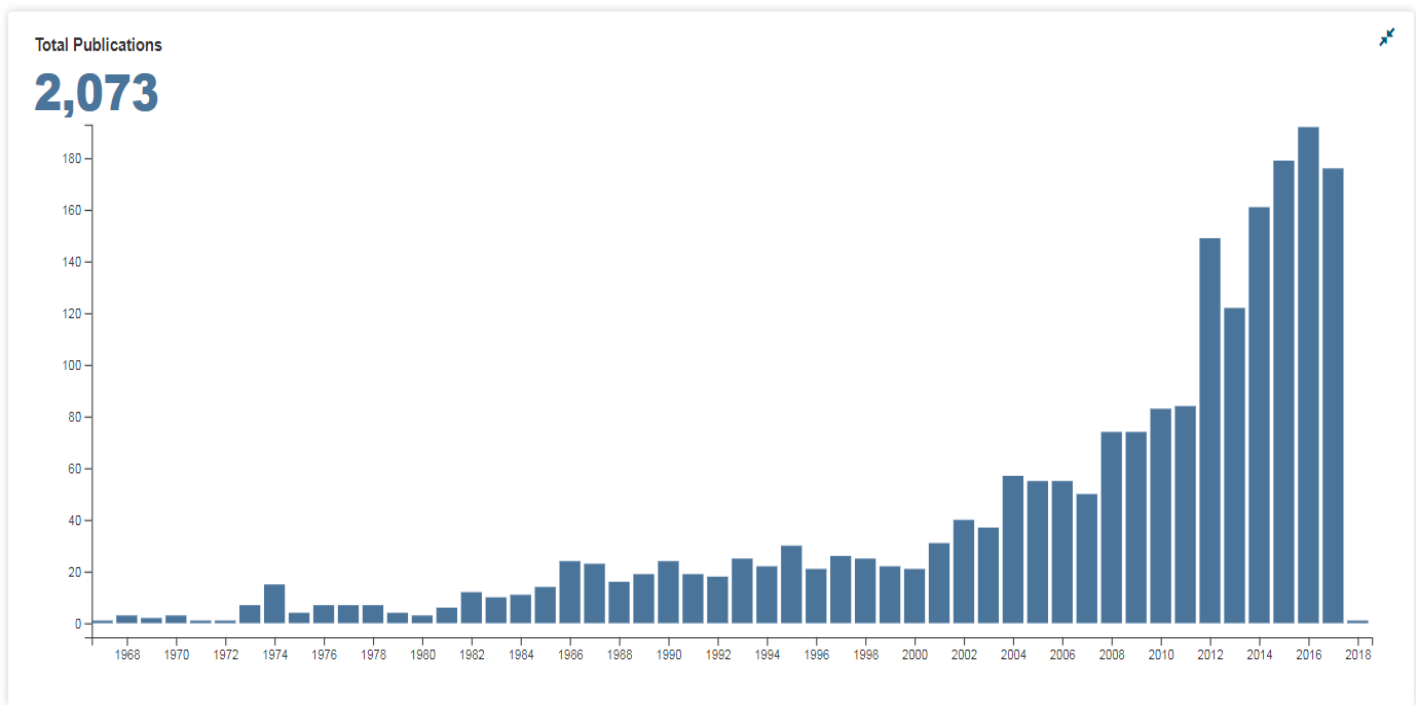
Dr. Thomas J. Raedler, Director
Psychopharmacology Research Unit

The Department of Psychiatry Research Report

These citation metrics are based on the same search criteria as those identified in the 2016 citation report. These were based on a Web of Science search. The search identified papers falling into one of two categories. The first included those papers with “psychiatry” under “Research Area” or “Topic” if the organization field also included word “Calgary.” in the title or address fields. The second category included papers with “Mathis*” and “Calgary” in their address field. Many papers fell into both categories and these were not double counted. The search as performed on November 21, 2017.

The 2017 search confirms that the Department of Psychiatry’s research productivity continues to increase rapidly. The 2015 Annual Report projected that 2016 would be the most productive year in the history of the Department. The current search confirms this, identifying 192 publications in 2016 compared to 179 publications in 2015 and 161 in 2014. As of the search date, 176 papers had been published in 2017, strongly suggesting that 2017 will surpass 2016 as the most productive year for the Department. Figure 1 depicts the search output from the Web of Science. The search is limited to the Web of Science Core Collection.

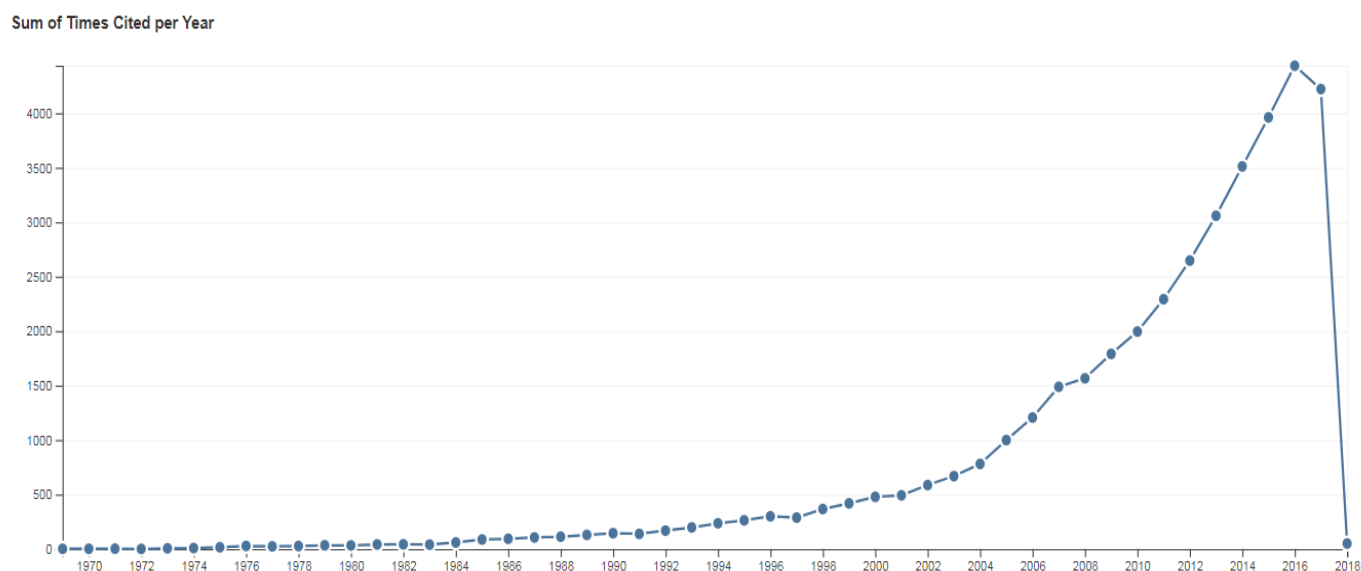
Figure 1. Psychiatry publications from the University of Calgary*



* Search date: November 21, 2017. Search Strategy: ((su=psychiatry or ts=psychiatry) and oo=calgary) or (ad=mathis* and ci=calgary)

The search strategy also allows an examination of citations to the set of 2073 publications identified. This is presented in Figure 2. The overall number of citations and the rate of increase continue to accelerate. References to the work arising from the Department in 2016 exceed that of any previous year and the pattern suggests that 2017 will again exceed 2016. Papers produced by the Department were cited 4436 in 2016 and have already been cited > 4200 times in 2017.

Figure 2. Citations to psychiatry publications from the University of Calgary*



* Search date: November 21, 2017.

The second category of the search (ad=mathis* and ci=calgary) is of inherent value since it shows the number of papers attributed to the Mathison Centre for Mental Health Research & Education. There have now been 200 papers arising from the Centre, with a steady increase in volume, see Figure 3. There is an associated increase in citations to these papers, see Figure 4.

Figure 3. Publications attributed to the Mathison Centre for Mental Health Research & Education (as of November 21, 2017)

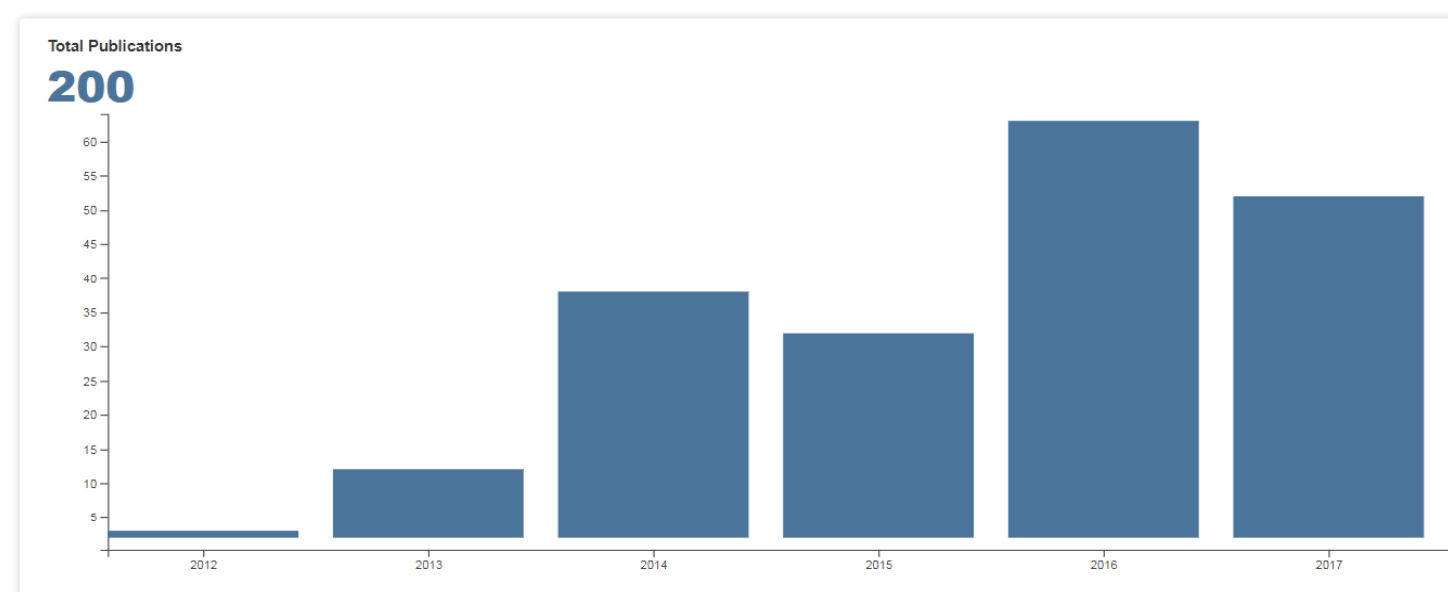
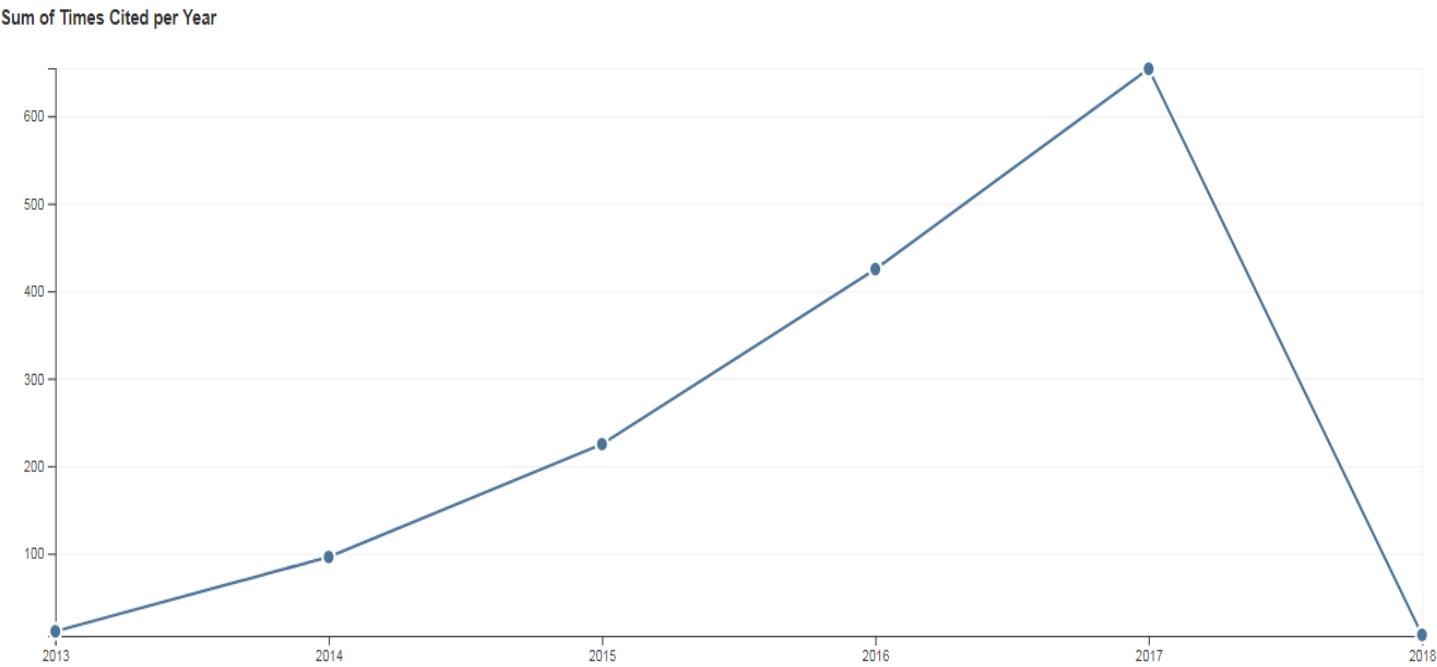


Figure 4. Citations to publications attributed to the Mathison Centre for Mental Health Research & Education (as of November 21, 2017)



Dr. Scott Patten
Department of Psychiatry
Research Director

Mathison Centre for Mental Health Research and Education

The Mathison Centre for Mental Health Research & Education was established in 2012 based on a partnership between the Hotchkiss Brain Institute and the Department of Psychiatry and enabled by a \$10 million donation from Mr. Ronald Mathison, President and CEO of Matco Investments Ltd. and Matco Capital Ltd. Our mission is to promote internationally recognized research and education on the early identification, treatment and prevention of mental disorders, with a particular focus on children, youth and emerging adults. Our centre has made remarkable gains on various fronts over the 2016/2017 academic year. This report shares some highlights of our achievements.

Faculty

Our faculty consists of 42 full and associate members. Membership consists of researchers from diverse disciplines (e.g., Medicine, Health, Education, Sociology, Psychology, Social Work) covering a broad breadth and depth of research interests. The multi-disciplinary backgrounds of our members has propelled opportunities for collaborative projects conducted in teams. We have also pursued various partnerships centred on various disciplinary expertise with community agencies relevant to our research interests. Our Centre has further broadened our research forte through recent recruitments into faculty positions. Dr. Daniel Kopala-Sibley joined the Mathison Centre effective October 2017 and Dr. Alex McGirr a new hire by the Department of Psychiatry expected to start in November 2017 will become a full member of the Mathison Centre.

