

CHARTING THE FUTURE

FOR
MENTAL
HEALTH

ANNUAL REPORT
2015 - 2016

THE ROYAL'S INSTITUTE OF MENTAL HEALTH RESEARCH
proudly affiliated with the University of Ottawa



Mental Health - Care & Research
Santé mentale - Soins et recherche

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IMHR

At A Glance

The Royal's Institute of Mental Health Research (IMHR), proudly affiliated with the University of Ottawa, was established in 1990. IMHR transitioned from the virtual entity to a functional institute in 2002. As a leading academic mental health research institute, we are developing leading-edge multidisciplinary research and training programs with the ultimate goal of fostering innovative ways of treating mental illness.

Mission

To create scientific knowledge to improve mental health and well-being locally and globally.

Vision

To be a premier research institute with national and international centre of excellence status that continuously improves mental health and well-being through leadership, collaborative discoveries and innovation in research, patient care and education.

Values

Excellence, collaboration, integrity, respect, compassion, wellness and equity.



Message from IMHR’s President and CEO and Chair of the Board of Directors

Charting the Future. This year’s crowning success has been the installation of a PET-MRI brain-imaging unit at The Royal’s Brain Imaging Centre (RBIC). This state-of-the-art multimodal-imaging instrument is one of only 50 such machines worldwide. Moreover, The Royal’s PET-MRI is the only one anywhere solely dedicated to mental health and neuroscience. This development has sparked tremendous excitement among Ottawa’s researchers, clinicians, students/trainees and individuals suffering from mental illness.

Although we have significantly advanced our understanding of the human body through intensive research and unraveling the genome, the workings of the human brain remain one of the great mysteries of our time. The brain is an unimaginably vast frontier, whose neurons alone outnumber stars in the sky. The structural and functional ‘pathways’ within the brain and their underlying neurochemical codes — so fundamental to the nature of mental illness — are elements we do not yet fully understand. However, all that is about to change as we launch the RBIC, which will help researchers peer deep inside the human brain. In effect, the new unit will conduct a “functional biopsy of the living brain” in a noninvasive way so that we can identify the rogue brain circuits responsible for mental illness.

This will not only advance rapid diagnosis and treatment of mental disorders, but also help us chart a new course for personalized interventions for these illnesses, just as imaging scans and blood tests guide treatment selection for cancer and heart disease. The establishment of the RBIC will thus be central to the implementation of the IMHR’s new four-pronged strategic plan for getting people better faster by promoting: 1) practice-changing research; 2) capacity building; 3) an innovation pipeline; and 4) the development of collaborations and partnerships.

Of course, without the significant collaborations and partnerships with various stakeholders to date, we would not be where we are today. So on behalf of the IMHR, we would like to extend a special thank you to all our partners who not only believed in our vision but helped fulfill our collective dream. Thank you to Ottawa’s philanthropic community, the Department of National Defence, the Government of Ontario, the University of Ottawa and The Royal Canadian Legion.

Together, we all send a powerful message of hope to those struggling in silence. The time has come to chart a new course towards curing the scourge of mental illness.

Z. Merali
Zul Merali
President and CEO

Roxanne L. Anderson
Roxanne L. Anderson
Chair

IMHR INCORPORATED

DR. ZUL MERALI APPOINTED AS CEO



1999

2002



Dr. Georg Northhoff, Dr. Zul Merali, Dr. Pierre Blier

Charting the future of mental health

The arrival of the PET-fMRI machine in March 2016 — the first of its kind in Canada dedicated to mental health research, and the centrepiece of The Royal's new Brain Imaging Centre — marks the beginning of a new chapter for the community, for people struggling with mental health issues, for researchers and clinicians at The Royal, and for a host of other partner organizations such as the University of Ottawa Heart Institute (Heart Institute), the University of Ottawa Brain and Mind Institute and the Department of National Defence.

The PET-fMRI machine is breakthrough technology that will enable experts working in the field of mental health to diagnose illnesses such as post-traumatic stress disorder (PTSD); to select with precision and accuracy a specific treatment, by detecting changes in the brain; to understand the connection between the body's two major 'electrochemical' organs (the brain and the heart); and to ultimately help people get better faster.

"This technology," says Dr. Zul Merali, President and CEO of the IMHR, which is housed at The Royal, "really does change the game. We all know that mental illnesses have everything to do with brain functioning, and yet we can't see the brain, we can't touch it, we can't feel it. This machine will allow us to peer inside the living brain to see how it is working — or not. Like a GPS, we will have a clear map of the brain and be able to track changes in brain activity and individual responses to specific treatments."

