



Canadian Depression Research
and Intervention Network

Réseau canadien de recherche
et intervention sur la dépression

CDRIN:

**INNOVATION +
COLLABORATION =**

TRANSFORMATION

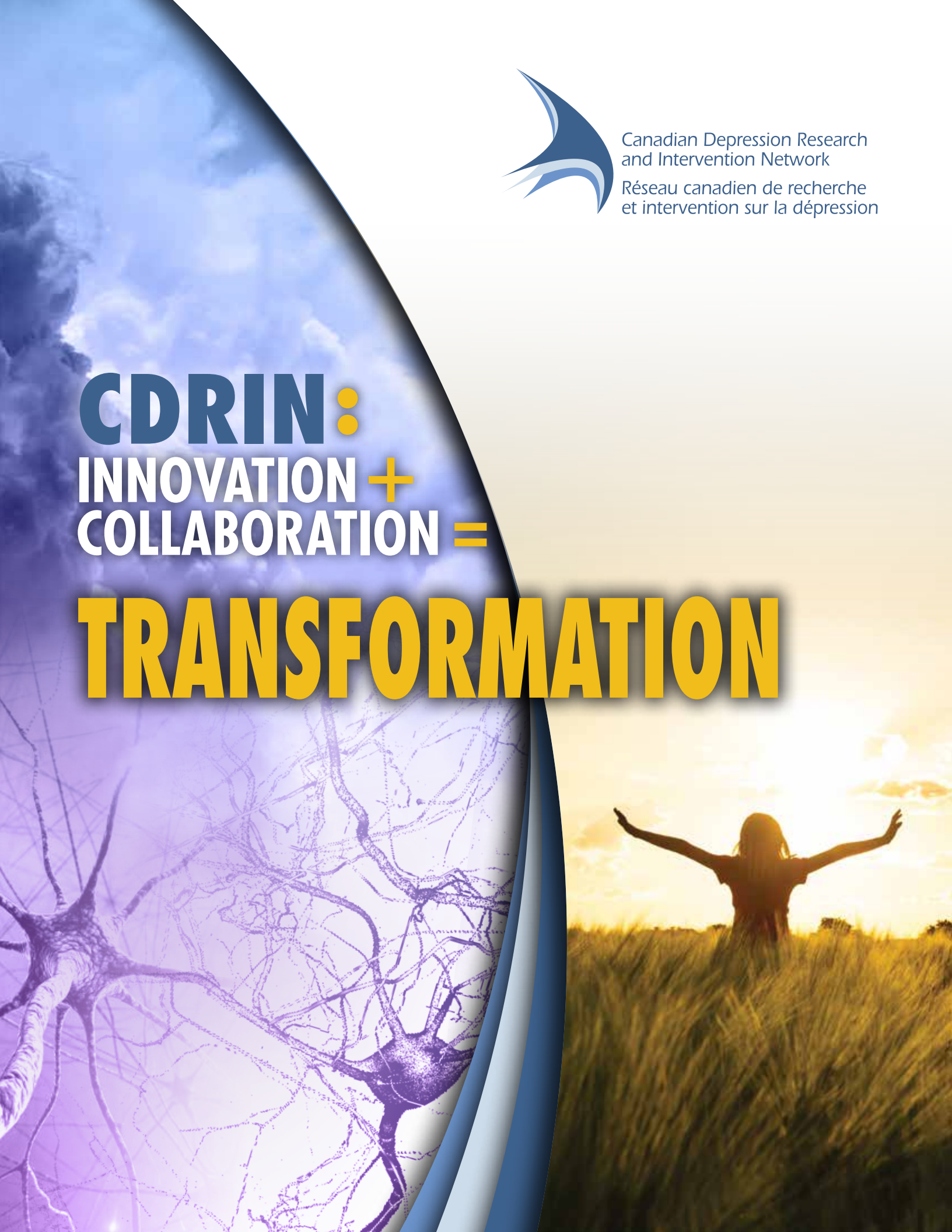


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CDRIN:

Vision

CDRIN will mobilize Canada's mental health community, including people with lived experience, to address important issues associated with mood disorders and post-traumatic stress disorder (PTSD) through research network development, capacity building and knowledge translation in order to improve the lives of people with mood disorders and their families.

At A Glance

CDRIN is a partnership among the Mental Health Commission of Canada, Mood Disorders Society of Canada and The Royal's Institute of Mental Health Research that was established by an investment of \$5.2-million from the Government of Canada.

CDRIN has made tremendous progress in establishing a network currently consisting of Depression Research Hubs across Canada, spanning from British Columbia to the Maritimes and bringing together the top scientific minds in depression research and treatment, the community of people with lived experience of depression and the next generation of trainees. The MHCC has been instrumental in CDRIN's success.

Our Partners

CDRIN's founding partners are the Mental Health Commission of Canada, the Mood Disorders Society of Canada, and The Royal's Institute of Mental Health Research.