The Mathison Centre created the role of Education Director during the year to provide greater focus on the education aspect of our mandate. Dr. Andrew Bulloch has taken on this role and is working with the HBI education team and Mathison Trainee Organization to develop and expand programs to benefit trainees.

Dr. Tamara Pringsheim is the Mathison Centre's new Deputy Director, taking over from Dr. Andrew Bulloch. Dr. Pringsheim will work to advance the vision and mission of The Mathison Centre, with a key focus on furthering the Centre's community knowledge transfer efforts.

Grants & Recognitions

Our researchers and trainees have been successful in obtaining new grants and have also received recognition for various laudable achievements. Notably, external agencies from whom our researchers continue to receive funds include the Canada Research Chairs, National Institute of Health, Canadian Institute for Health Research (CIHR), Alberta Health Services – Addiction and Mental Health Strategic Care Network, Canadian Foundation for Innovation (CFI), Alberta Innovates-Health Solutions, Policy Wise for Children and Families, MSI Foundation, and the Ontario Brain Institute. Our faculty and trainees have also received funding from internal university sources. For instance, Dr. Ismail Zahinoor and Dr. Ramasubbu received pilot funding for their projects from the HBI and the Mathison Centre.

Our faculty were recognized by various institutions for the excellence of their research. Dr. Paul Arnold's leading role in the "Impact of Child Sexual Abuse" project, a partnership between the Mathison Centre and the Sheldon Kennedy Child Advocacy Centre contributed to the Calgary Herald's recognition of him on the list of Compelling Calgarians to watch in 2017. Glenda MacQueen received the JM Cleghorn Award from the Canadian Psychiatric Association for excellence and leadership in clinical research while Scott Patten was nominated as the "pillar lead" (epidemiology) for Canada's first national cohort study of multiple sclerosis. Stephanie Borgland and Matthew Hill were named to the Royal Society of Canada College of New Scholars, Artists and Scientists. The Thomas Reuters 2016 list of the top 100 most cited researchers included Jean Addington and Glenda MacQueen. Scott Patten and Jean Addington were nominees for the CAMH Difference Makers initiative to identify 150 leaders in Mental Health across Canada as part of Canada's 150th anniversary. Dr. Paul Arnold served as a member of the national committee and regional co-chair on the CAMH Difference Makers initiative. On the trainee front, Daniel Devoe, co-lead of the Mathison Trainee Organization was awarded a AI-HS Graduate Studentship in April 2017.

Dr. Iliana Garcia Ortega received the Patrick Conway Award for outstanding contributions to Mental Health by an International Medical Graduate. The Centre awarded a number of trainee awards, studentships and fellowships during the year with support from the Department of Psychiatry.

Trainees & Post-Docs

The Mathison Centre continues to attract and maintain high-quality trainees and postdoctoral fellows. The Mathison Trainee Organization (MTO), which serves as a hub for our trainees, has been involved in many innovative initiatives including bi-weekly journal clubs to encourage trainee learning and engagement, volunteering at the Ronald McDonald House and volunteering for the Branch Out Neurological Foundation. The creation of the Education Director role will further enhance trainee initiatives and programs at the Centre.

Community Connections

Our Centre continues to advance existing community connections with organizations interested in mental health and develop new ones. We established the Mathison Centre Community Connections Committee (MC4), a consultative group of representatives from the community who meet with leadership of the Mathison Centre every quarter to share on-going research developments and brainstorm potential project collaborations. A symposium held in May 2017 and the development of an educational brochure on the legalization of cannabis were initiatives that emerged from the MC4. Our partnership with the Sheldon Kennedy Child Advocacy Centre was formalized during the year and a collaborative project on childhood sexual abuse is currently underway. Notable among our existing partners are the Mental Health Commission of Canada (MHCC), Calgary Board of Education, Rocky View School Board, Canadian Mental Health Association and the Calgary Police Service. New and emerging partners include the Rundle School, Red Deer School board and Health Minds Canada. Our partnership with the MHCC and Rocky View School Board continues with a focus on the mental health and school success project.

Looking Forward

Working with the University's Brain and Mental Health Research Strategy as a foundation, we will continue to broaden our partnerships internally and externally to advance mental health research and education that will benefit children, adolescents and emerging adults. We are presently vigorously pursuing strategic collaborations with the Owerko Centre and the Red Deer School board. Our Centre's strategic plan is currently being finalized. The Strategic plan will elaborate on our future efforts to broaden partnerships around bench, clinic and community initiatives.

Summary of excerpts from member reports

Paul Arnold

- As Principal Investigator, I have begun recruitment for the "Mental Health and School Success" project together with the Mental Health NeuroTeam. The overall goal of this pilot study, which involves partnerships with Rockyview Schools and the Mental Health Commission of Canada is to demonstrate the feasibility of establishing a prospective cohort study of high school children to investigate the association between mental health and school success, and to test the impact of an anti-stigma-based intervention. Our team has made significant progress establishing collaborations between researchers at UCalgary, developing working relationships with school boards, and recruiting participants for the study./
- I have leveraged the Mental Health and School Success project to develop new community partnerships including the Calgary Board of Education, Red Deer Public Schools, and school-based mental health program teams within Alberta Health Services (AHS) in order to expand the project into a larger school-based mental health cohort study which will enhance the potential impact and sustainability of the project and improve our prospects for obtaining additional funding.

Frank MacMaster

- I played a significant role in the provincial efforts to bring brain stimulation to the clinic.
- Our TMS MDD study finished with a strong response rate and a lead on two potential predictive biomarkers.
- We are continuing our study using brain stimulation to combat the tics in Tourette's syndrome in children.
- We are also submitting all the papers from the TMS depression trial for publication this year.

Don Addington

- I played a leading role in the publication of the Canadian Clinical Practice Guidelines for Schizophrenia and Schizophrenia Spectrum Disorders. This comprised 9 papers and a complete edition of the Canadian Journal of Psychiatry. Several other members of the Mathison Centre were involved with the project which was funded by a grant from the Mathison Centre. The guidelines were launched at a symposium of the Canadian Psychiatric Association Meeting and this launched a national dissemination program for 2017 – 18.
- I am part of the team in a new US national research study across 32 States involving the US Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. The Mental Health Block Grant 10% set aside evaluation. It took one year to identify and sign up programs for this study, which was formally launched at a meeting in Washington DC in August 2017. The primary outcome measure for this study is the First Episode Psychosis Fidelity Scale which was pilot tested with a seed grant from the Mathison Centre.
- Completion of data collection in a study across Ontario that assess the feasibility and utility of using the First Episode Psychosis Fidelity Scale as a peer review tool for quality improvement. Early Psychosis Intervention Ontario Network (EPION). Conducting Fidelity Assessments in Ontario Early Psychosis Intervention Programs: Evaluation of a Pilot Implementation Initiative. Janet Durbin, Chi Cheng, Gordon Langill, Suzanne Archie, Donald Addington.
-

Glenda MacQueen

- I am involved in the initiation of IMAGINE study as part of CIHR-chronic disease SPOR. Calgary is the lead for the psychiatry component of this 8000 person cohort.

Raj Rammasubbu

- I have completed the recruitment of 22 patients with treatment resistant depression for Deep Brain stimulation study. This is the largest sample from a single study center to date in DBS research.
- My research efforts has established as one of the important national and international center for DBS studies in depression

Scott Patten

- Through development of strategies for data pooling applicable to national survey datasets, I have identified previously unknown seasonal and geographical patterns of major depression prevalence.
- Successfully completed analyses of datasets linking representative surveys (including psychiatric measures) to the national mortality database – this will be an important advance in the epidemiological literature.
- Working on the development of electronic registries for psychiatric programs in Calgary.

Tamara Pringsheim

- Co-led the publication of the Canadian Schizophrenia Guidelines in the Canadian Journal of Psychiatry September 2017 issue.
- Involved in the launch of a national education curriculum for psychiatry and pediatrics residents on the Assessment and Treatment of Oppositional Behaviour, Conduct Problems, and Aggression in Children and Adolescents.
- We are currently recruiting participants for research studies at the Tourette clinic which assess the relationship between diet, exercise, sleep and tic severity, the gut microbiome in children with Tourette syndrome, and clinical features associated with remission of tics in adulthood. We plan to launch a clinical study in 2018 evaluating the use of a prebiotic fiber supplement to mitigate antipsychotic-induced weight gain in children.

Researcher Profiles

Below are updated profiles of researchers who are full members of the University of Calgary's Mathison Centre for Mental Health Research & Education of the Department of Psychiatry and the HBI.



photo: Jean-Marc Carisse

Dr. Donald Addington, Professor

Dr. Addington is active in research, education and clinical practice. His research activities include health services research and knowledge synthesis, with a focus on access and quality of mental health services. He has most recently developed a fidelity scale for first-episode psychosis services, which is being applied both in research and quality management in Canada and the United States. An older technology the Calgary Depression Scale for Schizophrenia continues to be translated into new languages, currently forty. In the last few years it has been integrated into electronic formats for research and into electronic health records in both the US and UK. An on line training program is in development.

Dr. Addington has recently published the third Canadian Clinical Practice Guidelines for Schizophrenia and Schizophrenia Spectrum Disorders.

Dr. Addington is also working with the Royal College of Physicians and Surgeons of Canada (RCPSC) on a dissemination program for mental health core competencies for all Canadian physicians. Dr. Addington was one of the group of clinical and education specialists who developed this document and now works with individual RCPSC Specialty groups to incorporate the competencies into their specialty training programs.



Dr. Jean Addington, Professor

Dr. Addington, the Novartis Chair for Schizophrenia Research, focuses on identifying predictors and mechanisms of psychosis and understanding risk factors of mental illness in youth. Working with young adults and adolescents as young as 13, she seeks to determine whether early intervention can influence the development of serious mental illness in youth at risk. She is funded by both the National Institute of Mental Health and the Canada Brain Research Fund for work in this area.

Dr. Paul Arnold, Associate Professor, Department of Psychiatry and Department of Medical Genetics
Director, Mathison Centre for Mental Health Research & Education



Previously at the Hospital for Sick Children in Toronto, Dr. Arnold became the inaugural director of the Mathison Centre for Mental Health Research & Education in August 2015, and was at the same time appointed Alberta Innovates – Health Solutions Translational Health Chair in Child and Youth Mental Health. Dr. Arnold's research focuses on the genetics and neurobiology of childhood neuropsychiatric disorders. His translational research program focuses on gene discovery and knowledge translation that will contribute to prediction, prevention and early intervention. This includes development of the first laboratory in Alberta to focus on gene discovery in child and youth mental health. He currently receives funding from a number of major external funding agencies, including the U.S. National Institute of Mental Health and the Canadian Institutes of Health Research (CIHR). Dr. Arnold is also a practicing child and adolescent psychiatrist and founded Alberta's only pediatric clinic focusing on obsessive-compulsive disorder (OCD), located at Alberta Children's Hospital

Dr. Andrew GM Bulloch, Professor and Education Director, Mathison Centre for Mental Health Research & Education



Dr. Bulloch's research interests are psychiatric epidemiology and pharmacoepidemiology. He is researching the risk factors for major depression and bipolar disorder, while seeking ways to predict who is at risk of developing these disorders. He is also documenting drug recommendations for these disorders in an effort to understand if they are truly undertreated. His teaching interests are mental disorders and their biological causes and the history of neuroscience and psychiatry.

Dr. Matthew Hill, Associate Professor



Dr. Hill studies the role of the endocannabinoid system in the regulation of stress and emotional behaviour. Endocannabinoids are the brain's endogenous version of Tetrahydrocannabinol (THC), the psychoactive constituent of cannabis. Specifically, Dr. Hill is interested in the role of the endocannabinoid system in the effects of stress on neuroendocrine function, inflammation, emotional behaviour and metabolism. He uses a systems level approach, incorporating a range of neuroscientific techniques from cellular and biochemical to behavioural. The results of this research have generally shown that endocannabinoids act as a buffer against the effects of stress and could be targeted for the treatment of mood and anxiety disorders.

Dr. Zahinoor Ismail, Assistant Professor



Dr. Ismail's research bridges psychiatry and neurology, focusing on cognition across the neuropsychiatric spectrum and healthy brain aging. His research is funded by CIHR, Brain Canada, the Katthy Taylor Chair in Vascular Dementia, the Joan and Clifford Hatch Foundation and the Alzheimer Society of Calgary. In collaboration with local and international researchers, Dr. Ismail has ongoing studies in clinical psychopharmacology (predictors of adverse drug reactions), epidemiology (prevalence studies of neuropsychiatric symptoms in neurodegenerative disease), cognitive and neuropsychiatric symptom screening (creation and validation of novel screening tools) and functional and structural neuroimaging of neuropsychiatric symptoms in neurodegenerative disease and preclinical at-risk populations. His accomplishments include a publication in the Journal of the American Medical Association in April 2014 on the use of antidepressants for agitation in Alzheimer's dementia, and lead authorship of the 2016 Alzheimer's Association research diagnostic criteria for the new syndrome, Mild Behavioural Impairment, published in Alzheimer's & Dementia, for which he has also developed a rating scale, the Mild Behavioural Impairment Checklist. The MBI checklist has garnered international media attention in publications such as The New York Times, Washington Post, Yahoo News and the London Daily Mail. Dr. Ismail is lead author on a manuscript published by JAMA Psychiatry on the prevalence of depression in Mild Cognitive Impairment. Dr. Ismail is an author on the CANMAT depression treatment guidelines, and is an author on the Canadian Psychiatric Association Schizophrenia Clinical Practice Guidelines. In addition to being involved in multiple Continuing Medical Education activities, Dr. Ismail is co-chair of the Canadian Conference on Dementia, and will take over as chair after the 2017 meeting.

Dr. Frank MacMaster, Associate Professor



Dr. MacMaster uses brain imaging platforms to develop targets, examine mechanism of action and evaluate biomarkers of response to brain stimulation in children and adolescents with neuropsychiatric disorders. He is currently studying the effects of repetitive transcranial magnetic stimulation and transcranial direct current stimulation on youth with mood disorders and children with Tourette syndrome, targeting brain regions known to be dysfunctional and looking for predictive biomarkers of response. His laboratory is identifying an indicator in the dorsolateral prefrontal cortex that may help predict patients' responses to treatment for depression.

Dr. MacMaster's other research interests include other psychiatric disorders found in young people, such as attention deficit hyperactivity disorder, schizophrenia and obsessive-compulsive disorder.

Dr. MacMaster is the Scientific Director for the Strategic Clinical Network for Addictions and Mental Health for Alberta Health Services.

Dr. Glenda MacQueen, Professor



Dr. MacQueen studies factors that are associated with outcome in mood disorders, particularly following a first onset of illness. In addition to clinical dimensions of outcome, she examines cognitive function, structural and functional brain changes and physical health in patients with unipolar or bipolar disorder. She is also interested in understanding whether the cognitive and brain changes that occur in major depression and bipolar disorder can be prevented or reversed with various treatment approaches.



Dr. Scott Patten, Professor

Dr. Patten focuses on the longitudinal epidemiology of major depression. His main goal is to integrate epidemiologic estimates of incidence, recurrence, prevalence, episode duration and mortality into a comprehensive epidemiologic picture. This work helps to identify risk and prognostic factors, information that helps examine trends, set priorities and identify opportunities for prevention.