"For the first five years, the PET-fMRI machine will be dedicated to research. This will be ground breaking research that will help us better understand the circuits that are malfunctioning in the brain. The more we understand these, the more we will be able to develop and target treatments that will be effective."
— Dr. Zul Merali

Just as cancer may manifest itself in different ways from one person to the next and just as a treatment for one person may not be the right treatment for someone else, people with depression respond differently to different treatments. "By looking at the changes in brain functioning in someone with depression who may be agitated a lot versus another person with depression who sleeps a lot," says Dr. Merali, "we will finally be able to move towards more personalized medicine, like we do with cancer patients."

Or people with heart disease who struggle with depression, anxiety or sleep apnea.

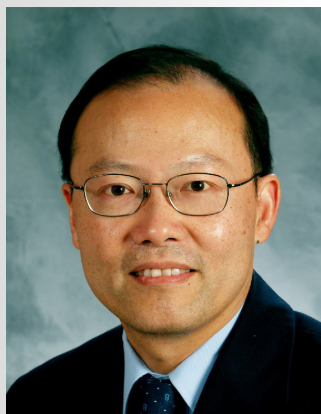
The Pet-fMRI machine is also a game-changer in its ability to attract expert researchers with particular specialities or disciplines. "The old adage of 'build it and they will come' certainly seems to be the case," says Dr. Merali, who points to the influx of scientists who have expressed a desire to work at the IMHR, along with researchers being hired to undertake specialty research at the two universities in Ottawa — people interested in medical imaging, brain circuitry, engineering, radiochemistry and so on. Indeed, there is a burgeoning need to fund new research. "The capacity to have access to research dollars has always been a challenge, especially for mental illness," says Dr. Merali, "and if we are to carry out this important research work that will help us really understand the last frontier in medical science, then we will need the funding to help us do that."

BUSINESS PLAN APPROVED BY 3 BOARDS (IMHR, ROHCG, ROFMH)



Dr. Georg Northoff

Future research directions



Dr. Peter Liu

The Brain–Heart Link.

In a research partnership with the Heart Institute, the IMHR’s Dr. Georg Northoff, Canada Research Chair at the University of Ottawa and Director of the Mind, Brain Imaging and Neuroethics Research Unit, and Dr. Peter Liu, Chief Scientific Officer and Vice President of Research at the University of Ottawa Heart Institute (Heart

Institute), are spearheading a number of research studies over the next few years to help them understand how the brain and the heart — the human body’s two electrical organs — relate to each other. They have identified three areas of research: the link between heart failure and depression; between an irregular heart beat and anxiety; and between the natural rhythms found in both organs, and how these affect one another. “With the Pet-fMRI machine, we now have a tool that will help us explore how the heart and brain are interconnected. We’ll be able to address the health challenges of our patients and ultimately improve their outcomes,” says Dr. Liu.

The Brain Circuitry–Mental Illness Link. Also on the research table are clinical studies designed to build understanding about mental illnesses such as suicide ideation, schizophrenia and bipolar disorder.

For instance, there is a study underway exploring how ketamine alleviates suicidal thoughts in patients who are severely depressed. During the first phase of the research, Dr. Pierre Blier, Canada Research Chair at the University of Ottawa and Director of the Mood Disorders Research Unit, together with Dr. Northoff, is mapping patients’ responses to ketamine by measuring the specific changes in the brain’s electrical activity using EEG technology; the next phase will involve identifying specific regions in the brain that respond favourably to ketamine through the use of brain imaging technology using the PET-fMRI machine. “Once we identify those brain regions involved in suicidal ideation, we will be able to undertake specific research studies, using animal models, focused on looking at individual neuron responses,” explains Dr. Blier. “Once we have an actual thumbprint of activity in the brain,” the ultimate goal is to assess the effectiveness of medications on mental illnesses such as suicidal ideation — “and optimize treatment.”

Much like a patient with diabetes whose blood tests show an abnormal glucose level and the patient’s doctor prescribes treatment accordingly, Dr. Northoff explains that what he and Dr. Blier are trying to achieve over the course of the next few years of research studies is an understanding as to what therapies will work for people with different types and levels of depression, anxiety or mania, for example. “With this new imaging technology, we will one day be able to offer individualized therapies — or personalized treatments — for people struggling with mental illness,” says Dr. Northoff.

DR. PIERRE BLIER RECRUITED AS CHAIR, MOOD DISORDERS RESEARCH; CANADA RESEARCH CHAIR AWARDED



2004

The time is now for advancing youth mental health

Early intervention is the best way to maximize quality of life for people suffering from mental health issues — and that means tackling the illness when people are teens. So says Dr. Ian Manion, IMHR’s Director of Youth Mental Health Research: “If we start early, we can equip young people with the tools they need to overcome adversity and keep their symptom levels low.” An advocate for child and youth mental health, Dr. Manion is set to bridge the gap between research and clinical practice; to use the tools that are available to him at the IMHR to help young people get mentally healthy before they reach adulthood.