CDRIN, through its network, is currently affiliated with 53 partnering institutions and organizations across Canada.

CDRIN also collaborates with other national and international networks. These include CANMAT (Canadian Network for Mood and Anxiety Treatments); CIMVHR (Canadian Institute for Military and Veteran Health Research); NNDC (the U.S. National Network of Depression Centers); and EAAD (the European Alliance Against Depression).

Board of Directors

DAVE GALLSON – Associate National Executive Director of the Mood Disorders Society of Canada.

DR. ANDY GREENSHAW – Interim Chair of the Depression HUBs of CDRIN, a Professor & Associate Chair (Research) Department of Psychiatry (University of Alberta).

DR. RAY LAM – The University of British Columbia - Professor and Associate Head of Research the Department of Psychiatry, Co-lead BC Reach HUB and the Executive Chair, for the Canadian Network for Mood and Anxiety Treatments called CANMAT.

ED MANTLER – Vice President of Programs and Priorities, the Mental Health Commission of Canada.

DR. ZUL MERALI – President & CEO of the University of Ottawa Institute of Mental Health Research (IMHR).

DR. DAVID PILON – Chair of the Board, Co-lead of CDRIN in the Maritime HUB; Program Leader for Specialist Mental Health with the department of Psychology at Dalhousie University.

DR. CAROLINE TAIT – Co-lead of The First Peoples – First Person Indigenous Hub, aligned with the Department of Psychiatry at the University of Saskatchewan.

PHIL UPSHALL – National Executive Director for the Mood Disorders Society of Canada and a Special Advisor to the President and CEO of the Mental Health Commission of Canada – Louise Bradley.

GEORGE WEBER – CEO of the Royal in Ottawa.

Message from the Canadian Depression Research and Intervention Network's Co-Founders

The success stories featured in this report are proof positive that the dramatic shift in thinking behind the Canadian Depression Research and Intervention Network (CDRIN) is already working wonders. As joint founders of this remarkable network, the Mental Health Commission of Canada, the Mood Disorders Society of Canada and The Royal's Institute of Mental Health Research, we are collectively embracing the opportunity CDRIN gives us to reach for the stars and realize our ultimate goal of eradicating this devastating disease.

It is our belief that not only can we get more people better faster, but that we can get to the cure for depression if we are systematic and collaborative in our approach. It is just these powers — to mobilize and maximize collaboration in a systematic way — that make CDRIN different from anything Canada's mental health community has tried before in tackling depression.

The network's pan-Canada approach, bringing together our best minds through research hubs from the Maritimes to British Columbia, will ensure that every discovery gets the attention and momentum it deserves. With researchers, scientists, clinicians, and people with lived experience of the disease working in close synergy, the network is empowered as both an innovator and collaborator. As a result, we can readily translate scientific breakthroughs into practical treatments, diagnoses and preventive strategies.

CDRIN is equally empowered as an educator, training young researchers; and as a transformer, giving people who have themselves experienced depression a voice at the research table.

Everyone involved with CDRIN is passionately committed and knows just how much is at stake. As the recent public outpouring of grief at actor Robin Williams' suicide shows us, mental illness can strike anyone. Despite his courageous lifelong struggle to manage his disease, Robin Williams ultimately lost the battle. His tragic death makes clear the need for more effective treatments - and that mental illness can be fatal.

In combatting this debilitating disease, CDRIN draws on the dynamic synergy of specialists working on depression nation-wide, pooling their talents, skills and resources, and inspiring one another. Our network is also extending its research partnerships internationally from the United States to Europe. Through CDRIN, Canada is superbly placed to join the global initiative of finding a cure for depression so that no life is ever lost or irreparably blighted by depression again.



▲
Phil Upshall,
The Mood Disorders
Society of Canada

Louise Bradley,
The Mental Health
Commission of Canada

Dr. Zul Merali,
The Royal's Institute of
Mental Health Research



Louise Bradley

Message from Louise Bradley, President and CEO of the Mental Health Commission of Canada

The Mental Health Commission of Canada is proud to be a founding member of the Canadian Depression Research and Intervention Network (CDRIN). As highlighted through inspiring success stories, this report demonstrates how this Pan-Canadian network is bringing to bear the kind of changes only imagined before.

CDRIN's research hubs, spanning from British Columbia to the Maritimes, are linking our country's outstanding mental health researchers, clinicians, trainees and people with lived experience in a wonderful collaboration that not only shares, but also stimulates life-transforming discoveries. The innovations they are forging in the diagnosis and treatment of depression and PTSD, combined with CDRIN's next-generation training and ongoing capacity building, make this network a powerhouse — one accessible to clinicians and primary care providers nation-wide. As a result, they will be able to offer their patients the very best, most up-to-date diagnostic tools and individualized treatments.