Dr. Patten has expertise in methodological approaches to the analysis of longitudinal data. In addition, he has experience with all aspects of longitudinal and cross-sectional epidemiologic projects.

He is also interested in the patterns of comorbidity of major depressive disorders with non-psychiatric conditions, especially neurological disorders.



Dr. Tamara Pringsheim, Associate Professor

Dr Pringsheim's primary research interest is in the use of antipsychotic medications in children, adults and the elderly. Through pharmacoepidemiological research, qualitative methods, knowledge synthesis, and knowledge translation strategies, her work promotes safe and rational prescribing strategies to improve standards of care.

Dr Pringsheim works for the American Academy of Neurology (AAN) as an evidence-based medicine methodology consultant. The AAN is the major professional organization for neurologists in North America. At the AAN, she leads the development of evidence-based guidelines for neurological and mental health conditions.

Dr. Thomas Raedler, Associate Professor



Dr. Raedler provides inpatient and outpatient psychiatric services at the Foothills Medical Centre. The focus of his clinical work and research activities has been on schizophrenia and, more recently, early psychosis and prodromal stages of psychosis. Dr. Raedler also provides clinics for Pathways to Housing, a housing-first program focusing on homeless people with severe mental illness.

As psychiatry clerkship director for the Cumming School of Medicine, Dr. Raedler is involved in student education. As during previous years, our clerkship program was highly rated by the class of 2017. Again, we were able to generate a lot of interest among clinical clerks for psychiatry, resulting in yet another a record number of applicants to the psychiatry residency program at the University of Calgary. As medical director of the Psychopharmacology Research Unit (PRU) of the University of Calgary, Dr. Raedler is also involved in numerous phase II, III and IV clinical trials. In July 2016 Dr. Raedler was appointed as CPD-coordinator for the department of psychiatry of the University of Calgary. Dr. Raedler is the past president of the Alberta Psychiatric Association. Until September 2016 Dr. Raedler served on the board of directors of the recently created Canadian Consortium for Early Intervention in Psychosis.

Dr. Rajamannar Ramasubbu, Professor



Dr. Ramasubbu is a clinician investigator and professor of the Department of Psychiatry and Clinical Neurosciences at the University of Calgary. Dr. Ramasubbu's research interests focus on studying the neuroimaging and neurostimulation of mood disorders. His current studies include investigation of neural markers and predictors of treatment response to antidepressant treatment using functional magnetic resonance imaging, deep brain stimulation (DBS) and transcranial magnetic stimulation for treatment-resistant depression. Dr. Ramasubbu is the principal investigator of machine-learning analysis of imaging markers in the individual prediction of antidepressant treatment response, funded by Pfizer Canada award, and co-principal investigator in a project involving deep brain stimulation of the subgenual cingulate for treatment resistant depression, funded by Alberta Innovates - Health Solutions. He is a current member of many professional societies including the Canadian Psychiatric Association, Society of Biological Psychiatry, and the Canadian College of NeuroPsychopharmacology (CCNP). Dr. Ramasubbu has authored and co-authored around 75 articles in peer-reviewed journals. He serves on editorial boards, committees in professional societies and as an external reviewer for several peer reviewed journals.

Mathison Centre Recent/New Grants, Awards & Recognitions

AI-HS Graduate Studentship

- Daniel Devoe (Supervisor – Jean Addington):
“Negative Symptoms In Youth At Clinical High Risk of Psychosis.”

Grants & Awards - Faculty:

- \$98,000.00 M.S.I Foundation, Edmonton, Alberta, Canada. Goodarzi Z, Holroyd Leduc, **Ismail Z**, Smith E, **Pringsheim T**. Improving Care for those with Dementia or PD and Comorbid Depression or Anxiety (July 2017- June 2019)
- \$20,000 University of Calgary Clinical Research Fund Grant. Anti-neuronal cell surface antibodies in treatment resistant schizophrenia. **Ismail Z** (PI), Colijn M, Fritzler M (Sept 2017-2019)
- 76,000.00 M.S.I Foundation, Edmonton, Alberta, Canada. 2017-2019. **Fiest, KM**, Davidson J. Ely EW, **Ismail Z**, Stelfox HT. Patient and Family Centered Delirium Measurement in the Critically Ill. (July 2017- June 2019).
- \$20,000 HBI Pilot Funds competition. Goodarzi Z, Holroyd Leduc J, **Ismail Z**, Smith E. Improving the detection of depression and anxiety for those experiencing dementia or PD (May 30 2017-April 30 2018).
- \$49,913 CIHR SPOR. **Fiest KM**, Ely EW, **Ismail Z**, Stelfox HT. Delirium Assessment in the Critically Ill: A Patient and Family-Centered Approach
- \$20,000 Calgary Centre for Clinical Research. **Fiest KM**, Ely EW, **Ismail Z**, Stelfox HT. Validating Screening Tools for Delirium Subtypes in the Critically Ill. (May 2017-May 2019) Pilot funding to validate current delirium screening tools to identify subtypes of delirium in the critically ill. These funds allowed preliminary data gathering to inform the larger CIHR grants for detection of delirium in ICU patients. I contributed to the grant writing and protocol for this study.
- \$50,000 Maternal Newborn Child and Youth Strategic Clinical Network, Alberta Health Services, **Tamara Pringsheim**, 2017-2018, Exploring the mental health care needs of children in Alberta

- \$48,850.00 Addiction & Mental Health Strategic Clinical Network: Pathways to Innovation and Integration of Addiction and Mental Health Grant. **Dimitropoulos G** (PI), **Arnold P**, Cleverley K, Elliott A, Exner-Cortens D, **Haines-Saah R**, Jenney A, **MacQueen G**, **Madigan S**, **MacMaster F**, Mackie A, McLaughlin AM, Nicholas D, Samuel S, Wilcox G. 2017–2018. Enhancing systems collaboration for high risk youth with mental health disorders and addictions
- \$34,785.85 PolicyWise for Children and Families. **Dimitropoulos G**, **Arnold P**, Binford W, **MacMaster F**, Kennedy S et al. 2017 – 2018. Mixed Method Study to Examine the Knowledge, Confidence and Capacity of Service Providers to Identify and Respond to Child Sexual Abuse Imagery Online (CSAIO)
- \$9,920.00 Alberta Centre for Child, Family & Community Research. **Dimitropoulos G**, **Arnold P**, Binford W, Johnson B, Kennedy S, **MacMaster F**. 2016 – 2017. Building and Strengthening Academic-Community Collaborative Partnerships to Investigate the Longitudinal Impact of Childhood Sexual Abuse and Online Child Abuse Imagery: Informing Policy and Practice.
- \$75,000.00 Canadian Institutes of Health Research (CIHR). Schachar RJ; **Arnold PD**, Burton C, Crosbie J, Marshall C, Scherer S. 2017 – 2018. Copy Number Variation and Mental Illness in a Pediatric
- \$20,000 Hotchkiss Brain Institute/ Mathison Centre Pilot Research Fund Program (PFUN). **Ramasubbu R**. 2017 – 2018. Biomarkers to predict response to TBS in MDD

Special Recognitions - Faculty:

- **Paul Arnold** named on list of Compelling Calgarians – Calgary Herald’s 20 People to Watch in 2017
- **Glenda MacQueen**, JM Cleghorn Award from the Canadian Psychiatric Association for excellence and leadership in clinical research
- **Jean Addington** and **Glenda MaQueen** cited in Thomas Reuters 2016 list of the top 100 most cited researchers.
- **Stephanie Borgland** and **Matthew Hill** named to the Royal Society of Canada College of New Scholars, Artists and Scientists.
- **Scott Patten** nominated “pillar lead” (epidemiology) for Canada’s first national cohort study of multiple sclerosis – planning and implementation will continue in 2017/2018
- **Iliana Garcia Ortega** Patrick Conway Award for outstanding contributions to Mental Health by an International Medical Graduate.

The 30th Annual Sebastian K. Littmann Research Day

The 30th annual Sebastian K. Littmann Research Day took place on March 3, 2017 at the Village Park Inn. A theme for the day was ADHD, with featured presentations by Dr. Russell Schachar from the University of Toronto (“Cognitive Neuroscience of ADHD”) and Dr. Wallace Smart from the University of Lethbridge (“ADHD in Postsecondary Students”). It also featured a “methodology bootcamp” with presentations from Dr. Frank MacMaster (“Reading a Brain Imaging Study”), Dr. Cynthia Beck (“How to Find Evidence”), Dr. Thomas Raedler (“How to Read A Clinical Trial”) and Dr. Kirsten Fiest, an Assistant Professor from Critical Care Medicine (“Statistics 101”).

Abstracts for both oral and poster presentations have been archived and are available at www.psychiatryresearchday.ca. As with past year events they are also stored on the U of C digital archive (PRISM) and indexed in Google Scholar (<http://hdl.handle.net/1880/52227>).

Best Presentation by a Resident was awarded to Dr. Faisal Sheikh for his paper “Prevalence of Mild Behavioral Impairment in Mild Cognitive Impairment and Subjective Cognitive Decline & its association with caregiver burden.” The award for most Innovative Project by a Resident went to Dr. Sterling Sparshu:

“Returning to stimulants in children with treatment resistant ADHD.” Best Presentation by a Graduate Student was awarded to Ruth Diaz for her project entitled: “The Healthy Immigrant Effect on Major Depression in Canada Disappears with Age.”

The 31st Research Day will be held on Friday March 2, 2018 at the Auditorium, Foothill Medical Centre. The keynote address will be made by Dr. David Baron from the University of Southern California, an expert in concussion research. The title of his presentation will be “Concussion and Psychiatry: Past, Present and Future Clinical and Research Translation Considerations. Dr. Baron’s presentation will be accompanied by concussion-related talks by several exemplary local researchers: Dr. Carolyn Emery, Dr. Chantel Debert and Dr. Keith Yeates.

Updated information on the event will be provided on the Research Day’s homepage at www.psychiatryresearchday.ca.

Dr. Scott Patten
Department of Psychiatry Research Director



Medical Leadership and Administration

Addiction and Mental Health, Calgary Zone

Key initiatives for Addiction and Mental Health in the Calgary Zone in the 2017 calendar year included the following:

- Received funding for Opioid Dependency Treatment Initiatives including:
 - Ability to start Suboxone at Renfrew Detox
 - Increased funding for the Opioid Dependency Program
 - Increased funding for the City Centre Community Paramedic team that focuses on Addiction and Mental Health. The team will now operate 7 days per week, 12 hours per day.
 - Increased detox beds at Alpha House
 - Increased ODT at CUPS and The Alex
- Bright Harbour Group Home for the Not-Criminally Responsible (NCR) population opened in August 2017 and is now at full capacity with 4 patients. Four additional beds are under development.
- 2 Satellite homes, with 6 beds each, opened at Claresholm Care Centre in October 2017 to assist with transition and flow.
- 10 bed Crisis Stabilization Unit remains under development for the RGH. Construction is scheduled to start in the Fall of 2017 and the unit is scheduled to open in January 2018.
- Continued progress to increase safety for staff and patients has occurred in 2017 including:
 - Non-violent Crisis Intervention (NVCi) continues to be mandatory and recertification for all staff is underway.
 - Implementation of the Collaborative Problem Solving (CPS) is in progress on all inpatient units. Action teams have been developed and Tier 2 training will occur in 2018.
 - Personal alarms will be made mandatory for staff on all inpatient units by the end of the calendar year. Work is currently underway to establish processes and standards for implementation.
- E-Simulation occurring or in the planning process for A&MH units on all acute care sites.
- Mental Health Liaison Officer Program revitalized on all sites with officers and staff working more collaboratively to create better awareness of risks and plan together on a daily basis.
- External review of all efforts to reduce aggression on inpatient units is under development. The site visit occurred at the end of September 2017 and the final report is anticipated before the end of the calendar year.
- Renovations occurred on a number of sites including:
 - Space renovated to improve safety on units 25 and 27 at the PLC including: high observation area on both units, the installation of double containment doors and widening of the nursing station counter. Addition of TVs to the high observation rooms appears to be having a positive impact in reducing patient agitation; additional data will be collected to verify this.
 - Funding for renovation to the high observation area of Unit 37 at PLC has been received and planning is underway to initiate construction.
 - Space renovated to improve safety at Renfrew Detox including: the addition of a bathroom and improvements to the med room and waiting area.
 - Renovation to space at FMC to create an Injection clinic is complete. The clinic will provide a safe outpatient space to administer long-acting medications thereby avoiding many inpatient admissions.
 - Renovations completed to outpatient staff office area at FMC; new furniture and reorganization of space has reduced crowding and improved ergonomics.
 - Patient and Family Councils remain active.

- 1 year Peer Support pilot project is underway and showing positive results.
- AHS Addiction and Mental Health and Disability Services have developed a strategic plan that outlines the needs of both systems in addressing the most complex dually diagnosed patients now and in the future. The plan is currently in draft form and it is anticipated it will be ready for submission before the end of the year.
- Phase II of the Community Clinic and Specialized Services redesign work is in progress. It is anticipated implementation will occur early in 2018.
- The Rocky Mountain Sex Offender Treatment Program opened in the spring of 2017 at the Calgary Correctional Centre. The program replaced the Alberta Hospital Edmonton Sex Offender Treatment Program (Phoenix).
- The Calgary Police Service (CPS) has provided in-kind space to Alberta Health Services (AHS) for the purpose of providing on-site addiction and mental health services to clients who are attending the Safe Communities Opportunity and Resource Centre (SORCe). A proposal for a collaborative called the Cross Roads Centre was drafted in 2016 which included the Calgary Police Service, AHS, SORCe, the Calgary Homeless Foundation (CHF), and the Aboriginal Friendship Centre. The proposal outlined the need for an enhancement to the SORCe (Safe Communities Opportunity and Resource Centre) program that would benefit homeless and vulnerably housed individuals within downtown Calgary. The plan is to relocate members of a number of outreach teams to use this site as one of their bases. Funding for some site changes is required to move forward. A briefing note has been submitted to request the funding to move forward.
- Acuity scaling completed on all patients seen by Psychiatric Emergency Services at ACH. Admission rate decreased from over 60% on average to under 35%. Many more patients are being connected with outreach to avoid admission.
- Access Mental Health eliminated their back log of referrals in mid-August 2017 and are now working in real time with no back log.
- Additional Day Hospital spaces opened at the South Health Campus between February and May 2017. The goal is to bring the total spaces at the site to 20. The Day Hospital program has a dual focus, 1) offering step-down services to patients on acute care units requiring structured support with transition back to the community and 2) providing an intensive level of care and support to patients in the emergency department who otherwise would be considered for an acute care admission.
- Child and Adolescent A&MH made improvements to Access and Wait Times in the Community:
 - Community Clinics implemented a service delivery redesign at the in late 2016. Short term data indicates over 90% of all clients are being seen within 30 days.
 - Infant Mental Health implemented a service delivery redesign January 1, 2017. Short term data indicates 100% of clients being seen within 30 days.
 - Youth Addiction Services Outpatient Program expanding mandate to offer service to mental health clients.
 - Emerging Adult Treatment Clinic offering more group-based programming.

