

WORLD-CLASS MENTAL HEALTH RESEARCH, RIGHT HERE

Today, we see increasingly more stories on the news about mental health. It is an important topic in this region, throughout Canada, and across the globe.

At DMRF, we believe this is a key issue of our time. For us, it's about more than just removing stigma; it's about timely diagnosis, prompt intervention and better treatments. That's why we're supporting world-class, internationally competitive mental health research, right here in the Maritimes.

In this article, we explore several key areas of research significantly supported by DMRF donors. These areas include: using revolutionary genomics research in the diagnosis of Bipolar Disorder; understanding inequities in Indigenous Canadians as it relates to mental wellness; and addressing vulnerabilities in youth after they enter post-secondary life. Thanks to your support, these researchers are at the forefront of mental health research.

DIVING DEEP INTO THE DNA OF BIPOLAR DISORDER

When it comes to interventions in mental illness, Dr. Martin Alda and Dr. Rudolf Uher understand that time is of the essence. That's why they're studying the DNA of Bipolar Disorder in a trailblazing new project, with the hope of speeding up the process for successful diagnosis and treatment. Recently launched with the help of \$250,000 in support from DMRF donors, Dr. Alda and Dr. Uher's study will take place over the next three years at Dalhousie.

Being able to predict which patients will develop Bipolar Disorder will have enormous benefit for early intervention in this destructive illness – before it can take such a heavy toll on a patient's life. Using genomics, Dr. Alda and Dr. Uher hope to not only develop new screening tools to identify Bipolar Disorder early on, but also to inform personalized long-term treatment for patients, based on their unique genetic profiles.

“Funds from DMRF are helping us advance our understanding of genetic variants to ultimately be able to predict—for the first time—which patients will develop Bipolar Disorder. We are the leading group in the world investigating this issue.”

– Dr. Rudolf Uher, Professor & Canada Research Chair in Early Intervention, Dalhousie University



“Many patients with Bipolar Disorder go misdiagnosed for long periods of time, and often go through months or years of trial and error before they find the best treatment. We have a long way to go to closing these gaps in our understanding, and we believe genomics can get us there.”

– Dr. Martin Alda, Professor & Killam Chair in Mood Disorders, Dalhousie University

Given that the risk of suicide is highest within the first years of developing Bipolar Disorder, timely diagnosis and appropriate intervention is critical. Through their outstanding work, we are confident Dr. Alda and Dr. Uher can achieve this, and secure a better quality of life for patients and families affected by this challenging disorder.

With a total budget of \$975,000, the *Early detection of bipolar disorder and optimized selection of long-term treatment* project is funded collaboratively by Dalhousie Medical Research Foundation, Dalhousie University's Department of Psychiatry, Genome Canada's Regional Priorities Partnership Program, Research Nova Scotia, the Nova Scotia Health Authority and Dr. Uher's Royal-Mach-Gaensslen Prize for Mental Health Research.

DR. AMY BOMBAY AND UNDERSTANDING INEQUITIES IN INDIGENOUS MENTAL HEALTH

Dalhousie's Dr. Amy Bombay is renowned for her outstanding research in Indigenous mental health. Through her research, she is actively working to provide the evidence needed to change government policy and improve Indigenous mental health across Canada, and beyond.

Historical trauma from colonization and the Residential School system can affect Indigenous mental health across generations, including

socioeconomic ramifications like income inequality, and possibly even changes in the DNA expression of offspring. Dr. Bombay's work has provided much evidence to this effect, including linking familial residential school exposure to everything from increased risk of suicidal thoughts and behaviours, to increased risk for having been affected by the child welfare system. Beyond facilitating this understanding in the broader Canadian context and culture, this research has also been highly influential in policy reform. In fact, in 2016, Dr. Bombay's work played a significant role in the Canadian Human Rights Tribunal ruling that the Federal government discriminates against Indigenous children, through inequitably funded child welfare services.

"The impacts of colonization are still apparent in Indigenous health and mental health today, and our work is in demonstrating this to bring about change," says Dr. Bombay. "Without the data, these kinds of landmark decisions that support Indigenous populations don't get made."

Since coming to Dalhousie in 2014, Dr. Bombay has received numerous grants to pursue this important work, including two CIHR grants with matched funding from DMRF donors. We look forward to continuing to support Dr. Bombay in her exceptional efforts to reduce mental health inequities among not only Indigenous Canadians, but Indigenous populations worldwide.

DR. YIFENG WEI AND HER TEAM ARE PREPARING YOUTH FOR POSITIVE MENTAL HEALTH

Focusing on another vulnerable population, Dalhousie researchers are actively developing revolutionary resources aimed at improving youth mental health. With approximately 70 per cent of mental illnesses diagnosed before the age of 25, Dr. Yifeng Wei and her colleagues recognize that this is a critical period for mental health education. That's why they're using it to help prevent and address potentially life-changing and long-lasting mental illness.

In a recent project focusing on the stressful transition from high school to post-secondary life specifically, Dr. Wei and her team have developed a new educational resource called "Know Before You Go (KBYG)," to help grade 12 students with this transition. With both an online version and a teacher guide that includes in-classroom exercises, KBYG includes a wealth of information on how to manage a broad range of challenges when entering the realm of post-secondary education, or the workforce. From time management, bill payments and roommate issues, to how to seek support when struggling, KBYG is a fully comprehensive resource that supports positive mental health.

With RBC contributing \$80,000 to this project in 2018 as part of a partnership with DMRF,

the KBYG team has made tremendous progress and is currently piloting the KBYG Teacher Guide with over 400 students in Nova Scotia schools. The KBYG Teacher Guide, an extension of the resource already available online, is set to rollout to grade 12 classrooms across Nova Scotia in September 2019.

"With the funding from RBC, we have been able to collaborate with the Saint Francis Xavier University Faculty of Education to have successfully developed the Know Before You Go Teacher's Guide," says Dr. Wei. "We have hired a full-time research assistant dedicated to the advancement of this project, and are working with the Straight Regional Centre for Education and the Cape Breton-Victoria Regional Centre for Education to train school health and mental health staff on how to apply the resource in the classroom."

Funds provided by RBC in partnership with DMRF have made this project a reality, and grade 12 students across Nova Scotia will soon reap the benefits, well into post-secondary life. With continued support, the ultimate goal of the project is to scale it for national and international implementation. Notably, with established partnerships across the globe between Dr. Wei and institutions like the University of South Carolina, the University of Turku (Finland) and the Jed Foundation (USA), the KBYG resource is already well positioned for uptake.

“Along with a multitude of inequities, we know that Indigenous Canadians face higher rates of mental health issues and suicide than their non-indigenous counterparts. Our work seeks to understand the risk factors associated with these issues, so that we can change this landscape through culturally relevant interventions.”

– Dr. Amy Bombay, Assistant Professor, Faculty of Medicine & Faculty of Health, Dalhousie University



“When it comes to mental health, we know that youth under 25 are vulnerable, and when we add the challenges of post-secondary life to this equation, the pot can boil over quickly. The KBYG online resource and teacher guide will enable grade 12 students to deal with life challenges successfully, cope with stress appropriately and get help when needed.”

– Dr. Yifeng Wei, Assistant Professor of Psychiatry, Dalhousie University; Interim Director of the Sun Life Financial Chair in Adolescent Mental Health Team (Teen Mental Health)