What makes this network truly comprehensive is its inclusion at the research table of the people we most want to help, those with the lived experience, and their families. For all these reasons, I am absolutely confident that we will see the success stories in this report replicated and magnified countless times in the future, as CDRIN leads the way with an unprecedented transformation in the mental health outlook of people across the country.



CDRIN: The New Way Forward

FROM COLLABORATION TO

INNOVATION,

FROM DISCOVERY TO RECOVERY

— THE CANADIAN DEPRESSION

RESEARCH AND INTERVENTION

NETWORK (CDRIN) REPRESENTS

A NEW WAY FORWARD IN

DEPRESSION RESEARCH

THE NETWORK IS GROUNDBREAKING ON MANY FRONTS

CDRIN, as a network of Depression Research Hubs distributed across Canada, links the best scientific and clinical minds working with those impacted with depression and related mental health conditions. Collaboration and networking opportunities both within and across these hubs enhance the ability to share knowledge and findings, and enable large-scale clinical trials aimed at testing and implementing innovative interventions for depression and related mental and physical health disorders. CDRIN also ensures sustainable research and intervention capacity through education and training programs for the next generation of mental health researchers and providers.

Most importantly, the end-user communities, including primary care providers and people with depression, will be included at the research tables, to ensure some of the relevant gaps are being addressed — leading to better outcomes.

“At first, we recognized that people living with depression in Canada needed a voice at the national level,” says Phil Upshall, National Executive Director of the Mood Disorders Society of Canada, a key partner in CDRIN, along with the Mental Health Commission of Canada and The Royal’s Institute of Mental Health Research (IMHR). “But as we became organized, we realized that people with lived experience, or what we call consumers or patients, did not have a voice in the actual decision-making. It is our view that we had to advocate for the full engagement of people with lived experience.”

CDRIN WILL ENCOURAGE AND ENABLE JUST THAT

Incorporating the diverse expertise of people who live and work with mental health issues into the design and implementation of research frameworks and service-delivery models is a cornerstone of the CDRIN concept. This is important given the devastating personal and socio-economic impacts of depression and related disorders to individuals, families, employers, the health system and the overall economy. Mobilizing the Canadian mental health and research communities — through CDRIN's newly created regional hubs, through partnerships with academic institutions and internationally through partnerships with the U.S and European depression research networks — will enhance and accelerate our understanding of the causes depression and treatment through innovative interventions.

Sharing knowledge; allowing the best researchers to collaborate, innovate and initiate change; engaging and including the patient community for better understanding; turning research findings into impactful clinical care; identifying and addressing research gaps; and bringing Canada to the forefront of the next generation of research: these are the tools needed to help people with depression recover and live productive lives.

Each regional research Hub includes persons with lived experience on their leadership team, and CDRIN has a Lived Experience National Committee ensuring those who are impacted by depression and their carers are an equal partner in all activities.

"CDRIN is truly a new way of collaborative discoveries," says Dr. Zul Merali, CDRIN's founding scientific director and President and CEO of IMHR. "By building new connections and cohesion among Canada's mental health research community, vast array of service providers and persons living with depression and related illnesses, CDRIN will open new approaches to detect, prevent and treat these life-altering illnesses."

CDRIN — the new way forward.

A LARGE TENT

Think of CDRIN, with its depression research hubs distributed across the country, acting as a large tent under which persons with lived experience and researchers in the field of depression are working together and sharing knowledge.

Then think of the Canadian tent reaching out and connecting with researchers in the United States, through the National Network of Depression Centers (NNDC). And then widen this sphere of collaboration to Europe and Asia. We enrich our knowledge and capacity multifold Depression is not a local or national issue, according to the World Health Organization. It is a global issue, requiring global solutions, says Dr. Merali, who is excited about a global approach to tackle depression head-on. A partnership with the European Alliance Against Depression is now in place, and CDRIN has led a delegation to China, in partnership with the CIHR Institute of Neurosciences, Mental Health and Addiction, to promote collaborative research between Canada and China.

By working together here and abroad, researchers will be able to reach their end goal quicker — rapidly and effectively treating depression and eventually finding a cure for depression.

CDRIN Conference

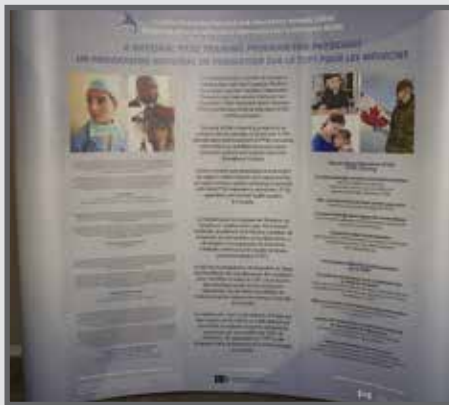


The Honourable Lisa Raitt



Her Excellency Sharon Johnston, C.C.