Workforce Planning and Recruitment

Our graduating residents are our primary recruitment candidates; we have approximately eight residents per year, and in the past the majority of them have joined the department after graduation. The department has also advertised in journals and on the Alberta Medical Association's job website, www.albertadoctors.org.

The department has been approved for a subspecialty program in child and adolescent psychiatry by the Royal College of Physicians and Surgeons of Canada. Two positions are filled annually for a two-year program, leading to a specialization in child and adolescent psychiatry.

We hope that this will result in a larger pool from which to recruit. Applications are also being processed for subspecialty training in geriatric and forensic psychiatry. Within the upcoming year the department hopes to receive approval for a forensic psychiatry subspecialty program

Departmental Structure and Organization

Governance

The Department of Psychiatry is an academic department that is a division of the University of Calgary, Cumming School of Medicine, and a clinical department within Alberta Health Services (AHS), Calgary Zone. The two departments are linked through a single jointly-appointed department head and a single executive committee.

Department Head

The department head reports to the dean of the Cumming School of Medicine and the Associate Zone Medical Director, AHS, Calgary Zone. The department participates in the activities of the faculty through the involvement of its members in such activities as faculty-wide meetings, committees and collaborative teaching and research efforts. The primary role of the department head is to support, directly and indirectly, the teaching, research and service activities of the department's members. Thus, the head has departmental responsibility for budget submissions and management, purchasing, curriculum planning, space and resource management, personnel recruitment, hiring and promotion, planning, program development and the annual evaluation of faculty and staff.

Within the structure of the department, some of this work is distributed among the faculty and support staff, who give their time and talent generously in accomplishing these necessary departmental activities.

Sections

The Department of Psychiatry has six sections: Addictions and Outpatient Services (South, including Claresholm); Outpatient Services (North); Child and Adolescent Psychiatry; Forensic Psychiatry, Geriatric Psychiatry; and Inpatients Emergency and Consultation Liaison. The section heads are advisors to, and supporters of, the department head. At the departmental level, the section heads assist in curriculum development, program and faculty evaluations, and physical and human resource management. Beyond the department, the section heads are delegates of the department head, and may participate in local and provincial initiatives. The section heads are responsible for services within Addiction and Mental Health Services, Calgary Zone.

Site Chiefs

We have instituted Site Chiefs at every acute care hospital in the city who are responsible for inpatients, consultation-liaison, emergency services and outpatient programs at their site. This allows for implementation of initiatives across the zone. This change has provided the sites with the ability to respond to concerns as they may arise.

Performance Reviews and Promotions

The head of the Department of Psychiatry completes all the academic annual merit evaluations. The department's Promotions Committee reviews recommendations for promotion for full-time faculty and part-time clinical or adjunct appointments, and recommends promotions to the dean based on the advice of the department head. The department's Executive Committee reviews all initial clinical and adjunct appointments and subsequent re-appointments before recommendations are made to the dean. Members of the clinical department have their privileges reviewed annually and have a personal review with their program medical director every three years.

Departmental Committees

Department of Psychiatry Executive Committee

This committee meets monthly and integrates the zone and university leadership. It comprises all the program medical directors, education directors, research director and the chief resident. It is responsible for recruitment and retention, policy and planning.

Departmental Geographic Full-Time Faculty Committee

The committee meets on a monthly basis to advise the department head on academic planning and policy matters. Issues discussed include long-term planning, program development, teaching and research policy, faculty appointments and human resource planning, and other issues relating to strategic planning. This committee sometimes discusses policy matters that are to be taken to the department at large for discussion and voting.

Residency Training Committee (RTC)

This committee is chaired by the postgraduate training director, who is appointed by the associate dean of postgraduate medical education in consultation with the department head. The RTC meets on a regular basis throughout the year (usually monthly) and consists of the program director, the chair of the psychotherapy committee and the director of resident research. The chairs of the curriculum and addiction committees are invited to meetings as needed. In addition, five elected residents from all levels of training, one representative from each of the major teaching sites involved in the program, the chief resident and the resident Canadian Organization of Psychiatry Educators representative are part of this committee. The department head (ex officio) may also attend this meeting. The RTC provides leadership and supervision in all aspects of residency education in psychiatry within the Cumming School of Medicine, the University of Calgary and its affiliated teaching hospitals and programs. It selects residents and reviews and approves resident rotations.

Undergraduate Medical Education Committee

Selected by the department head, the director of undergraduate medical education chairs the Undergraduate Medical Education Committee. The director, in consultation with the head, selects two or three additional members for the committee to oversee Course VII, clerkship and evaluations. This committee is responsible for undergraduate curriculum planning, calendar changes and program requirements. It also oversees the clinical clerkship, a subcommittee of the Undergraduate Medical Education Committee.

Continuing Professional Development Committee

The purpose of this committee is to plan and implement educational events based on the identified needs of the Department of Psychiatry, and implement a series of regularly scheduled learning activities and events that fulfil the requirements of the Royal College of Physicians and Surgeons of Canada. Membership includes the director of continuing professional development (chair), representatives for the site coordinators from Alberta Children's Hospital, Foothills Medical Centre, Peter Lougheed Centre and Rockyview General Hospital, and the seven section chiefs. In addition, non-psychiatrist education coordinators from the clinical departments may attend to help co-ordinate events schedules and develop needs assessments.

Fellowships Committee

This committee is responsible for facilitating and coordinating advanced clinical and research training in the department at the post-residency and post-doctoral level; this includes the selection and admission process for clinical fellows and funding, where applicable. The chair of the Fellowships Committee is selected by the department head. In consultation with the head, the chair selects five or six additional members for the committee to provide representation from the Residency Training Committee and fellowship programs.

The Department of Psychiatry comprises of 200 members.

<i>Section</i>	<i>Primary</i>	<i>Supplementary</i>	Appt Totals
Addictions & Claresholm	7	29	36
Child & Adolescent Psychiatry	36	16	52
Forensic Psychiatry	14	4	18
Geriatric Psychiatry	13	6	19
Inpatient Psychiatry Services	66	68	134
Outpatient Psychiatry Services	64	58	122
Totals	200	181	381

Improvement and Innovation

The Department of Psychiatry, Calgary Zone, has always placed a high priority on quality assurance and improvement, and encouraged innovations in the provision of clinical services.

Dr. Lisa Gagnon continues to lead the work in Quality Assurance for the Department. Aggression continues to be an issue on our inpatient units, given the capacity pressures and increased acuity. Psychiatrists and staff have been part of non-violent crisis intervention training as well as a Collaborative Problem Solving Program to better deal with this issue. An external review of our acute care units is being conducted in regards to the prevention of aggression. A length of stay initiative has also been started to maximize our inpatient resources.

The link of family physicians to specialist care (psychiatry in this instance) is enormously important for the flow of patients in both practice systems. In the past year, the department has renewed efforts to

work with Primary Care Networks so that its most stable patients can be transferred to the care of family doctors and, reciprocally, more referrals from family physicians can be taken into its specialty psychiatry clinics for assessment and treatment.

Integrated care is an important innovative initiative in our Department. Our brain and mental health research clinics illustrate a step in this direction. The REDCap database provides a registry that facilitates clinical research. The Adolescent Mental Health Community Centre will provide another opportunity for the provision of integrated care. Research must inform and lead evidence based clinical care. An Academic Medicine Health Services Program (AMHSP) is being rolled out this year for the Department which will allow the recruitment of clinician scientists for this purpose. This will allow tremendous innovation in the provision of psychiatric care.

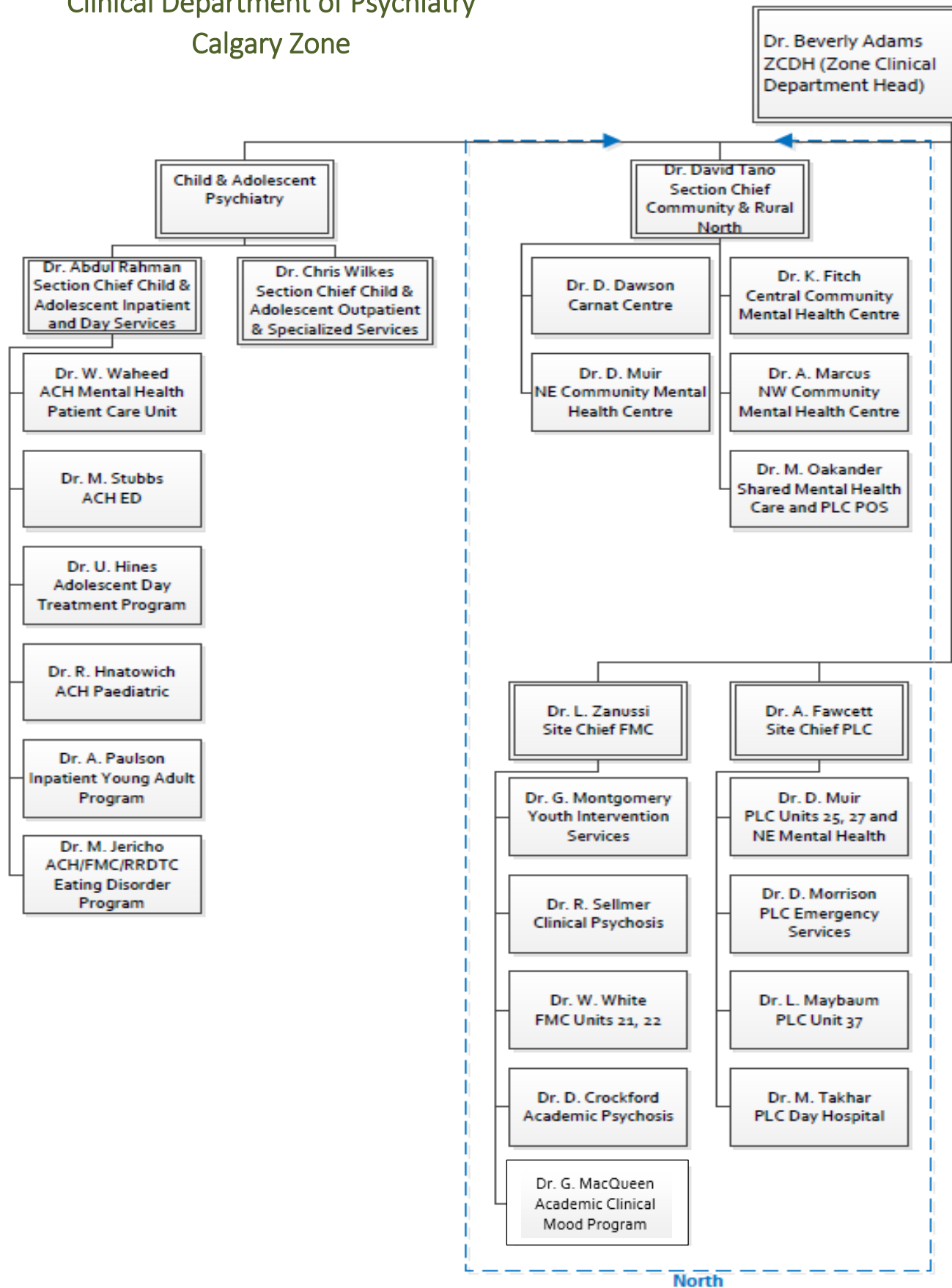
Looking to the Future

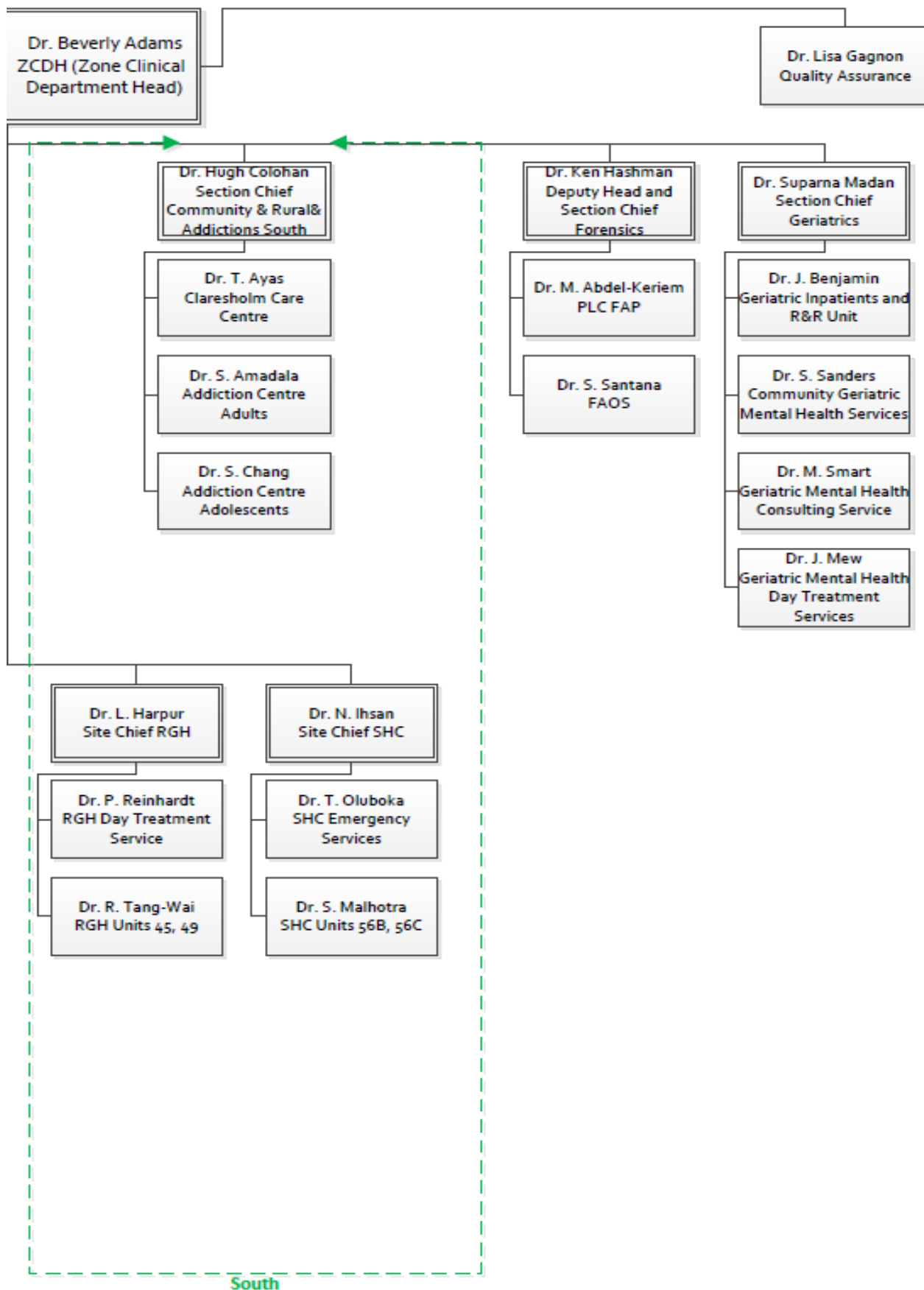
The Department of Psychiatry, Calgary Zone, worked with the zone and provincial Addiction and Mental Health group to identify a series of initiatives that were aligned with the stated priorities of Alberta Health Services. Some initiatives will be realized over a multi-year time frame.