The Background. Current practice works fairly well for people in the deep end of the pool, says Dr. Manion, but those in the shallow end have been neglected. “Our mental health systems tend to bring young people to the edge of the cliff but don’t give them any way of clawing up the other side. There’s a huge gap in our services, and young people often disengage from care until their situation gets so critical that it’s hard to intervene.”

The focus of his efforts at the IMHR will be to effect systems-wide transformative change that supports early identification and intervention.

Kids who are engaged meaningfully in their own treatment, decision-making and programs are healthier physically and mentally, says Dr. Manion. They engage in less risk-taking, and exhibit fewer symptoms of depression and suicidal ideation.

The Goals. Dr. Manion aims to:

- emphasize a person-centred mental health approach that looks at whole children, whole youth and whole families;
- have clinical practice drive research — not the other way around;
- equip clinicians with the tools they need to systematically incorporate evaluation into everything they do;



Dr. Ian Manion

“We shouldn’t be doing things to or for young people. We should be doing things with young people.”

- establish and formalize partnerships, and build capacity across sectors (hospitals, universities, community-based research centres) and local, provincial, national and international borders — “to bring our expertise and knowledge together to do better and change the youth mental health agenda;”
- develop accessible mental health service hubs for young people in much the same way as in Australia and Ireland;
- develop a national centre of excellence for knowledge exchange (partners have been lined up across Canada and in Australia, Ireland and the UK), where everyone works together, not in silos.

The Future. When it comes to youth mental health, says Dr. Manion, government, local champions and philanthropy are all ready to make the necessary investments. Young people and families are clamouring for it. “We need to stop thinking about who has the strongest brand and realize that, at the end of the day, we are in service to others. If we can remember that as our mantra in everything that we do, we are bound to be successful.”

TRIPARTITE AGREEMENT (IMHR – ROHCG – ROFMH);
SCIENTIFIC ADVISORY BOARD INAUGURAL MEETING



Dr. Simon Hatcher

“We are studying whether e-therapy with a coach is more effective than simply giving people information and access to e-therapies. Do people who receive both components get better quicker, and do they require fewer resources once they get off the waiting list into care — if they require face-to-face care at all.”

Computerized e-Therapy: a step towards quicker recovery

Face-to-face (‘talking’) therapies, such as cognitive behavioural therapy (CBT), are an important component in the treatment of mental illness. But high demand means that access to these therapies is limited. One possible way to address this problem is to use computerized e-therapies. These electronic versions of talking therapies deliver structured mental health treatment via a computer or mobile device.

The Background. “While technology can never replace human connection and face-to-face therapy, it is helpful to know what is available and to see how it may play a role in mental wellness,” says Dr. Simon Hatcher, a psychiatrist with The Royal’s Community Mental Health program, and the Vice-Chair of Research for the Department of Psychiatry at the University of Ottawa.

Current evidence suggests that e-therapies are as effective as face-to-face therapies for mild to moderate depression. Because they are computer-based, they are accessible anywhere, offering patients the convenience to engage in treatment whenever and wherever it suits them.

The Project. Dr. Hatcher is studying whether e-therapy, in concert with coaching from an e-therapy case manager, results in better outcomes for patients than just having access to online treatment: faster recovery and a more efficient and cost-effective system of care.

Patients referred to The Royal by a primary care physician receive a CBT e-therapy program and a coach. The coach — a social worker — helps patients access and navigate the tool, and offers support as required. He/she does not provide the therapy. “It’s a deliberate sporting metaphor,” says Dr. Hatcher, “because coaches don’t run alongside you or play sport with you. They are there to observe and encourage.”

The randomized controlled trial includes 95 patients who are on the waiting list for treatment in The Royal’s Mood and Anxiety Program. Initiated a year-and-a-half ago, the first results should be available within months.

The Benefits. “Computerized CBT creates a step between receiving a referral from your primary care provider and waiting years to see a psychologist or psychiatrist. It’s an extra step in stepped care,” Dr. Hatcher says. And if e-therapy works — the tools he helped to create in New Zealand saw clients improve after just two to three sessions of a six-session online program — it will eliminate wait times for patients with mild to moderate depression and free up therapists to see more patients with complex or treatment resistant disorders.

MOVE TO NEW RESEARCH TOWER WITH STATE-OF-THE-ART RESEARCH INFRASTRUCTURE



2006

From the client to community: youth mental health/ substance use study is ground breaking

More than any other age group, young people — those in the 15- to 24-year age range — are more likely to struggle with mental health and substance use issues. It's a double-edged sword, one that underscores the importance of understanding the why and the how.