Photo credit: Sgt Ronald Duchesne, Rideau Hall
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PTSD Training Program for Physicians



Student Poster Presentation



William (Bill) Mussell, Dr. Caroline Tait, Louise Bradley, Phil Upshall



Jim Hughes, Graham Boeckh Foundation



Mental Health Commission of Canada

TRANSFORMING DEPRESSION THROUGH CONNECTIONS

"All of us here will have a visceral capacity to understand the effect mental illness has," said Her Excellency Sharon Johnston, the wife of Governor General David Johnston, in her opening remarks at CDRIN's first-ever annual conference, held March 26–27, 2014, in Ottawa. In closing, she paid homage to the conference theme Transforming Depression Through Connections: "Mother Teresa would say we were reducing stigma one drop at a time."

The conference — which attracted the leading minds in mental health research from across North America — presented new ideas for treating post-traumatic stress disorder, binge eating, women who have experienced stressful life events and bipolar disorder. A panel on lived experience highlighted the stories and experiences of three people. Rounding out the conference were presentations on aboriginal mental health and the transformative youth mental health initiative.



Dr. Zul Merali, Dr. Katharine Gillis, Louise Bradley, Dr. AG Ahmed, Phil Upshall



Robert Gabrys, Robyn McQuaid, Lisa Batten, Jennifer Phillips



Col. Dr. Rakesh Jetly, Col. Dr. Eric Vermetten, Phil Upshall, Louise Bradley, Dr. Zul Merali and Bill Wilkerson

Hubs of Discovery, Changing Outcomes

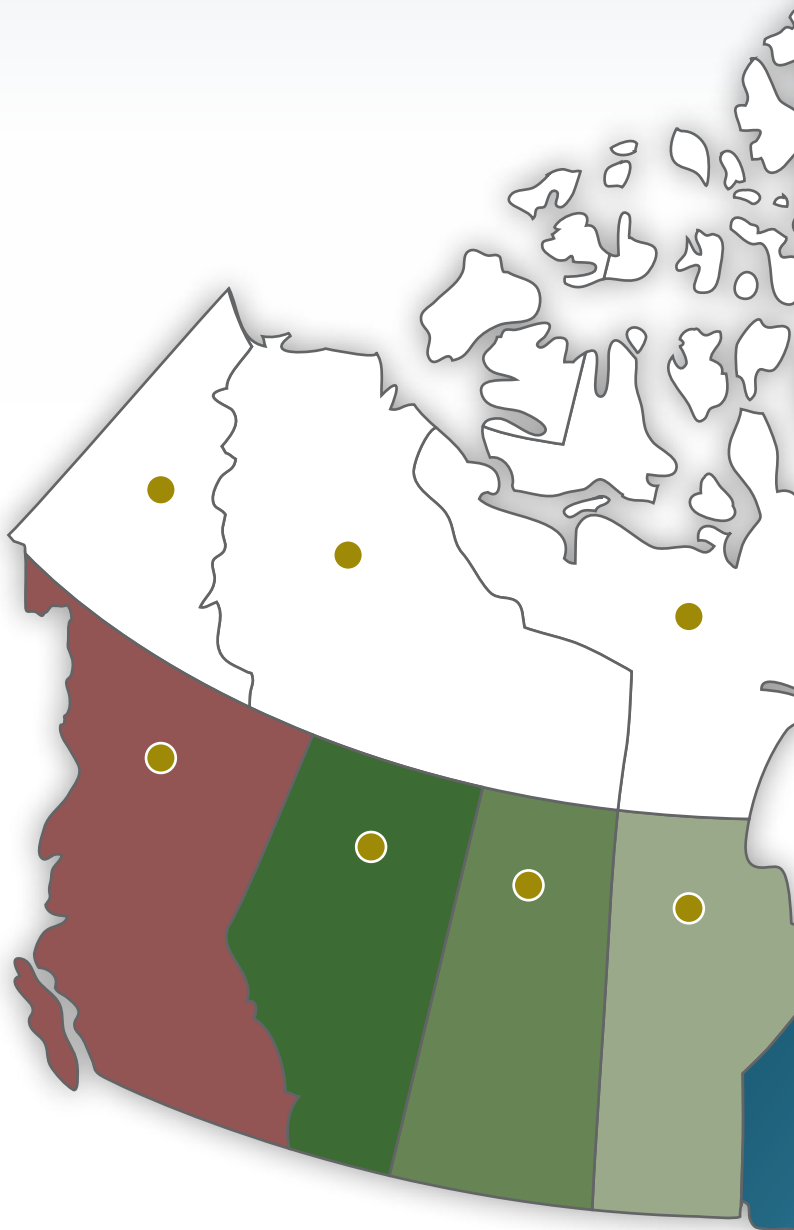
IDENTIFY TREATMENT GAPS. WORK TOGETHER ON NEW INTERVENTIONS. SHARE FINDINGS. HELP PEOPLE WITH DEPRESSION GET BETTER FASTER. HUBS ACROSS THE COUNTRY ARE TACKLING GROUND-BREAKING WORK:

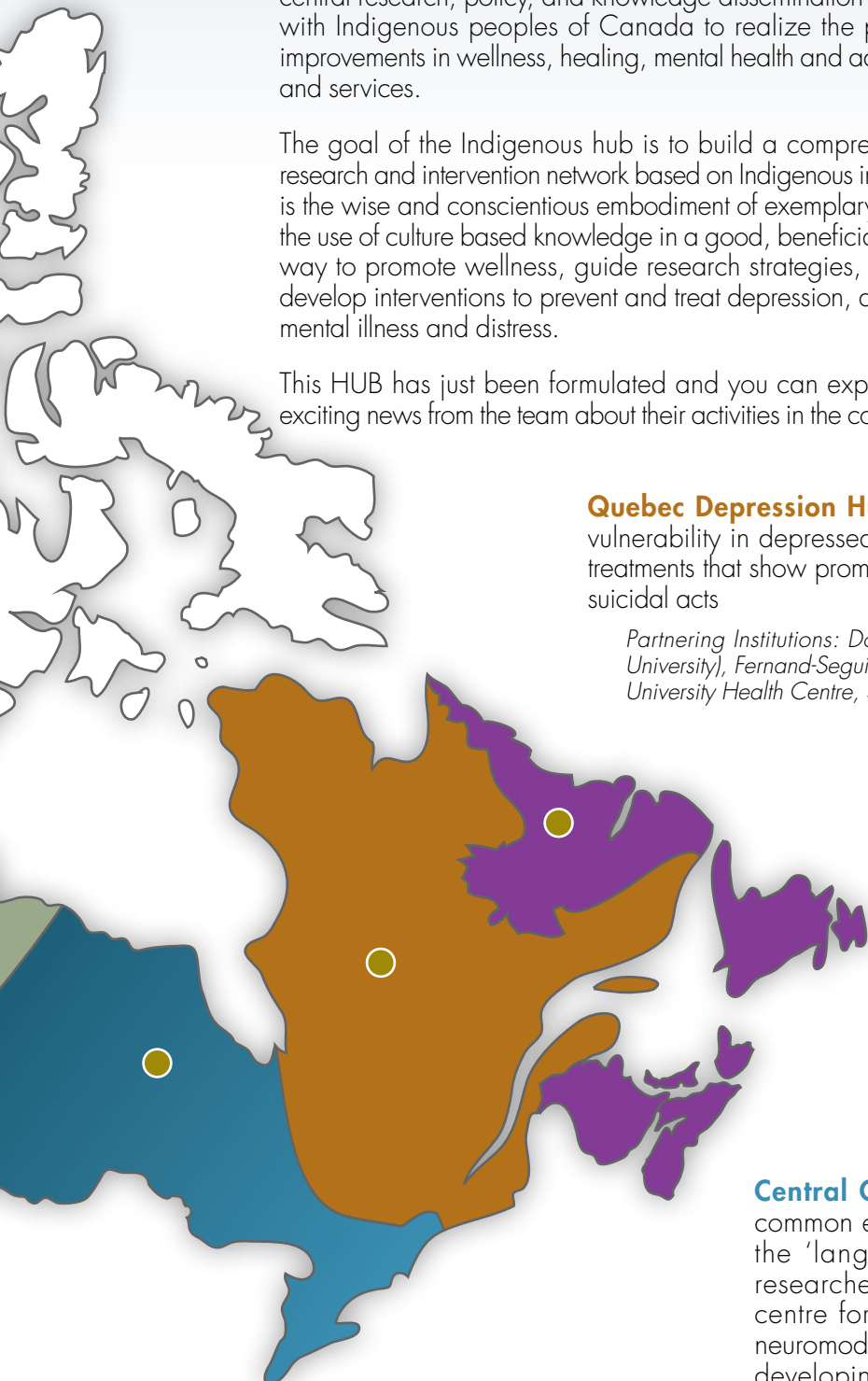
BC Depression Research, Education, Awareness, and Care Hub — bringing early diagnosis and intervention to high-risk teens, young adults and people working with depression; establishing measurement-based care to optimize treatment; and using technology-aided methods to improve clinical trials

Partnering Institutions: University of British Columbia, Vancouver Coastal Health, Interior Health Authority, Fraser Health Authority, Northern Health Authority, Vancouver Island Health Authority, Provincial Health Services Authority

Alberta Depression Hub — developing new ways to track, monitor and predict the course of depression through statistical modelling and big data analytics in order to ensure that patients receive the right intervention at the right time

Partnering Institutions: University of Calgary, University of Alberta, University of Lethbridge, University of Saskatchewan, University of Manitoba, Campus Alberta Neuroscience, Alberta Alliance of Associations for Mental Illness and Mental Health, CMHA/Strategic Clinical Network in Addictions & Mental Health, Alberta Health Services, Alberta Innovates Health Solutions



- 
- **The First Peoples – First Person Indigenous HUB** — will play a central research, policy, and knowledge dissemination role in partnering with Indigenous peoples of Canada to realize the potential for vast improvements in wellness, healing, mental health and addictions supports and services.