Ongoing priorities for Addiction and Mental Health include the following:

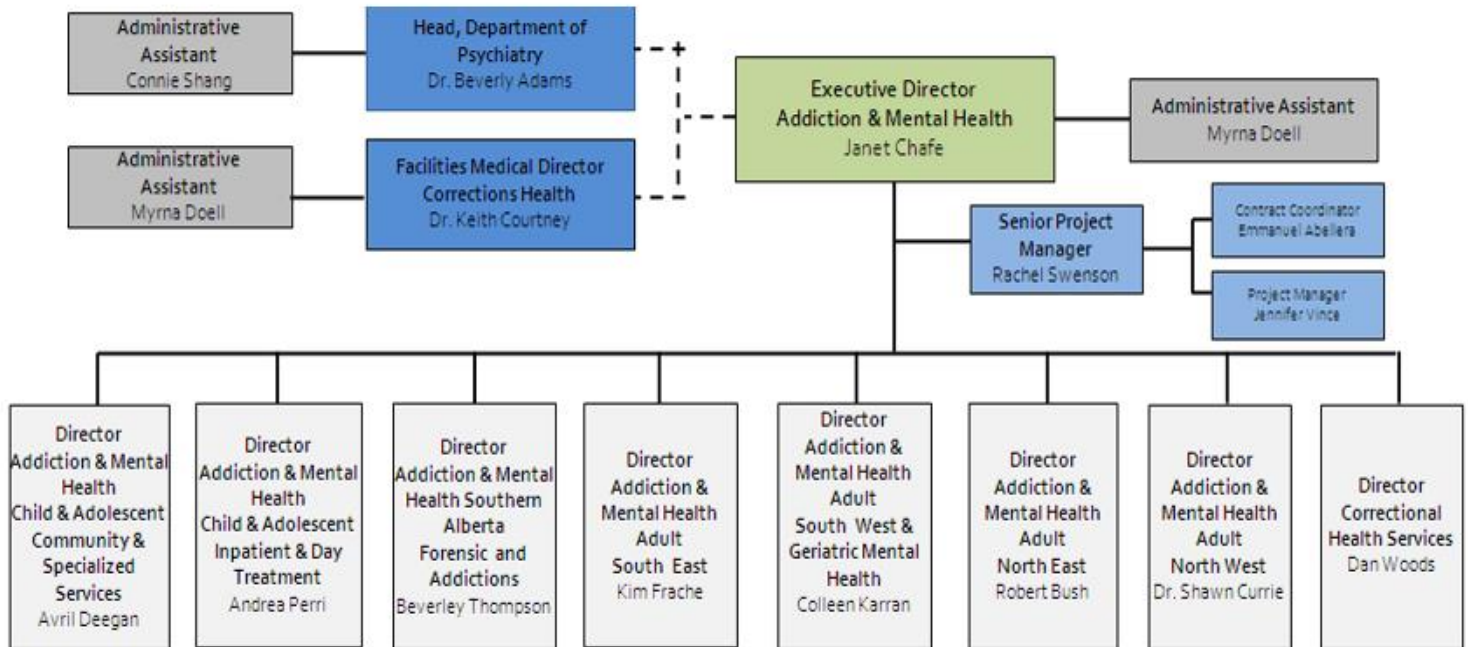
- Acute-care capacity for child and adolescent and adult mental health patients;
- Decreased percentage of Alternative Level of Care inpatients;
- Increased urgent-care services for mental health patients;
- Canadian Psychiatric Association targets for emergent (24-hour), urgent (14-day) and scheduled (30-day) care. Community clinic redesign and process improvements continue to be a priority for outpatient services, with a major focus on access improvement measures;
- Implementation of clinical care pathways and innovative treatments in collaboration with the Addiction and Mental Health Strategic Clinical Network;
- Integration of research into our specialized and community clinics to foster improvement in patient care.

Clinical Department of Psychiatry Calgary Zone

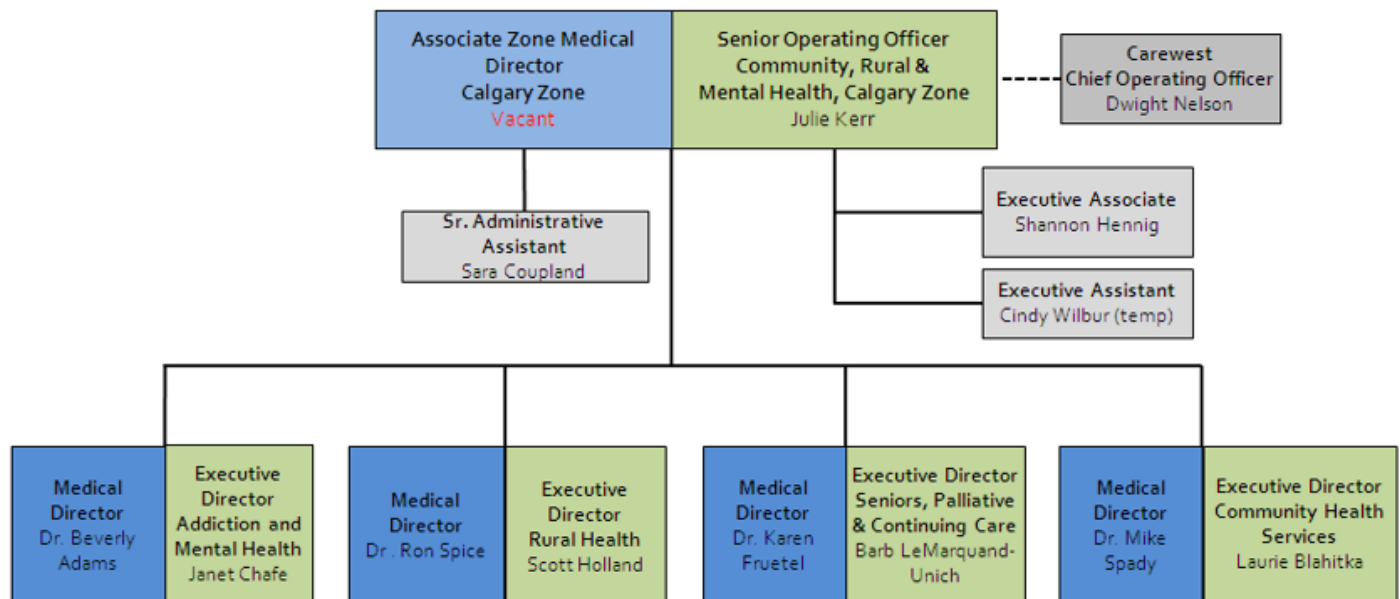




Addiction & Mental Health Calgary Zone



Community, Rural & Mental Health Calgary Zone



Awards & Recognitions

Fall Social Awards 2017

Perinatal DBT Skills Team- Jessica Lyons Psychiatry Award for outstanding work in the area of perinatal mental health.

Not Criminally Responsible Team- Dr. Keith Pearce Award for outstanding creativity & innovation with clinical practice.

Adult Day Hospital Team- Award for Excellence in System Transformation for commitment and dedication to improving access and creating efficiencies that improve patient care.

CAAMP Psychiatric Emergency Services- Excellence in Acute Care Award for commitment and dedication in patient care.

Regional Housing Program Team- Excellence in Mental Health Care by a Community Program Award for commitment and dedication to patient care.

Dr. Iliana Garcia Ortega- Dr. Patrick Conway Award for outstanding contributions to Mental Health by an International Medical Graduate.

Anna Habermel- deVries-Mason Trailblazer Award for outstanding contributions in Geriatric Mental Health.

2017 Preceptor Awards from the Residents

- Silver Couch Award - **Dr. Darren Leung**
- Humanism in Psychiatry - **Dr. Marie Claire Bourque**
- Change Maker in Psychiatry – **Dr. Rory Sellmer**
- Rookie of the Year – **Dr. Rosalyn McAuley**
- Multidisciplinary Team Award – **Mr. Curtis Dorval**
- Dedicated Years of Service - **Dr. Tim Yates and Dr. Miyauchi**

Dr. Chris Wilkes received his Distinguished Fellow Life time AWARD at the APA in San Diego on May 19th, 2017.

Dr. Sterling Sparshu was awarded the President's Award by the Alberta Psychiatric Association.

Dr. Mike Szymczakowski & Dr. Alex Di Ninno were awarded the Lundbeck Resident Research Award by the Alberta Psychiatric Association.

Nicole Letourneau received a UCalgary 2017 Faculty of Nursing Pursuit of Excellence Award for Research.

Dr. Zahinoor Ismail was awarded the University of Calgary Peak Scholars in Entrepreneurship, Innovation and Knowledge Engagement award 2016 for development of the Mild Behavioral Impairment Checklist (www.MBITest.org), a rating scale for later life onset of neuropsychiatric symptoms as prodromal dementia symptoms.

Ruth Diaz was awarded Best Grad Student Presentation at Littman Research Day.

Dr. Sterling Sparshu was awarded the Most Innovative Presentation at Littman Research Day.

Dr. Faisal Sheikh was awarded the Best Presentation at Littman Research Day.

Dr. Paul Arnold was one of five funded health scholars by the Canada Foundation for Innovation funds for his work in population neurogenetics for child and youth mental health.

Nicole Letourneau received the Inspiration Award from Alberta Human Services for her research in family violence prevention and also the UofC Peak Scholars Award for her research on postpartum depression.

Drs. Jean Addington and Glenda MacQueen made the Thomson Reuters list of highly cited researchers for 2016 (out of 6 in total for the Cumming School of Medicine). Each year, Thomson Reuters compiles a list of highly cited researchers which captures the top one per cent of researchers with global influence and impact. Please see the link to the CSM newsletter for further detail.

Dr. Zahinoor Ismail granted \$15,000 from Dept. of psychiatry 4 years ago, the result was the paper on "Prevalence of Depression in Patients with Mild Cognitive Impairment: A Systematic Review and Meta-analysis" published.

Dr. Raj Ramasubbu was featured as a guest editorial for the Chronicle of Neurology + Psychiatry on CANMAT Updates in December 2016.

Dr. Daniel Chinedu Okoro successfully passed the Psychiatry Maintenance of Certification examination on October 31, 2016. In maintaining Board certification, Dr. Okoro has achieved the gold standard in each of the six core competencies of patient care, medical knowledge, interpersonal and communication skills, professionalism, systems-based practice, and practice-based learning and improvement to practice quality specialized medicine in Psychiatry.

Dr. Patsy Maron was acknowledged by the Cumming School of Medicine for her contributions to Discovery Day in Health Sciences in October 2016 as a career panelist and workshop presenter of Psychiatry, From Freud to Neurotransmitters. Discovery Mental Health Day informs and excites 300 potential future health care workers and leaders about the wide variety of career options in the health care field.

Dr. Sterling Sparshu and a colleague from Edmonton, held a talk linking pop culture (Batman) to mental health and stigma reduction at the Calgary Comic Expo. The room was filled to capacity with people needing to be turned away (very well received).

Dr. Tim Yates retired from faculty (June 30th, 2017) after 39 years of clinical service and 28 of them at the Alberta Children's Hospital.

Dr. Marie Claire Bourque has been appointed as the Early Career Psychiatrist (ECP) Board Representative & Chair, Working Group by the Canadian Psychiatric Association.

Cynthia Kahl, MSc student did the Mathison Centre proud at the Three Minute Thesis competition at the University of Calgary. She won the People's Choice and came in Third overall. Her topic was the Tourette's TMS project.

Dr. Samuel Oluwadairo was appointed as a Chief in Africa.

Dr. Denis Morrison has been appointed as the Forensic sub-specialty residency Program Director.

Dr. Nady el-Guebaly received the Order of Canada for his contributions to Addiction's Mental Health.

Dr. Frank MacMaster wrote a chapter for the new Kaplan and Sadock's Comprehensive Textbook of Psychiatry (10th edition, 50th anniversary) is out. The title is "Neuroimaging in Psychiatric Disorders of Childhood".

Dr. Margaret Oakander was awarded the PLC/CGH Medical Staff Association 2016 clinical Teaching Award for her contribution to teaching with Psychiatry and Family Practice residents.

Dr. Abdel-Keriem was elected to Fellowship by the Royal College of Psychiatrists (UK) Nominations Committee.

Dr. Rob Tanguay new appointments:

- Provincial Medical Advisor, ODT e-Preceptorship Program.
- Professional Development, Concurrent Capability & Problem Gambling.
- Provincial Addiction & Mental Health, Alberta Health Services.

The Mathison Misfits Rode for Brain Research in Panorama BC in June, The whole event raised \$300,000

Doug Carnochan was awarded "Nurse of the Year " for the College of Registered Psychiatric Nurses of Alberta.

Our Vision

Advancing mental health solutions for our community

Our Mission

- Promote the highest quality care for individuals with mental health disorders and their families
- Support mental health promotion and prevention
- Promote a learning environment through psychiatric education and research
- Represent the profession of psychiatry
- Collaborate and develop networks
- Develop innovative service delivery models
- Integrate mental health care with primary health care
- Work to reduce the stigma of mental illness

Our Values

- Best standards of clinical practice
- Highest ethical standards of professional conduct
- Prevention, access, care and sensitivity for patients and their families
- Patient-focused treatment decisions
- Evidence-based principles of treatment
- Advocacy for patients
- Leadership
- Lifelong learning
- Collegial support
- Respect for other health professionals
- Respect for multi-disciplinary team approach