A leader in concurrent disorders research, Dr. Kim Corace, Director of Research and Program Development in the Substance Use and Concurrent Disorders Program has been involved in ground breaking research that tries to understand what is clinically different between youth with concurrent disorders and adults — and through understanding be able to discover what treatments will work best.

The Background. Here is what Dr. Corace does know. Compared to adults, young people with mental health issues and substance use generally use more than one substance (it's called polysubstance use). They take more drugs more frequently, depending on how dependent or mentally ill they are, and are more likely to do so in a reckless/harmful way (taking drugs by injection, for example). On the mental health side of the equation, a significant number of youth with opioid problems (at least 75 per cent) are struggling with depression and anxiety. And, they're acting out — we're not just talking about behavioural problems but crime and violence.

The Project. From recent research studies — one that involved 120 young people with concurrent disorders and one that compared youth and adults in a residential treatment program at The Royal — Dr. Corace was able to demonstrate that youth need to be evaluated and treated differently from adults. She also found that young people are up to five times less likely to complete treatment for their concurrent disorders.



Dr. Kim Corace

“A one-size-fits-all approach to treating young people with concurrent disorders doesn't make sense. By developing and tailoring new treatment programs, we hope to achieve better outcomes and improved recovery for a population group that right now has significant gaps in care.”

Based on her findings, Dr. Corace has started the next research phase, which involves rolling out new treatments to address the specific problems that young people face.

The Benefits. “The cornerstone of our approach will be an integrated approach to treating youth with mental health and addiction issues as opposed to the current silo approach,” says Dr. Corace. “The goal is to take the best available evidence we have concerning pharmaceutical and psychological therapies, integrate them, and create standardized treatment plans.”

The impact of this research-clinical project is huge. “To be at the cutting edge of something new that will actually impact the very people I see in front of me every day is so exciting,” says Dr. Corace. “When you do clinical work, you help the client. When you do research informed care, you don't just help the client, but the community, the region, the province, even nationally.”

OFFICIAL OPENING OF THE IMHR RESEARCH TOWER



Dr. Sanjay Rao and Dr. Pierre Blier

“For me, the big ‘win’ is the ability to systematically monitor outcomes; to see immediately whether an intervention is working over a period of time.”

– Dr. Sanjay Rao

“What we are trying to do is use precise measurement like they do in the rest of medicine, such as measuring glucose levels for diabetic patients. This is ultimately going to improve care and the quality of care.”

– Dr. Pierre Blier

Changing the practice of psychiatry

Even today, in the field of mental health, diagnosis remains highly subjective. A client describes what he/she is experiencing and a clinician interprets those symptoms using one of a number of diagnostic scales and tools that are available in order to arrive at a diagnosis. Given that there is a standard measurement (common yardstick) in the medical field for objectively checking a patient’s symptoms like blood sugar or blood pressure level, that all clinicians interpret the same way, it stands to reason that common scales would prove useful in the field of psychiatry.

At the IMHR, where the focus is on game-changing research, work is under way to introduce a common

set of measures that all clinicians will use to diagnose and track depression and anxiety. Developing a standardized tool will ensure that a common language will be used by clinicians and researchers at The Royal and across Canada — essentially changing the practice of psychiatry.

This game-changing tool will eventually “trickle down to primary care physicians,” says Dr. Pierre Blier, the Endowed Chair in Mood Disorders Research at the IMHR. “For the first time, we will have an objective measure of patient’s progression that will help us alter or adapt our treatments accordingly.”

The IMHR is also looking at developing an electronic version of this standardized measurement tool that will be used not only by clinicians but also by clients coming to The Royal’s Mood and Anxiety Disorder Clinic. Both clinicians and clients will be able to see how they are progressing — visual information such as a trending graph will provide a visual snapshot of where they were and where they are now.

For Dr. Sanjay Rao, Director of The Royal’s Mood and Anxiety Disorder Program, an electronic standardized assessment tool will not only help him “follow a patient across time” but also improve efficiency. Currently, he enters treatment information for individual patients manually, and then has to scroll back through his notes to assess progress (or lack thereof). “It’s rather laborious,” says Dr. Rao.

The Future. It’s not inconceivable that primary care physicians and psychiatrists/psychologists across the country will one day be using a common set of standardized assessment scales to measure depression, anxiety, even other mental illnesses such as bipolar disorder and schizophrenia. For the mental health field, it means that everyone will be speaking the same language — which will help them make better and more informed decisions. And, with the eventual adoption of an electronic standardized assessment tool, it is also conceivable that in the future, family physicians and mental health professionals will have access to the same medical and mental health information for patients.