The goal of the Indigenous hub is to build a comprehensive national research and intervention network based on Indigenous intelligence, which is the wise and conscientious embodiment of exemplary knowledge and the use of culture based knowledge in a good, beneficial and meaningful way to promote wellness, guide research strategies, and ultimately to develop interventions to prevent and treat depression, and other forms of mental illness and distress.

This HUB has just been formulated and you can expect to hear more exciting news from the team about their activities in the coming newsletters.



Quebec Depression Hub — uncovering biomarkers of suicide vulnerability in depressed individuals and testing new clinical care treatments that show promise in alleviating depression and preventing suicidal acts

Partnering Institutions: Douglas Mental Health University Institute (McGill University), Fernand-Seguin Research Institute (Université Montréal), Montreal University Health Centre, St. Jerome Hospital

Maritimes Depression Hub — establishing a patient registry across all age groups to facilitate the evaluation of outcomes, the delivery of services and the integration of research initiatives

Partnering Institutions: Capital District Health Authority, Dalhousie University/Department of Psychiatry & Faculty of Medicine, IWK Health Centre, Annapolis Valley Health Authority, Maritime SPOR Support Unit, Nova Scotia Health Research Foundation, Canadian Armed Forces

Central Canada Depression Hub — developing a common electronic assessment package to standardize the 'language' shared by patients, clinicians and researchers; creating a state-of-the-art brain imaging centre for personalized interventions; creating better neuromodulation (rTMS) interventions to treat depression; developing 'early episode' depression clinics, to help younger people effectively deal with depression

Partnering Institutions: The Royal/Institute of Mental Health Research (University of Ottawa and Carleton University), Centre for Addictions and Mental Health – CAMH (University of Toronto), The Lawson Health Research Institute, London Health Sciences Centre (University of Western Ontario)

Ontario Depression Network — identifying biomarkers to pinpoint the different types of depression and, ultimately, the treatment that works best for individual patients

Partnering Institutions: University of Toronto, University of Health Network, Royal Victoria Hospital, Homewood Research Institute, St. Joseph's Health Care, Providence Care



B.C. Depression Research, Education, Awareness and Care Hub (REACH) — Reaching for the skies

As an acronym, REACH couldn't be a more appropriate name for the joint B.C. CDRIN/CANMAT hub.

As the name suggests, the B.C. hub has reached out to many stakeholder groups across the province to develop its organizational framework, including governance and administrative structures, in the belief that involving organizations from the grassroots up will ensure the hub's future success. The University of British Columbia's Dr. Raymond W. Lam, co-leader along with Dr. Lakshmi N. Yatham, explains: "We didn't want to create an administrative structure for the hub without input from the collaborative centres, community groups and people with lived experience. Everyone's goal is the same — to improve the lives of people with depression — so it's important for all of us to reach out, and involve, everyone in the entire process."

At its first organizational meeting in late August, the hub drew representation from most of the province's regional

health authorities, major hospitals, networks such as the Men's Depression and Suicide Network and CREST.BD, community organizations including the Mood Disorders Association of B.C. and Healthy Connections Project, as well as people with lived experience. "Everyone is excited about the research and clinical possibilities that the hub holds," says Dr. Lam.

At this initial meeting, the group brainstormed ideas for clinical research projects.

"While early intervention improves outcomes for people with mood disorders, identifying people at risk for depression or bipolar disorder early on and helping them to implement strategies to prevent the development of mood episodes" is a major objective, says Dr. Yatham. Thus, drawing on the experience of the STOP-EM Program and the expertise and involvement of CREST.BD — a multidisciplinary network of researchers, healthcare providers and people living with bipolar disorder — one project will emphasize early



Dr. Lakshmi Yatham,
Sophia Van Norden,
Dr. Raymond Lam



diagnosis and intervention for youth and young adults at high risk for developing depression and bipolar disorder.

Early detection is also key for people in crisis who are at risk of attempting suicide and for people in the workplace who suffer from depression. "In B.C., where the population is geographically far-flung and culturally diverse, it is critical to develop innovative, meaningful programs and better services and resources," says Dr. Yatham.

Multi-centre clinical trials, the identification of biomarkers to aid in treatment, standardized assessment measures, community-based research projects, social media for engaging and informing, and the use of e-Mental health tools and psychosocial approaches are some of the ideas proposed.

As well, the hub believes it is critical to develop a treatment map or pathway to help people with depression and other mental health issues understand what to expect from treatment and how to navigate what can be a complex mental health system.