Publications & Related Scholarly Activities

Publications - October 2016 to Date

1. Jaworska N, Yücel K, Courtright A, **MacMaster FP**, Sembo M, **MacQueen G**. Subgenual anterior cingulate cortex and hippocampal volumes in depressed youth: The role of comorbidity and age. *Journal of Affective Disorders* (2016) 190: 726-732.
2. Jaworska N, **MacMaster FP**, Ramasubbu R. The influence of 5-HTTLPR and Val66Met polymorphisms on cortical thickness and volume in limbic and paralimbic regions in depression: a preliminary study. *BMC Psychiatry* (2016) 16 (1): 61.
3. Fonseka BA; Jaworska N, Courtright A, MacMaster FP, MacQueen G. Cortical Thickness and Emotion Processing in Young Adults with Mild Depression. *BMC Psychiatry* (2016) 16 (1): 38.
4. **Buchy L**, Barboto M, **MacMaster FP**, Bray S, Clark D, Deighton S, **Addington J**. Cognitive insight and neural structure in first-episode psychosis. *Schizophrenia Research* (2016) 172 (1-3): 16-22.
5. Carlson H, Jadavji Z, Mineyko A, Damji O, Hodge J, Saunders J, Herrero M, Nowak M, Patzelt R, Mazur-Mosiewicz A, **MacMaster FP**, Kirton A. Treatment of dysphasia with rTMS and language therapy after childhood stroke: Multimodal imaging of plastic change. *Brain and Language* (2016) 159:23-34.
6. Yang X, Langevin LM, Jaworska N, Kirton A, Lebel RM, Harris A, Jasau Y, **Wilkes TC**, Sembo M, Swansburg RM, **MacMaster FP**. Proton Spectroscopy Study of the Dorsolateral Prefrontal Cortex in Youth with Familial Depression. For the special issue "Cutting Edge Neuroimaging Research" for the journal *Psychiatry and Clinical Neuroscience* (2016) 70(7): 269-77.
7. **Schuetze M**, Park MTM, Cho I, **MacMaster FP**, Chakravarty MM, **Bray S**. Morphological alterations in the thalamus, striatum and pallidum in Autism Spectrum Disorder *Neuropsychopharmacology* (2016) 41(11): 2627-2637.
8. Lefebvre D, Langevin LM, Jaworska N, Jasau Y, Kirton A, Lebel RM, Harris A, **Wilkes TC**, Sembo M, Swansburg RM, **MacMaster FP**. Hippocampal N-acetyl-aspartate in youth with treatment resistant major depression. *Journal of Affective Disorders* (2016) 207: 110-113.
9. **MacMaster FP**, Cohen J, **Magaud E**, Sembo M, Swansburg RM, Rittenbach K, Waheed W. The Psychiatry Resident and Research. *BMC Research Notes* (2016) 9(1): 486.
10. **Lebel C**, **MacMaster FP**, Dewey D. Brain metabolite levels and language abilities in preschool children. *Brain Imaging and Behavior* (2016) 6(10): e00547.
11. Barlow KM, Marcil LD, Carlson H, Dewey D, **MacMaster FP**, Brooks BL, Lebel RM. Cerebral Perfusion and its relationship to Post-Concussion Syndrome in Mild Traumatic Brain Injury A prospective controlled cohort study. *Journal of Neurotrauma* (2017) 34(5):996-1004.
12. Carlson HL, **MacMaster FP**, Harris A, Kirton A. Spectroscopic biomarkers of motor cortex developmental plasticity in hemiparetic children after perinatal stroke. *Human Brain Mapping.* (2017) 38 (3): 1574-1587.
13. Crockford D, **Addington D.**, Canadian Schizophrenia Guidelines: Schizophrenia and Other Psychotic Disorders with Coexisting Substance Use Disorders. *Can J Psychiatry.* 2017 Sep; 62(9):624-634.
14. **Addington D**, Anderson E, Kelly M, Lesage A, Summerville C. Canadian Practice Guidelines

- for Comprehensive Community Treatment for Schizophrenia and Schizophrenia Spectrum Disorders. *Can J Psychiatry*. 2017 Sep; 62(9):662-672.
15. **Pringsheim T, Addington D.** Canadian Schizophrenia Guidelines: Introduction and Guideline Development Process. *Can J Psychiatry*. 2017 Sep; 62(9):586-593.
 16. Abidi S, Mian I, **Garcia-Ortega I**, Lecomte T, **Raedler T**, Jackson K, Jackson K, **Pringsheim T, Addington D.** Canadian Guidelines for the Pharmacological Treatment of Schizophrenia Spectrum and Other Psychotic Disorders in Children and Youth. *Can J Psychiatry*. 2017 Sep; 62(9):635-647.
 17. **Addington J, Addington D**, Abidi S, **Raedler T**, Remington G. Canadian Treatment Guidelines for Individuals at Clinical High Risk of Psychosis. *Can J Psychiatry*. 2017 Sep; 62(9):656-661
 18. **Addington D**, Abidi S, **Garcia-Ortega I**, Honer WG, **Ismail Z.** Canadian Guidelines for the Assessment and Diagnosis of Patients with Schizophrenia Spectrum and Other Psychotic Disorders. *Can J Psychiatry*. 2017 Sep; 62(9):594-603.
 19. Norman R, Lecomte T, **Addington D**, Anderson E. Canadian Treatment Guidelines on Psychosocial Treatment of Schizophrenia in Adults. *Can J Psychiatry*. 2017 Sep; 62(9):617-623.
 20. Remington G, **Addington D**, Honer W, **Ismail Z, Raedler T**, Teehan M. Guidelines for the Pharmacotherapy of Schizophrenia in Adults. *Can J Psychiatry*. 2017 Sep; 62(9):604-616.
 21. Seidman L.J., Shapiro D.I., Stone W.S., Woodberry K.A., Ronzio A., Cornblatt B.A., **Addington J.**, Bearden C.E., Cadenhead K.S., Cannon T.D., Mathalon D.H., McGlashan T.H., Perkins D.O., Tsuang M.T., Walker E.F., Woods S.W. (2016) Association of Neurocognition With Transition to Psychosis: Baseline Functioning in the Second Phase of the North American Prodrome Longitudinal Study. *JAMA Psychiatry*, 2016 Dec 1; 73(12):1239-1248. PMID:27806157
 22. Jeffries C.D., Perkins D.O., Chandler S.D., Stark T., Yeo E., **Addington J.**, Bearden C.E., Cadenhead K.S., Cannon T.D., Cornblatt B.A., Mathalon D., McGlashan T.H., Seidman L.J., Walker E.F., Woods S.W., Glatt S.J., Tsuang M.T. (2016) Insights into Psychosis Risk from Leukocyte microRNA Expression. *Translational Psychiatry*, 2016 Dec 13; 6(12):e981. PMID:27959328
 23. **Addington J.**, Liu L., Perkins D.O., Carrión R., Keefe R.S.E., Woods S.W. (2017) The Role of Cognition and Social Functioning as Predictors in the Transition to Psychosis for Youth with Attenuated Psychotic Symptoms. *Schizophrenia Bulletin*, 2017 Jan 1; 43(1)57-63 [Epub 2016 Oct 25]. PMID:27798225
 24. Noble S., Scheinost D., Finn E.S., Shen X., Papademetris X., McEwen S.C., Bearden C.E., **Addington J.**, Goodyear B., Cadenhead K.S., Mirzakhani H., Cornblatt B.A., Olvet D.M., Mathalon D.H., McGlashan T.H., Perkins D.O., Belger A., Seidman L.J., Thermenos H., Tsuang M.T., van Erp T.G., Walker E.F., Hamann S., Woods S.W., Cannon T.D., Constable T. (2017) Multisite Reliability of MR-Based Functional Connectivity. *Neuroimage*, 2017 Feb 1; 146:959-970 [Epub 2016 Oct 13]. PMID:27746386
 25. Mueser K.T., Kim M., **Addington J.**, McGurk S.R., Pratt S.I., **Addington D.E.** (2017) Confirmatory Factor Analysis of the Quality of Life Scale and New Proposed Factor Structure for the Quality of Life Scale-Revised. *Schizophrenia Research*, 2017 Mar; 181:117-123 [Epub 2016 Oct 15]. PMID:27756514
 26. Browne J., Penn D.L., Meyer-Kalos P.S., Mueser K.T., Estroff S.E., Brunette M.F., Correll C.U., Robinson J., Rosenheck R.A.,

- Schooler N., Robinson D.G., **Addington J.**, Marcy P., Kane J. (2017) Psychological Well-Being and Mental Health Recovery in the NIMH RAISE Early Treatment Program. Schizophrenia Research, 2017 Jul; 185:167-17 [Epub 2016 Nov 29]. PMID: 27913160
27. Browne J., Penn D.L., Bauer D.J., Meyer-Kalos P., Mueser K.T., Robinson D.G., **Addington J.**, Schooler N.R., Glynn S.M., Gingerich S., Marcy P., Kane J.M. (2017) Perceived Autonomy Support in the NIMH RAISE Early Treatment Program. Psychiatric Services, 2017 Sep 1; 68(9):916-922 [Epub 2017 Jun 1]. PMID:28566027
 28. **Addington J.**, **Addington D.**, Abidi S., **Raedler T.**, Remington G. (2017) CPA Treatment Guidelines for Individuals at Clinical High Risk of Psychosis. Canadian Journal of Psychiatry, 2017 Sep; 62(9):656-661 [Epub 2017 Jul 21]. PMID:28730848
 29. Zheutlin A.B., Jeffries C.D., Perkins D.O., Chung Y., Chekroud A.M., **Addington J.**, Bearden C.E., Cadenhead K.S., Cornblatt B.A., Mathalon D.H., McGlashan T.H., Seidman L.J., Walker E.F., Woods S.W., Tsuang M., Cannon T.D. (2017) The Role of microRNA Expression in Cortical Development During Conversion to Psychosis. Neuropsychopharmacology, 2017 Oct; 1-8 [Epub 2017 Feb 10]. PMID:28186095
 30. Tarbox-Berry S.I., Perkins D.O., Woods S.W., **Addington J.** (2017) Premorbid social adjustment and association with attenuated psychotic symptoms in clinical high-risk and help-seeking youth. Psychological Medicine, 2017 Sep 6; 1-15. PMID:28874223
 31. Mina Gheiratmand, Irina Rish, Guillermo A. Cecchi, Mathew R.G. Brown, Russel Greiner, Pablo I. Polosecki, Pouya Bashivan, Andrew J. Greenshaw, **Rajamannar Ramasubbu**, Serdar M.Dursun (2017) Learning stable and predictive network-based patterns of schizophrenia and its clinical symptoms. Schizophrenia - Nature partner Journals, 2017 Issue 3
 32. Brown EC, Clark DL, Boggess M, Widge A, **Ramasubbu R**, Protzner A, **Kiss ZHT** (2017) Oscillation changes in EEG measured in the ON and OFF DBS state in patients with severe depression. Biological psychiatry, 2017 Volume 81
 33. Brown EC, Clark DL, Boggess M, Widge A, **Ramasubbu R**, Protzner A, **Kiss ZHT** (2017) Oscillation changes in EEG measured in the ON and OFF DBS state in patients with severe depression. Biological psychiatry, 2017 Volume 81
 34. Clark DL, Brown EC, **Ramasubbu R**, **Kiss ZH.** (2016) Intrinsic local Beta oscillations in the subgenual cingulate relate to depressive symptoms in treatment resistant depression. Biological psychiatry, 2017 Volume 80
 35. Tatham EL, Hall GB, Clark D, Foster J, **Ramasubbu R.** (2017) The 5-HTTLPR and BDNF polymorphisms moderate the association between uncinate fasciculus connectivity and antidepressant treatment response in major depression. European Archives of Psychiatry and Clinical Neurosciences, 2017 Volume 267
 36. Brown EC, Clark DL, **Hassel S**, **MacQueen G**, **Ramasubbu R.** (2017) Thalamocortical connectivity in major depressive disorder. Journal of Affective Disorder, 2017 Volume 217
 37. **Bulloch AGM**, Williams JV, Lavorato DH, **Patten SB**, (2016) Trends in binge drinking in Canada from 1996 to 2013: a repeated cross-sectional analysis. CMAJ OPEN 4(4):E599-604
 38. Martino D, Ganos C, **Pringsheim TM.**, (2017) Tourette Syndrome and Chronic Tic Disorders: The Clinical Spectrum Beyond Tics. Int Rev Neurobiol. 134:1461-1490

39. **Pringsheim T**, Kelly M, Urness D, Teehan M, **Ismail Z**, Gardner D., (2017) Physical Health and Drug Safety in Individuals with Schizophrenia. Can J Psychiatry. 62(9):673-683
40. Krewski D, Barakat-Haddad C, Donnan J, Martino R, **Pringsheim T**, Tremlett H, van Lieshout P, Walsh SJ, Birkett NJ, Gomes J, Little J, Bowen S, Candundo H, Chao TK, Collins K, Crispo JAG, Duggan T, Sherif RE, Farhat N, Fortin Y, Gaskin J, Gupta P, Hersi M, Hu J, Irvine B, Jahanfar S, MacDonald D, McKay K, Morrissey A, Quach P, Rashid R, Shin S, Sikora L, Tkachuk S, Taher MK, Wang MD, Darshan S, Cashman NR., (2017) Determinantal disease: Synthesis of systematic reviews. Neurotoxicology. 61:266-289.
41. **Pringsheim T**, Edward MJ, (2017) Functional movement disorders. Five new things. Neurology Clinical Practice; 7:1-7
42. Chao TK, Hu J, **Pringsheim T.**, (2017) Risk factors for the onset and progression of Huntington Disease. Neurotoxicology. 61:79-99
43. Little J, Barakat-Haddad C, Martino R, **Pringsheim T**, Tremlett H, McKay KA, van Lieshout P, Walsh SJ, Gomes J, Krewski D. , (2017) Genetic variation associated with the occurrence and progression of neurological disorders. Neurotoxicology. 61:243-264
44. Martino D, **Pringsheim TM**, (2017) Reply to "Screening tools for tic disorders - Focus on development or implementation?". Mov Disord. 32(6):947
45. **Pringsheim T**, Andrade B, Doja A, Gorman DA, (2017) Assessment and Treatment of Oppositional Behaviour, Conduct Problems, and Aggression in Children and Adolescents: Creation and Dissemination of a National Curriculum. Can J Psychiatry. 62(6):431-432
46. Hirsch L, Yang J, Bresee L, Jette N, **Patten S**, **Pringsheim T**, (2017) Second-Generation Antipsychotics and Metabolic Side Effects: A Systematic Review of Population-Based Studies. Drug Saf. doi: 10.1007/s40264-017-0543-0. [Epub ahead of print]
47. Osland S, Hirsch L, **Pringsheim T**, (2017) Smoking, alcohol and drug use in youth and adults with attention-deficit hyperactivity disorder. BJPsych Open. 3(3):141-146.
48. Yang J, Hirsch L, Osland S, Martino D, Jette N, Roberts JL, **Pringsheim T**, (2017) Health status, health related behaviours and chronic health indicators in people with Tourette Syndrome: A Canadian population-based study. Psychiatry Research. 250:228-233.
49. Wiens K, Williams JV, Lavorato DH, Duffy A, **Pringsheim TM**, Sajobi TT, **Patten SB**. (2017) Is the prevalence of major depression increasing in the Canadian adolescent population? Assessing trends from 2000 to 2014 Journal of Affective Disorders. 210:22-26
50. **Pringsheim TM**, (2017) Neurology and Mental Health. Neurology Clinical Practice. epub ahead of print
51. **Pringsheim TM**, (2017) Tic Severity and Treatment in Children: The Effect of Comorbid Attention Deficit Hyperactivity Disorder and Obsessive Compulsive Behaviors. Child Psychiatry Hum Dev. doi: 10.1007/s10578-017-0718-z. [Epub ahead of print]
52. Martino D, **Pringsheim TM**, Cavanna AE, Colosimo C, Hartmann A, Leckman JF, Luo S, Munchau A, Goetz CG, Stebbins GT, Martinez-Martin P, (2017) Members of the MDS Committee on Rating Scales Development. Systematic review of severity scales and screening instruments for tics: Critique and recommendations. Movement Disorders. 32(3):467-473.
53. Ganos C, Martino D, **Pringsheim T**, (2017) Tics in the Pediatric Population: Pragmatic