LAUNCH OF CANADIAN DEPRESSION RESEARCH AND INTERVENTION NETWORK (CDRIN)

Electronic screening and monitoring system: the project

In conjunction with the Canadian Depression Research and Intervention Network, IMHR is about to test a robust, secure and confidential electronic standardized depression e-screening and monitoring system (e-SMP) in the Mood and Anxiety Disorders Research Clinic. Patients coming to the Program will be handed an electronic tablet, which houses four self-assessment scales: a multipurpose depression rating scale; a generalized anxiety disorder assessment; a self-rating mania scale; and, eventually, a suicide severity rating scale. At the beginning, patients will be asked if they are interested in participating in future research projects. If they opt in, a new window opens up “where all the information they just filled in is stripped of all personal identifiers,” says Dr. David Armstrong, Executive Lead, Strategic Development, for IMHR, “and the data entered into a research registry.”

Once the patient is finished completing the assessment scales, the tablet is wiped clean — “compared to a normal tablet that can carry all sorts of breadcrumb trails on a person, our system is unique,” says Dr. Armstrong.

“The beauty of this system is that it takes away the burden of manually scoring a patient. With one button, a clinician has an electronic record of the patient’s history plus a mechanism for seeing how a patient is responding to treatment over time,” says Dr. Merali. Visual cues and flags are being built into the e-SMP to alert clinicians to any issues. “We are building an alert system so that nobody will fall through the cracks.” Furthermore, this mode of data collection, puts the patient in the centre of his/her care.



**BRIGADIER-GENERAL
H. C. MACKAY,
SURGEON GENERAL,
COMMANDER
CANADIAN FORCES
HEALTH SERVICES
GROUP**

“The Canadian Armed Forces are very proud of our partnership with The Royal and the Institute of Mental Health Research (IMHR) through the Canadian Armed Forces Chair in Military Mental Health. As a leader in mental health care and research, The Royal’s IMHR continues to be a valued partner as we strive to help more Armed Forces members recover from complex psychological injuries, including depression and PTSD.

The partnership between the Canadian Armed Forces, The Royal and the IMHR continues to grow. The arrival of the PET-fMRI is a tremendous boost to our ability to conduct research focused on Canadian Armed Forces members and veterans suffering from conditions such as PTSD, will allow for better understanding of the biological underpinnings of these illnesses, and will be crucial to advancing their prevention and treatment.”

DR. GEORG NORTHOFF RECRUITED, AWARDED BRAIN IMAGING CANADA RESEARCH CHAIR



Left to right, front row: Nancy Stanton, Acting President & CEO, The Royal's Foundation; Dr. Zul Merali, President & CEO, IMHR; George Weber, President & CEO, The Royal; Dr. Chris Carruthers, Chair of the Mach-Gaensslen Foundation; Dr. Jean Martin Beaulieu; Their Excellencies the Right Honourable David Johnston, Governor General of Canada, and Mrs. Sharon Johnston.

Early career researchers: the young leaders in science

The IMHR values the creativity and passion of its young researchers — people who are engaged and enthusiastic, who share a thirst for knowledge, and who want to work alongside IMHR's world-leading scientists to help make a difference in the lives of people suffering from mental illness. IMHR is pleased to announce the recipients of the 2016 young researcher awards:

THE ROYAL-MACH-GAENSSLEN PRIZE FOR MENTAL HEALTH RESEARCH

DR. JEAN MARTIN BEAULIEU

Dr. Jean Martin Beaulieu, a researcher and associate professor in the department of psychiatry and neuroscience at Laval University, is the inaugural recipient of The Royal-Mach-Gaensslen Prize for Mental Health Research. The \$100,000 award, which was established in 2015 with a \$1-million gift to The Royal from The Mach-Gaensslen Foundation of Canada, encourages young researchers to pursue discovery and innovation that will lead to breakthroughs in mental health care.

Working at the molecular level, Dr. Beaulieu's field of study is lithium, a common but not fully understood medication, used to treat bipolar disorder. By examining how lithium works in the brain, Dr. Beaulieu has contributed to a new understanding of the drug's effectiveness as a therapy for those living with mood disorders and other mental illnesses.

IMHR GRADUATE STUDENT RESEARCH AWARDS

JULIA KIRBY AND RENÉE NELSON

Each year, the IMHR presents its Graduate Student Research Awards to promising grad students who are focusing on depression research.

Julia Kirby and Renée Nelson are both Master's students in the neuroscience program at the University of Ottawa. Julia is completing her thesis in IMHR's Mood Disorders Research Unit and her work — determining the mechanism of action of drug combinations — will help to design better antidepressant treatments. Renée, who has a keen interest in addiction and mental health comorbidities, is completing her thesis in the IMHR's Clinical Neurophysiology and Cognitive Research Laboratory. Here, she is examining neurocognitive markers and predictors of treatment outcomes for individuals dependent on prescription opioids. Both young researchers plan to use a portion of their bursary to participate in the CINP World Congress of Neuropsychopharmacology.