"A lot of clinical work is happening individually across the province," says Dr. Lam. "We're trying to identify those projects that we could work on together as part of our new broader network. With our collaborative centres and partners/stakeholders, we'll be holding regular meetings using technology-based tools such as webinars and electronic rounds to connect with each other, coordinate our research and clinical work, and engage people with lived experience."

"One of the goals of the B.C. Depression REACH is to ensure that people with mood disorders get evidence-based treatments," says Dr. Yatham. "A lot of progress has been made over the past two decades in the development of pharmacological and psychological treatments for people with mood disorders, but we need to ensure that all care providers are kept abreast of these advances through education."

"The active involvement of people with lived experience on the research and clinical side is quite new for mental health. It's the right time for this. All of us involved in this joint CANMAT/CDRIN initiative will be leaders in moving the way forward."

— Dr. Lam

REACHING FOR THE SKIES

Depression REACH symbolizes a number of things for the B.C. hub. "We want people to reach out to each other," says Dr. Yatham. "But we're also reaching for the skies: reaching to meet our goal, which is to improve the lives of people living with depression."

For the hub, success both short- and long-term is simple: where all stakeholders, including community engagement groups, will be actively involved in every clinical project going forward. "Our research is going to be embedded in clinical care. To ensure this happens, it is important to formalize our networks and alliances, from the steering committee level and up," adds Dr. Lam.



Alberta-Based Hub — Where the potential lies in research and patient involvement at the grassroots

If success breeds success, then the Alberta-based Depression Hub — which extends into Manitoba, Saskatchewan and the Far North — is well on its way to achieving this.

Plans are unfolding to build on existing initiatives such as EMPATHY (Empowering a Multi-sectoral Pathway Towards Healthy Youth); mine the data already collected from such studies as All Our Babies, which identified early-risk markers to child development based on a clinical study of 3,300 mothers and babies; and design a curriculum that is meaningful for both researchers and people with lived experience.

“We’re going to use these projects as a catalyst, build on them and then move forward on future projects,” explains the University of Alberta’s Dr. Andrew Greenshaw, who is the hub co-lead along with Dr. Scott Patten from the University of Calgary.

This also means involving people with lived experience at the outset. To help make this happen and facilitate buy-in, this hub has partnered with the Alberta Alliance on Mental Illness & Mental Health, which strives to improve mental

health consumers’ quality of life as well as strengthen their collective voice. The Alliance is enthusiastic about this partnership, and is helping to organize small forums across the province for people with lived experience to learn about and become involved in the hub’s research projects — and lend a “real-world perspective.”

In terms of clinical projects, “we’re not talking about token consultation,” says Dr. Greenshaw, “but about inviting people with lived experience to be involved in the entire research process.” This means establishing a two-way communication between researchers and people with lived experience — ensuring that researchers learn about and understand what is important to people who struggle with depression and, conversely, that people with lived experience understand the research process. “Our ultimate goal,” says Dr. Greenshaw, “is for people with lived experience to be able to explain to policy-makers and other stakeholders the relevance of the research work to them.”

Initially, the hub plans to seed a large clinical epidemiology project where researchers would look at such things as incidence rates, potential causes, age of onset, course



Dr. Andrew Greenshaw, Dr. Glen Baker, Dr. Scott Patten, Dr. Lorraine Breault, Kaj Korvela



of illness, treatment responses, gender differences and other factors that might predispose a person to depression.

Another key project on the planning table involves collecting and analyzing vast amounts of data already available from the All Our Babies initiative, which began with a 2008-2011 study led by Dr. Suzanne Tough and continues with other funding, including data that were collected from Calgarians in the All Our Babies cohort affected by the 2013 massive flood. Big data analysis has the potential to make it possible to one day be able to develop personalized treatment interventions for people suffering from depression. Dr. Greenshaw explains: "In psychiatry, we have been looking at things in a piecemeal fashion, but this doesn't help us move forward in understanding depression, which is complex and has different clusters of symptoms. No one size fits all. It also takes weeks for a person to respond to treatment."

"We haven't been able to crack the mysteries of depression yet, but big data analysis will enable us to begin to identify patterns and indicators — who is more resilient versus who is more vulnerable, that kind of thing. If we can catch those who are less resilient early on, this will be huge," explains Dr. Patten.

Dr. Greenshaw marks success for the Alberta-based hub in simple terms: when people with lived experience provide positive feedback to their work; and when articles in peer-reviewed publications highlight the perspectives of advocacy and consumer groups.

"There's a revolution going on in the field of mental health, where people are recognizing the importance of patient engagement. CDRIN symbolizes how important this is for making real progress."

— Dr. Greenshaw

"CDRIN is creating a connection between depression researchers across the country, which opens certain doors. For me, this is where the excitement lies."