- Management Disorders Clinical Practice. 4(2):160-172
54. Ganos C, Martino D, **Pringsheim T**, (2017) Tics in the Pediatric Population: Pragmatic Management Disorders Clinical Practice. 4(2):160-172
 55. Heckman GA, Crizzle AM, Chen J, **Pringsheim T**, Jette N, Kergoat MJ, Eckel L, Hirdes JP, (2017) Clinical complexity and use of antipsychotics and restraints in long-term care residents with Parkinson's Disease. Journal of Parkinson's Disease. 7(1):103-115
 56. **Fiest KM**, Sauro KM, Wiebe S, **Patten SB**, Kwon CS, Dykeman J, **Pringsheim T**, Lorenzetti DL, Jetté N, (2017) Prevalence and incidence of epilepsy: A systematic review and meta-analysis of international studies. Neurology. 88(3):296-303.
 57. Lanctôt, K.L., Amatniek, J., Ancoli-Israel, S., Arnold, S.E., Ballard, C., Cohen-Mansfield, J., **Ismail, Z.**, Lyketsos, C., Miller, D.S., Musiek, E. and Osorio, R.S., (2017) Neuropsychiatric signs and symptoms of Alzheimer's disease: New treatment paradigms. Alzheimer's & Dementia: Translational Research & Clinical Interventions. Volume 3, Issue 3, Pages 440-449
 58. Fischer, C.E., Qian, W., Schweizer, T.A., **Ismail, Z.**, Smith, E.E., Millikin, C.P. and Munoz, D.G. , (2017) Determining the impact of psychosis on rates of false-positive and false-negative diagnosis in Alzheimer's disease. Alzheimer's & Dementia: Translational Research & Clinical Interventions. 3(3), 385-392.
 59. Lam, R.W., **Ismail, Z.**, **MacQueen, G.M.**, Milev, R.V., Parikh, S.V., Ravindran, A.V. and Kennedy, S.H., (2017) Response to Letter Regarding CANMAT Recommendations for the Pharmacological Treatment of Late-life Depression. The Canadian Journal of Psychiatry. 62(5), pp.353-354.
 60. Mortby, M.E., Burns, R., Eramudugolla, R., **Ismail, Z.** and Anstey, K.J., (2017) Neuropsychiatric Symptoms and Cognitive Impairment: Understanding the Importance of Co-Morbid Symptoms. Journal of Alzheimer's Disease. vol. 59, no. 1, pp. 141-153.
 61. Mortby, M.E., Burns, R., Eramudugolla, R., **Ismail, Z.** and Anstey, K.J., (2017) Neuropsychiatric Symptoms and Cognitive Impairment: Understanding the Importance of Co-Morbid Symptoms. Journal of Alzheimer's Disease. vol. 59, no. 1, pp. 141-153.
 62. Baribeau DA, Dupuis A, Paton TA, Scherer SW, Schachar RJ, **Arnold PD**, Szatmari P, Nicolson R, Georgiades S, Crosbie J, Brian J, laboni A, Lerch J, Anagnostou E. Oxytocin Receptor Polymorphisms are Differentially Associated with Social Abilities across Neurodevelopmental Disorders. Sci Rep. 2017 Sep 14;7 (1):11618. doi: 10.1038/s41598-017-10821-0. PubMed PMID: 28912494
 63. Nestadt G, **Arnold PD**, Askland K, Barlassina C, Bellodi L, Bienvenu O, Black D, Bloch M, Brentani H, Burton CL, Camarena B, Cath D, Cavallini M, Conti D, Cook E, Coric V, Cullen B, Cusi D, Davis L, Delorme R, Denys D, Derks E, Eapen V, Edlund C, Erdman L, Falkai P, Figeo M, Fyer A, Geller D, Goes F, Grabe H, Grados M, Greenberg B, Guo W, Grunblatt E, Hanna G, Hemmings S, Jenike M, Keenan C, Kennedy J, Khramtsova E, Konkashbaev A, Knowles J, Krasnow J, Lange C, Lanzagorta N, Leboyer M, Lennertz L, Li B, Liang K-Y, Lochner C, Macciardi F, Maher B, Maier W, Marconi M, Matthews C, Mattheisen M, McCracken J, McLaughlin N, Miguel E, Moessner R, Murphy D, Neale B, Nestadt P, Nicolini H, Nurmi E, Osiecki L, Pato M, Pato C, Pauls D, Piacentini J, Posthuma D, Pulver A, Rasmussen S, Rauch S, Richter M, Riddle M, Ripke S, Ruhrmann S, Sampaio A, Samuels J, Scharf J, Yao Y, Smit J, Stein D, Stewart SE, Turiel M, Veenstra-VanderWeele

- J, Wagner M, Walitza S, Wang Y, Wendland J, Yu D, Zai G. Revealing the complex genetic architecture of obsessive-compulsive disorder using meta-analysis. Molecular Psychiatry. 1 August 2017; doi: 10.1038/mp.2017.154 (epub ahead of print) PMID 28761083
64. Premika Boedhoe, Lianne Schmaal, **Paul Arnold**, Francesco Benedetti, Jan Beucke, Yuqi Cheng, Damiaan Denys, Kate Fitzgerald, Patricia Gruner, Marcelo Hoexter, Chaim Huyser, Anthony James, Kathrin Koch, Jun Soo Kwon, Luisa Lazaro, David Mataix-Cols, Jose Menchon, Takashi Nakamae, Tomohiro Nakao, Erika Nurmi, Y.C. Janardhan Reddy, H.Blair Simpson, Noam Soreni, Gianfranco Spalletta, David Tolin, Susanne Walitza, Zhen Wang, Paul Thompson, Dan Stein, Odile van den Heuvel. Cortical Abnormalities Associated with Pediatric and Adult Obsessive-Compulsive Disorder: Findings from the Enigma Obsessive-Compulsive Disorder Working Group. Biological Psychiatry. 15 May 2017; volume 81 Issue 10
 65. Sinopoli V, Burton CL, Kronenberg S, **Arnold PD**. A Review of the Role of Serotonin System Genes in Obsessive-Compulsive Disorder. Neurosci Biobehav Rev. 2017 May 30 pii: S0149-7634(17)30006-4. Doi:10.1016/j.neubiorev.2017.05.029 (epub ahead of print) PMID 28576508
 66. Edwards K, Mendlowitz S, Jackson E, Champigny C, Specht M, **Arnold P**, Gorman D, **Dimitropoulos G**. A Qualitative Exploration of the Experiences of Children and Adolescents with Tourette Syndrome. Journal - Canadian Academy of Child and Adolescent Psychiatry. 2017 Winter; 26(1):39-44. Epub 2017 Mar 1 PMID 28331502
 67. Friedman A, Burgess NowA, Ramaseshan K, Khatib D, Easter P, **Arnold PD**, Hanna G, Rosenberg D, Diwadkar V. Brain Network dysfunction in obsessive-compulsive disorder induced by simple uni-manual behavior: The role of the dorsal anterior cingulate cortex, Psychiatry Research: Neuroimaging. 2017 Feb 28;260:6-15. Doi: 10.1016/j.psychres.2016.12.005. Epub 2016 Dec 13 PMID: 27992792
 68. Gazzellone MJ, Zarrei M, Burton CL, Walker S, Uddin M, **Shaheen SM**, Coste J, Rajendram R, Schachter RJ, Colasanto M, Hanna GL, Rosenberg DR, Soreni N, Fitzgerald KD, Marshall CR, Buchanan JA, Merico D, **Arnold PD**, Scherer SW. Uncovering obsessive-compulsive disorder risk genes in a pediatric cohort by high-resolution analysis of copy number variation. J Neurodev Disord. 2016 Oct 18;8:36. PMID 27777633
 69. Rajendram R, Burton CL, Kronenberg S, **Arnold PD**. Glutamate Genetics in Obsessive-Compulsive Disorder: A Review. Journal of the Canadian Academy of Child and Adolescent Psychiatry. October 2017 26 (3): 205-213.
 70. Kenneth A Myers, Haley A Vecchiarelli, Omar Damji, **Matthew Hill**, Adam Kirton. October 2016, Significance of BDNF Val66Met Polymorphism in Brain Plasticity of Children, Pediatric Neurology, DOI: 10.1016/j.pediatrneurol.2016.09.015.
 71. Vienna Doenni, C.M. Song, **Matthew Hill, Q.J. Pittman**. November 2016, Early-life inflammation with LPS delays fear extinction in adult rodents, Brain, Behaviour and Immunity, DOI: 10.1016/j.bbi.2016.11.022.015
 72. Vienna Doenni, C.M. Song, **Matthew Hill, Q.J. Pittman**. November 2016, Early-life inflammation with LPS delays fear extinction in adult rodents, Brain, Behaviour and Immunity, DOI: 10.1016/j.bbi.2016.11.022.015.
 73. Ryan Bogdan, Betty Jo Salmeron, Caitlin E. Carey, Arpana Agrawal, Vince Calhoun, Hugh Garavan, Ahmad Hariri, Andreas Heinz, **Matthew Hill**, Andrew Holmes, Ned Kalin,

- David Goldman. January 2017, Imaging Genetics and Genomics in Psychiatry: A Critical Review of Progress and Potential, Biological Psychiatry, DOI: 10.1016/j.biopsych.2016.12.030.
74. Angela M. Henricks, Anthony Berger, Janelle Lugo, Lydia N. Baxter-Potter, Kennedy Bieniasz, Gavin Petrie, Martin A. Sticht, **Matthew Hill**, Ryan McLaughlin. May 2017, Sex- and hormone-dependent alterations in alcohol withdrawal-induced anxiety and corticolimbic endocannabinoid signaling, Neuropharmacology, DOI: 10.1016/j.neuropharm.2017.05.023
 75. **Matthew Hill**, Patrizia Campolongo, Rachel Yehuda, Sachin Patel. July 2017, Integrating Endocannabinoid Signaling and Cannabinoids into the Biology and Treatment of Posttraumatic Stress Disorder, Neuropsychopharmacology, DOI: 10.1038/npp.2017.162
 76. Shea J Andrews, Moyra E. Mortby, **Zahinoor Ismail**, Kaarin Anstey. July 2017, ALZHEIMER'S GENETIC RISK SCORE LINKED TO MILD BEHAVIORAL IMPAIRMENT, Alzheimer's and Dementia, DOI: 10.1016/j.jalz.2017.06.207
 77. **Zahinoor Ismail**, Heba ElBayoumi, Corinne Fischer, David Hogan, Colleen Millikin, Tom Schweizer, Moyra Mortby, Eric Smith, Scott Patten, Kirsten Fiest. November 2016, Prevalence of Depression in Patients With Mild Cognitive Impairment: A Systematic Review and Meta-analysis, JAMA, DOI: 10.1001/jamapsychiatry.2016.3162
 78. **Zahinoor Ismail**, Luis Aguera, H Brodaty, A. Cieslak, J. Cummings, Corinne Fischer, S. Gauthier, Y.E. Geda, N. Herrmann, J. Kanji et al. January 2017, The Mild Behavioral Impairment Checklist (MBI-C): A Rating Scale for Neuropsychiatric Symptoms in Pre-Dementia Populations, Journal of Alzheimer's Disease, DOI: 10.3233/JAD-160979
 79. **Zahinoor Ismail**, Tarek K. Rajji, Sanjeev Kumar, Amer Burhan. March 2017, Recent Advances in Prevention, Diagnosis and Management of Dementia and the Associated Neuropsychiatric Symptoms, American Journal of Geriatric Psychiatry, DOI: 10.1016/j.jagp.2017.01.069
 80. M. Selim Asmer, Julia Kirkham, Hailey T. Newton, **Zahinoor Ismail**, Roxanne Leung, Heba ElBayoumi, Dallas Peter Seitz. March 2017, Systematic Review and Meta-Analysis of the Prevalence of Major Depressive Disorder among Older Adults with Alzheimer's Disease and Related Forms of Dementia, American Journal of Geriatric Psychiatry, DOI: 10.1016/j.jagp.2017.01.081
 81. Zahra Goodarzi, **Zahinoor Ismail**. April 2017, A practical approach to detection and treatment of depression in Parkinson disease and dementia, Neurology: Clinical Practice, DOI: 10.1212/CPJ.0000000000000351
 82. **Zahinoor Ismail**, Timothy Peters-Strickland, Maia Miguelez, Ross A Baker, Peter Hertel, Anna Eramo, Na Jin, Pamela Perry, Raymond Sanchez, Robert D McQuade, Jonh M. Kane. April 2017, Aripiprazole Once-Monthly in the Treatment of Acute Psychotic Episodes in Schizophrenia: Post Hoc Analysis of Positive and Negative Syndrome Scale Marder Factor Scores, Journal of clinical psychopharmacology, DOI: 10.1097/JCP.0000000000000710
 83. **Zahinoor Ismail**. May 2017, Cognitive and Neuropsychiatric Screening for Early Dementia Detection, Biological Psychiatry, DOI: 10.1016/j.biopsych.2017.02.377
 84. Andrew Beaudin, Alicja Cieslak, Charlotte Zerna, Philip Barber, Sandra E. Black, Richard Frayne, Thalia Shoshana Field, Vladimir Hachinski, **Zahinoor Ismail**, Mukul Sharma et al. July 2017, OUTCOMES IN VASCULAR DEMENTIA TRIAL PATIENTS: A META-ANALYSIS OF PLACEBO DATA FROM PRIOR

RANDOMIZED CONTROLLED TRIALS,
Alzheimer's and Dementia, DOI:
10.1016/j.jalz.2017.06.1825

85. Moyra E. Mortby, Ranmalee Eramudugolla, Richard Andrew Burns, **Zahinoor Ismail**, Kaarin Anstey. July 2017, MILD BEHAVIORAL IMPAIRMENT: WHAT ARE THE RISK FACTORS?, Alzheimer's and Dementia, DOI: 10.1016/j.jalz.2017.06.927