YOUNG RESEARCHER INSPIRATION AWARD

DR. ABIGAIL ORTIZ

Young researchers are making a mark in mental health research — for 2016, the Royal Ottawa Foundation for Mental Health recognized Dr. Abigail Ortiz as that person at their 13th Annual Inspiration Awards. Dr. Ortiz's research into the mood changes of people suffering from depression and bipolar disorder breaks new ground — and will help further our understanding of these two mental illnesses.

Using mathematical modelling, Dr. Ortiz is trying to understand how mood is regulated. While healthy people are able to bounce back — to lift their mood — people with depression and bipolar disorder are unable to do so. According to Dr. Ortiz, this is because people with these disorders also exhibit less fluctuation in their mood — much like a cardiac patient whose heart rate becomes less flexible. Dr. Ortiz's goal is to see if she can mathematically predict, and ultimately prevent, bipolar and major depressive episodes.



IMHR PARTNERSHIP WITH UNIVERSITY OF MICHIGAN DEPRESSION CENTER



**ALLAN ROCK,
PRESIDENT AND
VICE-CHANCELLOR,
UNIVERSITY OF
OTTAWA**

"In my work as President and Vice-Chancellor, I am very aware of how the challenges of university life can negatively affect students' mental well-being. Academic and social pressures, and worries about finances can all bring on feelings of overwhelming anxiety and depression. At age 18, I experienced such feelings when in my first year at the University of Ottawa. I had debilitating panic attacks. I was fortunate to find a sympathetic psychiatrist who gave me the help I needed. Today, the University of Ottawa has counseling services available on campus and of course we are affiliated with the IMHR, which pursues world-class research on mood disorders. I have no doubt many young people in the future will benefit from the IMHR's new PET-MRI imaging machine, a superb research tool for detecting the specific neural and biochemical features of a person's depression or anxiety."

Annual Young Researchers' Conference.

In collaboration with Carleton University and the University of Ottawa Brain and Mind Research Institute, the IMHR hosted its annual Brain Health Research Day (BHRD) on June 24. Researchers, clinicians and students — united by their desire to create one of the world's top centres for neuroscience and the treatment of brain disorders — gathered at Carleton University to learn about the broad research in brain health being undertaken at the University of Ottawa and the IMHR's partner institutions.

For the first time, the IMHR's Young Researchers organized a pre-BHRD conference on June 23. This free half-day mental health research event by young researchers for young researchers featured concurrent workshops and a 'Mental Illness: My Story' presentation. The goals of the event were threefold: to increase collaboration

between young researchers working within both pre-clinical and clinical fields; to create an environment that encourages the accessibility and exchange of knowledge; and to decrease mental health-related stigma. Graduate and undergraduate students, trainees and early career researchers in the fields of neuroscience, neurology, psychiatry and psychology were in attendance.

Since 2006, Young Researchers — a group of students and early career researchers dedicated to enhancing collaborations, networking, research, and educational and training opportunities for individuals working in mental health research — have been holding a monthly lecture series and an annual conference that are developed, organized, presented and attended by fellow young researchers.



Dr. Zul Merali, President and CEO of IMHR; Jane Chamney and Ben James representing **The Jennie James Depression Research Fund**; David Lees, Lee Ann Lees, and JD Lees (back) representing **The Allison Lees Depression Research Fund**; award recipients Julia Kirby and Renée Nelson; Pamela and John Waddington representing **The Louise Helen Waddington Research Fund**; and Nancy Stanton, acting President and CEO of The Royal's Foundation.

**ESTABLISHMENT OF THE ROYAL'S
DEPRESSION RESEARCH CENTRE (DRC)**



DENIS TROTTIER,
CHARTERED
PROFESSIONAL
ACCOUNTANT AND
PARTNER WITH
KPMG ENTERPRISE,
OTTAWA

“When I fell into my third severe depression in just a few years, I tried eight different medication combinations prescribed by a psychiatrist, but I was not getting better. That’s when I began seeing Dr. Pierre Blier at IMHR. He put me on a new medication that targeted the same area of the brain, but minus the side effects that were interfering with my ability to function. As I’m always happy to tell everyone, Dr. Blier gave me my life back. That’s why I am very excited about the IMHR’s new PET-MRI scanner. With this amazing tool, Dr. Blier and his colleagues will be able to analyze the brain’s responses to specific drugs and develop even speedier diagnoses and treatments. And that means a faster recovery for people who yearn to be free of the burden of depression and other mental disorders.”