Publications – In Press

1. **MacMaster FP**, Swansburg R, Rittenbach K. Academic Productivity in Psychiatry: Benchmarks for the H-Index. *Academic Psychiatry* (In Press).
2. **MacMaster FP**, Cohen J, Waheed W, Magaud E, Swansburg RM, Rittenbach K. Psychiatry Resident and Program Director Perceptions of Neuroscience. *Medical Science Educator* (In Press).
3. Kuang C, Buchy L, Barbato P, Makowski C, **MacMaster FP**, Bray S, Deighton S, Addington J. A pilot study of cognitive insight and structural covariance in first-episode psychosis. *Schizophrenia Research* (In Press).
4. Letourneau N, **MacMaster FP**, Hart M. Association between non-parenting adult's attachment patterns and brain structure and function: A systematic review of neuroimaging studies. *Sage Open Nursing.* (In Press).
5. Barbato M, **Buchy L, Bray S, MacMaster FP**, Kuang C, Deighton S, **Addington J.** A pilot study of behavioral and neural changes following facial affect recognition training in first-episode psychosis. *Schizophrenia Research* (In Press).
6. Carlson H, Ciechanski P, Harris AD, **MacMaster FP**, Kirton A. Changes in spectroscopic biomarkers after transcranial direct current stimulation in children with perinatal stroke. *Brain Stimulation* (In Press).
7. Georgopoulos G., Stowkowy J., Liu L., Cadenhead K.S., Cannon T.D., Cornblatt B.A., McGlashan T.H., Perkins D.O., Seidman L.J., Tsuang M.T., Walker E.F., Woods S.W., Bearden C.E., Mathalon D.H., **Addington J.** (In Press) The Role of a family history of psychosis for youth at clinical high risk of psychosis. *Early Intervention in Psychiatry*, Epub 2017 Aug 9; PMID:28792113
8. Fulford D., **Piskulic D., Addington J.**, Kane J.M., Schooler N.R., Mueser K.T. (In Press) Prospective Relationships Between Motivation and Functioning in Recovery After a First Episode of Schizophrenia. *Schizophrenia Bulletin*, 2017; PMID:
9. Lu Y., Marshall C., Cadenhead K.S., Cannon T.D., Cornblatt B.A., McGlashan T.H., Perkins D.O., Seidman L.J., Tsuang M.T., Walker E.F., Woods S.W., Bearden C.E., Mathalon D., **Addington J.** (In Press) Perceptual abnormalities in clinical high risk youth and the role of trauma, cannabis use and anxiety. *Psychiatry Research*, Epub 2017 Aug 31; PMID: 28886901
10. **Buchy L.**, Barbato M., Makowski C., Bray S., **MacMaster F.**, Deighton S., **Addington J.** (In Press) Mapping structural covariance networks of facial emotion recognition in early psychosis: A pilot study. *Schizophrenia Research*, Epub 2017 Feb 3; PMID:28169088
11. Woods S.W., Powers A.R., Taylor J.H., Davidson C.A., Johannesen J.K., **Addington J.**, Perkins D.O., Bearden C.E., Cadenhead K.S., Cannon T.D., Cornblatt B.A., Seidman L.J., Tsuang M.T., Walker E.F., McGlashan T.H. (In Press) Lack of Diagnostic Pluripotentiality in Patients at Clinical High Risk for Psychosis: Specificity of Comorbidity Persistence and Search for Pluripotential Subgroups. *Schizophrenia Bulletin*, 2017 Aug 29; PMID:

12. Devoe D.J., Peterson A., **Addington J.** (In Press) Negative Symptom Interventions in Youth at Risk of Psychosis: A Systematic Review and Network Meta-Analysis. Schizophrenia Bulletin, 2017; PMID:
13. Stowkowy J., Liu L., Cadenhead K.S., Tsuang M.T., Cannon T.D., Cornblatt B.A., McGlashan T.H., Woods S.W., Perkins D.O., Seidman L.J., Walker E.F., Bearden C.E., Mathalon D.H., **Addington J.** (In Press) Exploration of clinical high-risk dropouts: Letter to the Editor. Schizophrenia Research, Epub 2017 Sep 28; PMID: 28964651
14. Chung Y., Haut K., He G., van Erp T., McEwen S., **Addington J.**, Bearden C., Cadenhead K., Cornblatt B., Mathalon D.H., McGlashan T., Perkins D., Seidman L.J., Tsuang M., Walker E., Woods S.W., Cannon T.D. (In Press) Ventricular enlargement and progressive reduction of cortical gray matter are linked in prodromal youth who develop psychosis. Schizophrenia Research, Epub 2017 Feb 25; PMID:28245961
15. Barbato M., Buchy L., **McMaster F., Bray S.,** Deighton S., **Addington J.** (In Press) Testing the feasibility of a computerized facial affect recognition training in early psychosis. Schizophrenia Research, Epub 2017 Mar 9; PMID:28285735
16. **Addington J., Piskulic D.,** Liu L., Lockwood J., Cadenhead K.S., Cannon T.D., Cornblatt B.A., McGlashan T.H., Perkins D.O., Seidman L.J., Tsuang M.T., Walker E.F., Bearden C.E., Mathalon D., Woods S.W. (In Press) Comorbid diagnoses for youth at clinical high risk of psychosis. Schizophrenia Research, Epub 2017 Mar 31; PMID: 28372906
17. Velthorst E., Zinberg J., **Addington J.,** Cadenhead K.S., Cannon T.D., Carrión R.E., Auther A., Cornblatt B.A., McGlashan T.H., Mathalon D.H., Perkins D.O., Seidman L.J., Tsuang M.T., Walker E.F., Woods S.W., Reichenberg A., Bearden C.E. (In Press) Potentially important periods of change in the development of social and role functioning in youth at clinical high risk for psychosis. Development and Psychopathology, Epub 2017 Apr 19; 1-9. PMID: 28420458
18. Kline E.R., Seidman L.J., Cornblatt B.A., Woodberry K.A., Bryant C., Bearden C.E., Cadenhead K.S., Cannon T.D., Mathalon D.H., McGlashan T.H., Perkins D.O., Tsuang M.T., Walker E.F., Woods S.W., **Addington J.** (In Press) Depression and clinical high-risk states: Baseline presentation of depressed vs. non-depressed participants in the NAPLS-2 cohort. Schizophrenia Research, Epub 2017 June 1; PMID: 28578922
19. Brunette M.F., Mueser K.T., Babbins S., Meyer-Kalos P., Rosenheck R., Correll C.U., Cather C., Robinson D.G., Schooler N.R., Penn D.L., **Addington J.,** Estroff S.E., Gottlieb J., Glynn S.M., Marcy P., Robinson J., Kane J.M. (In Press) Demographic and clinical correlates of substance use disorders in first episode psychosis. Schizophrenia Research, Epub 2017 July 8; PMID: 28697856
20. Nagendra A., Schooler N.R., Kane J.M., Robinson D.G., Mueser K.T., Estroff S.E., **Addington J.,** Marcy P., Penn D.L. (In Press) Demographic, psychosocial, clinical, and neurocognitive baseline characteristics of Black Americans in the RAISE-ETP study. Schizophrenia Research, Epub 2017 July 11; PMID: 28709773
21. Marshall C., Lu Y., Lyngberg K., Deighton S., Cadenhead K.S., Cannon T.D., Cornblatt B.A., McGlashan T.H., Perkins D.O., Seidman L.J., Tsuang M.T., Walker E.F., Woods S.W., Bearden C.E., Mathalon D., **Addington J.** (In Press) Changes in symptom content from a clinical high-risk state to conversion to psychosis. Early Intervention in Psychiatry, Epub 2017 Aug 3; PMID:28771938
22. Pham T, Sauro KM, **Patten SB,** Wiebe S, **Fiest KM, Bulloch AGM,** Jetté N, (In Press) The

Prevalence of Anxiety and Associated Factors in Persons with Epilepsy. Epilepsia 2017

23. Woolf B, Lavorato D, Williams J, **Bulloch A, Patten S**, (In Press) A Comparison of Recommendations and Received Treatment for Mood and Anxiety Disorders in a Representative National Sample. BMC Psychiatry, 2017
24. **Ismail Z**, Gatchell J, Bateman D, Barcellos Ferrera R, Chantillon M, Jaeger J, Donovan N, Mortby M. (In Press) Affective and emotional dysregulation as pre-dementia risk markers: Exploring the mild behavioral symptoms of depression, anxiety, irritability, and euphoria. International Psychogeriatrics, 2017
25. Sheikh F, **Ismail Z**, Mortby ME, Barber P, Cieslak A, Fischer K, Granger R, Hogan D, Mackie A, Maxwell C, Menon B, Mueller P, Patrie D, Pearson D, Quickfall J, Sajobi T, Tse E, Wang M, Smith E. (In Press) Prevalence of Mild Behavioral Impairment in Mild Cognitive Impairment and Subjective Cognitive Decline, and its association with caregiver burden. International Psychogeriatrics, 2017
26. Cieslak A, Lysack J, Smith E, **Ismail Z**, 2017. (In Press) Case Series of Mild Behavioral Impairment: Toward an Understanding of the Early Stages of Neurodegenerative Diseases Affecting Behavior and Cognition International Psychogeriatrics, 2017
27. Mortby M, Burns R, Ermadogulla R, **Ismail Z**, Anstey K., 2017. (In Press) Prevalence estimates of Mild Behavioral Impairment in a population-based sample of pre-dementia states and cognitively healthy older adults. International Psychogeriatrics, 2017
28. Mele B, Holroyd Leduc J, Smith E, Pringsheim T, Ismail Z, Goodarzi Z., 2017. (In Press) Detecting anxiety in individuals with

Parkinson's Disease: A Systematic Review and Meta-analysis. Neurology, 2017

29. Boedhoe PSW, Schmaal L, Abe Y, Alonso P, Ameis SH, Anticevic A, **Arnold PD**, Batistuzzo MC, Benedetti F, Beucke JC, Bollettini I, Bose A, Brem S, Calvo A, Calvo R, Cheng Y, Kang IKC, Ciullo V, Dallaspezia S, Denys D, Feusner JD, Fitzgerald KD, Fouché J-P, Fridgeirsson EA, Gruner P, Hanna GL, Hibar DP, Hoexter MQ, Hu H, Huyser C, Jahanshad N, James A, Kathmann N, Kaufmann C, Koch K, Kwon JS, Lázaro L, Lochner C, Marsh R, Martínez-Zalacain I, Mataix-Cols D, Menchón JM, Minuzzi L, Morer A, Nakamae T, Nakao T, Narayanaswamy JC, Nishida S, Nurmi E, O'Neill J, Piacentini J, Piras F, Piras F, Reddy YCJ, Reess TJ, Sakai Y, Sato JR, Simpson HB, Soreni N, Soriano-Mas C, Spalletta G, Stevens MC, Szeszko PR, Tolin TF, van Wingen GA, Venkatasubramanian G, Walitza S, Wang Z, Yun J-Y, ENIGMAOCD Working-Group, Thompson PM, Stein DJ, van den Heuvel OA. (In Press). Cortical abnormalities associated with pediatric and adult obsessive-compulsive disorder: Findings from the ENIGMA ObsessiveCompulsive Disorder working group. American Journal of Psychiatry, 2017

Book Chapters

1. Vaillancourt T, Sanderson C, **Arnold PD**, McDougall P. "The Neurobiology of Peer Victimization: Longitudinal Links to Health, Genetic Risk and Epigenetic Mechanisms" in Handbook on Bullying Prevention, NASW Press (2017)
2. **Arnold P.D.**, Kronenberg, S. "Biological Models and Treatments for Obsessive-Compulsive and Related Disorders for Children and Adolescents" in Abramowitz J, McKay D, Storch EA (ed): Handbook of Obsessive- Compulsive Related Disorders, Wiley (2017)

3. Diwadkar VA, Burgess A, Hong E, Ri C, **Arnold PD**, Hanna GL, Rosenberg DR. "Dysfunctional Activation and Brain Network Profiles in Youth with Obsessive-Compulsive Disorder: a Focus on the Dorsal Anterior Cingulate During Working Memory"; in eBook: "Mapping psychopathology with fMRI and effective connectivity analysis". Frontiers in Human Neuroscience. Pp 211-232 (2017)
4. Arnold PD. Genetics of OCD. In Obsessive-Compulsive Disorder: Phenomenology, Pathophysiology and Treatment Pittenger C (Ed), Oxford University Press (2017)
5. Anthony Berger, Angela M. Henricks, **Matthew Hill**, Ryan McLaughlin. "Endocannabinoids, Stress, and Negative Affect"; in Book: "Endocannabinoids and Lipid Mediators in Brain Functions, pp.53-78". DOI: 10.1007/978-3-319-57371-7_3 (2017)
6. **Zahinoor Ismail**, Moyra E. Mortby. "Cognitive and Neuropsychiatric Screening Tests in Older Adults"; in Book: "Mental Health and Illness of the Elderly, DOI: 10.1007/978-981-10-2414-6_16 (2017)
7. **Frank MacMaster**, "Neuroimaging in Psychiatric Disorders of Childhood"; in Book: "Kaplan and Sadock's Comprehensive Textbook of Psychiatry (10th edition, 50th anniversary)
3. Brain Stimulation in Adolescent Depression. Grand Rounds (Psychology), Texas A & M University, November 14, 2016, **MacMaster**
4. It All Starts with the Brain, Westmount Charter School, Calgary, Alberta, December 5, 2016, **MacMaster**
5. Brain Stimulation and Depression, Mental Health Foundation Breakfast, Edmonton, Alberta, March 1, 2017, **MacMaster**
6. How to Read a Brain Imaging Paper. Sebastian K. Littmann Researcher Day, Calgary, Alberta, March 3, 2017, **MacMaster**
7. Chair of Oral Symposium - Sebastian K. Littmann Researcher Day, Calgary, Alberta, March 3, 2017, **MacMaster**
8. It All Starts with the Brain, Westmount Charter School, Calgary, Alberta, May 4, 2017, **MacMaster**
9. Scientific Office Update, Psychiatry Grand Rounds, University of Calgary, Calgary, May 23, 2017, **MacMaster**
10. Brain Stimulation in Alberta, Psychiatry Research Day, University of Alberta, Edmonton, May 24, 2017, **MacMaster**
11. Brain Stimulation in Alberta, N3 Seminar Series, University of Calgary, Calgary, May 26, 2017, **MacMaster**
12. TMS and Depression, Branch Out Neurological Foundation, Panorama, British Columbia, June 17, 2017, **MacMaster**
13. Six months outcomes of SCG-DBS for TRD, World Society of stereotactic functional neurosurgery, Berlin Germany, June, 2017, **Ramasubbu**

Workshops, Talks & Presentations, Conference Proceedings

1. Brain Stimulation in Adolescent Depression. Grand Rounds (Psychiatry), University of Cincinnati, October 12, 2016, **MacMaster**
2. It All Starts with the Brain, Ernest Manning High School, Calgary, Alberta, November 3, 2016, **MacMaster**

14. The Neuroscience of Major Depression, Defeat Depression University of Calgary, Alberta November 17, 2016, **Bulloch**
15. The Mental Health NeuroTeam, University of Calgary Graduate College Dinner, March 1, 2017, **Bulloch**
16. Alcohol abuse in the Canadian population, conference for the western Canadian members of the Postsecondary Education Partnership – Alcohol Harms (PEP-AH) March 31, 2017, **Bulloch**
17. 2nd Annual Break the Stigma Summit, University of Calgary's Mental Health Awareness Club Friday, April 7th, 2017, University of Calgary, **Bulloch**
18. Invited Lecture, "OCD: Current and Future Directions in Clinical Care and Research" Continuing Medical Education Rounds, June 8, 2017, Alberta Children's Hospital, Calgary, AB, **Arnold**
19. Invited Lecture, "The Mathison Centre: An Update", May 16, 2017, Department of Psychiatry Grand Rounds, University of Calgary, Calgary, AB, **Arnold**
20. Invited Lecture, "The Mathison Centre for Mental Health Research & Education", October 13, 2016, Continuing Medical Education Rounds, Alberta Children's Hospital, Calgary, AB, **Arnold**
21. Burton CL, Xiao B, Zarrei M, Erdman L, Merico D, Marshall C, Scherer S, Crosbie J, **Arnold PD**, Schachar R. October 2017, Oral Presentation, Spit for Science: Using Kids from the Community to Uncover the Genomics Of Childhood Psychiatric Disorders, The 25th World Congress of Psychiatric Genetics Meeting, Orlando FL, USA
22. Zayats T, Burton CL, Medland S, Ziao B, Crosbie J, **Arnold PD**, Schachar R,

Johansson S, Neale B, Haavik J. October 2017 Oral Presentation, Genetics of ADHD Dimensions. The 25th World Congress of Psychiatric Genetics Meeting, Orlando FL, USA.