Support for mental health research: It’s now time for our patients

The Royal Ottawa Foundation for Mental Health reached a milestone in 2015 when its 5-year Campaign for Mental Health raised \$25 million — its greatest philanthropic achievement to date — for research, care, education and advocacy initiatives.

The Background. The \$25-million campaign was launched in 2010, with depression research and state-of-the-art brain imaging centre as its cornerstone priorities.

The Campaign. “Never before has The Royal succeeded in garnering so much support both philanthropically and through building awareness for this important cause” says Nancy Stanton, Acting President and CEO of the Foundation.

“Our community has helped us make history,” including the hospital’s 80 physicians, who collectively donated more than \$1 million towards research, care and education. “While the last fundraising initiative was to build this fabulous facility we come to work in every day, this time the Campaign for Mental Health focused on expanding the community’s understanding about the importance of mental health research. We are most grateful for all the gifts we received and it’s especially notable that there were 16 of \$1m or more, with 12 of them designated to brain imaging and research.”

Mental health has not always been the charity of choice for a number of reasons, says Ms. Stanton, the most significant being stigma. Fortunately, the tide is turning. “It’s now time for mental health. We’re chipping away at the stigma that mental health carries, but to achieve the kind of positive patient outcomes we’re seeing with cancer and heart disease, we need research.”

Of the \$25 million dollars raised, \$18 million was targeted for research, with \$13.5 million of that funding for the purchase of The Royal’s “game-changing” PET-fMRI machine. Another \$2.5 million went into the establishment of the Depression Research Centre, a centre of excellence dedicated to the discovery of new treatments for depression and to understanding the links between depression and other illnesses.



“This is such an incredible time for mental health. Reaching our \$25-million goal was just the beginning. We’re gearing up for Campaign for Mental Health, Phase 2. The community helped us to build this momentum with its generosity and we have to keep it going for the sake of those suffering in silence.”
— Nancy Stanton

The Benefits. Philanthropy is enabling research and transforming lives. The PET-fMRI machine will give neuroscientists the opportunity to look inside the brain at the molecular level — in real time — to better identify the causes of mental illness and develop more effective treatments. The only machine of its kind dedicated to mental health and brain research, the PET-fMRI is expected to usher in a new era of success in mental health care.

All eyes are on Ottawa, both nationally and internationally, says Ms. Stanton. “We’ve created momentum for mental health research and we

have the equipment to attract the best and brightest minds in the world. At the end of the day, this means our patients can look forward to individualized treatment and more effective care.”

THE ROYAL INCLUDED IN THE TOP 40 RESEARCH HOSPITALS IN CANADA

2012

The many faces of depression

Depression is a serious medical illness with many symptoms, including psychological and physical ones. In fact, researchers have found that depression is common among people who have chronic illnesses such as coronary heart disease, Alzheimer's disease and Parkinson's disease. Moreover, people who have depression and a chronic physical illness tend to have more severe symptoms of both illnesses. "The outcomes of chronic illnesses or diseases are far worse when they co-occur with depression," says Dr. Zul Merali.

"Because of the stigma surrounding depression, it's not uncommon for people with a concurrent chronic disease like diabetes to receive less directed care than someone who doesn't have depression. The fact that some medical conditions 'travel' together, points to a common biological process(es) underlying many of these diseases and depression," he adds.

The Royal's new PET-fMRI machine will provide an opportunity for researchers and scientists at the IMHR to really delve into this mind-body connection; to understand, first and foremost, why there are strong associations between some non-communicable diseases and depression; and, second, identify the best treatments when these illnesses co-occur. "With this machine, we will be able to scan not just the head but the entire body of individuals who have these co-occurring illnesses."



MARGARET TRUDEAU

"The Royal didn't give me my life back, they gave me my best life."

"Depression is like a piazza, a city square; there are many roads that lead to it. It is important for us to understand what 'road' has led to someone's depression. With this machine, we will hope to be able to do just that. Future treatments will need to take individual differences into account to guide precision interventions. The time for 'one-size-fits-all' treatment has passed; the time for personalized treatment is in the near future."
— Dr. Zul Merali

Heart Disease.

People with depression and coronary heart disease are 5 times more likely to die from a heart attack. There is also a strong link between anxiety and heart disease as well as sleep disturbances and an irregular heart rhythm.

Parkinson's Disease.

Up to 60% of people with Parkinson's disease experience depression. Parkinson's not only disrupts motor circuits in the brain but also affects many parts of the brain that are important in controlling mood. In fact, disease related neurochemical changes may lead to depression.

Dementia.

Depression seems to be a precursor to developing dementia. Up to 40% of people with Alzheimer's disease also have depression. One theory is that depression is an early sign of subsequent dementia in some. Another theory holds that depression may directly damage the brain, leading to dementia.

**IMHR'S NEW STRATEGIC PLAN "5 EASY PIECES" (2013-16)
ALIGNED WITH THE ROYAL'S PLANS**

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CEO, March Advisory Services



Richard Patten
Former member of the Legislative Assembly of Ontario (Cabinet Minister of Government as well as Correctional Services) and Parliamentary Assistant to the Premier



Lynn Pratt (Vice-Chair)
Partner, Deloitte LLP, Ottawa



Dr. Hélène Perrault
Full Professor and Dean, Faculty of Health Sciences, University of Ottawa



Dr. Zul Merali (Secretary)
President and CEO, The Royal's Institute of Mental Health Research



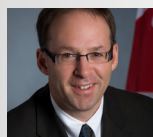
Nancy Stanton
Acting President and CEO, Royal Ottawa Foundation for Mental Health (Royal Ottawa Foundation for Mental Health Liaison)



Robert Gillett
Former President, Algonquin College



Michael von Herff
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Bill Matthews
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George Weber
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Partner, LaBarge Weinstein LLP



Mike Mount
Vice President and Regional Publisher, Metroland Media

DRS. MICHAEL SETO & MARTIN LALUMIÈRE RECRUITED TO LEAD FORENSIC RESEARCH UNIT; THE ROYAL'S DRC BECOMES LEAD OF CDRIN CENTRAL CANADA HUB



Scientific Advisory Board

The Scientific Advisory Board provides expert advice and guidance on the research orientation, performance, and strategic directions of the Institute. Its members are leading figures in the national and international scientific communities, with outstanding clinical or basic science expertise in areas relevant to the IMHR.



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Professor of Psychiatry and Neuroscience and Associate Chair (Research) for the Department of Psychiatry, University of Alberta



Dr. Kimberly Matheson

Professor, Department of Neuroscience and Director, The Canadian Health Adaptation, Innovation, and Mobilization (CHAIM) Centre, Carleton University



Dr. James B. Potash

Paul W. Penningroth Chair, Professor, Chair and Department Executive Officer of the Department of Psychiatry, University of Iowa, Roy J. and Lucille A. Carver College of Medicine



Dr. Timothy Moran

Paul R. McHugh Professor of Motivated Behavior and Vice Chair in the Department of Psychiatry and Behavioral Sciences, Johns Hopkins University School of Medicine

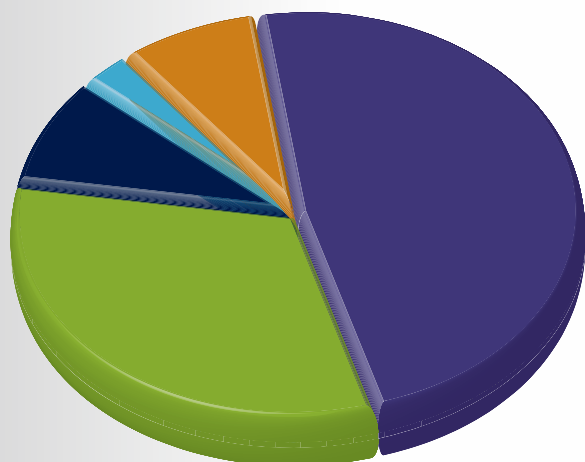
ACQUISITION OF PET-MR IMAGING MACHINE, SUPPORTED BY PHILANTHROPISTS, PROVINCIAL & FEDERAL GOVERNMENTS AND UNIVERSITY OF OTTAWA

2015

CHAIR IN MILITARY MENTAL HEALTH CREATED, COL. RAKESH JETLY NAMED CHAIR; THE ROYAL-MACH-GAENSSEN PRIZE FOR MENTAL HEALTH RESEARCH ESTABLISHED

The Year in Numbers

REVENUE DISTRIBUTION



- 48% External Grants/Contracts/
Salary Awards
- 31% Royal Ottawa Health Care
Group
- 9% University of Ottawa
- 8% Royal Ottawa Foundation
for Mental Health
- 4% Investment Income

Researchers
(Senior Scientists, Scientists,
Associate Scientists,
Clinical Investigators) **56**

Adjunct Scientists and
Visiting Scholars **25**

Research Trainees **105**

Research Support Staff **76**

Volunteers **60**

Peer Reviewed Publications **180**

Research Grants and Contracts **110**

Research Space **27,400 sq. ft.**

Clinical Research Projects During
Reporting Year **107**

Basic Research Projects During
Reporting Year **28**

**DIFD MACH-GAENSSLEN CHAIR IN SUICIDE
PREVENTION RESEARCH ESTABLISHED**

2016

LAUNCH OF THE BRAIN IMAGING CENTRE





Mental Health - Care & Research
Santé mentale - Soins et recherche

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