— Dr. Patten

EMPATHY

EMPATHY is all about understanding what others are feeling because you have experienced it yourself or can put yourself in their shoes. It's a perfect acronym for a program that addresses youth depression, suicide and addiction. It was initially offered in Red Deer and Edmonton, but CDRIN's Alberta-based hub plans to roll it out across the province — and use it as a platform for specific research purposes, including genetic, environmental and psychosocial, to help researchers more clearly pinpoint the precursors to mental health and addiction issues.

Here's how the program works now. During the first stage, which is focused on building resiliency among youth between the ages of 11 and 14, team members teach cognitive behaviour and social problem-solving skills in a group setting. In the second stage, youth between the ages of 11 and 18 are screened for depression, risk of self-harm, anxiety, body image, alcohol and drug use, self-esteem and quality of life. Finally, youth considered to be high risk receive school-based support and counselling, and may be referred to primary care staff or specialists depending on the severity of their addiction or mental health issue.

Central Canada Depression Hub — Where success starts with a ‘common language’

The initial hub under the CDRIN umbrella ‘sprouted’ from The Royal’s Depression Research Centre (that was ‘twinned’ with the Michigan Depression Research Center). This Central Canada Depression Hub (CCD) currently constitutes a partnership between the Centre for Addictions and Mental Health (CAMH; University of Toronto), London Health Sciences Centre (Lawson Health Research Institute and Western University) and The Royal’s Institute of Mental Health Research (IMHR; proudly affiliated with the University of Ottawa).

The Central Canada Depression Hub is set to roll out a standardized tool that everyone from researchers to clinicians to patients can use to measure and track depression. This tablet-based tool will put patients at the centre of data input, which will standardize the diagnosis and assessment of depression. “Currently, many tools exist to assess depression,” says Dr. Zul Merali, who along with Dr. Pierre Blier heads the Central Canada hub. “By developing a standardized tool, we will ensure that a common ‘language’ will be used by the clinicians, patients and researchers across Canada” — just as we use common measures or ‘vital signs’ to track fever or blood pressure.

The clients will be able to see a snapshot of how they are doing now compared to how they were doing before. Dr. Merali explains: “A patient will see a trending graph, giving them a visual snapshot of how they are doing, and their doctor will have access to the same visual information, so they can track the progress together. This is innovative approach to client-centred care.”

In addition to that, a research portal will be created to seamlessly enable researchers to analyze and use de-identified information from patients (who consent) to being part of research studies. As we standardize and harmonize the information collection, down the road we will be able to pool the data from various hubs into a large data set or registry that will be available to researchers — making research outcomes more robust and significant. “We need large data sets to produce robust findings — something that is currently absent in the field of mental health research,” says Dr. Merali.

Another key project on tap for the hub involves conducting in-depth research into the effectiveness of more rapid-acting



Dr. Zul Merali, Dr. Elizabeth Osuch, Dr. Pierre Blier, Michelle Solomon, Claude Lurette



anti-depressant drugs, such as ketamine, as well as various drug combinations in alleviating severe depression and suicide ideation, led by Dr. Blier.

Additionally, we are excited about the expertise that two hub partners can bring to the research table: CAMH's leadership in the use of neuromodulation techniques (such as repeated transcranial magnetic stimulation) to treat depression (and other conditions) and to help develop a network of experts in Ontario and across Canada, under the leadership of Dr. Jeff Daskalakis. In addition, Dr. Arun Ravindran from CAMH will lead efforts in the realm of mental health interventions in the developing countries to treat depression and other mental health issues; In addition, the London partnership will bring a special focus on depression in the youth, through the ground-breaking work of Dr. Elizabeth Osuch at the London Health Sciences Centre, leading the First Episode Mood and Anxiety Program to address youth depression intervention early and quickly.

Finally CAMH, Lawson and IMHR will bring state-of-the-art brain imaging technology to help detect, characterize and formulate individualized treatments for depression.

For Dr. Merali, success down the road will be when depression can be detected quickly and treated more rapidly and effectively — and eventually cured.

"Long-term success, for CDRIN, is that we will be able to quickly pinpoint what is going awry in the brains of someone with depression, treat according to what the individual's brain circuitry is showing us and ultimately find a cure for depression. We'll get there, but we need to harness the power of the best minds through a collaborative approach."


— Dr. Merali

TRANS-DISCIPLINARY TRAINING BOOT CAMPS FOR YOUNG RESEARCHERS

Boot camps, exchanges, cross-training opportunities, courses — these and other mentoring programs are being tested for a broader roll-out. "It's important that trainees be exposed to both the basic fundamental research (at the bench) and to the human dimension of depression," says Dr. Merali, "so that they are better able to understand what opportunities and obstacles exist at all levels of research. Through such training, they will also be able to appreciate the lived experience perspective, to keep research real and relevant to the end-user communities."

The CCD Hub has engaged persons with lived experience in its leadership structures to ensure that all of its governance, directions and activities are meaningful to the spectrum of stakeholders, including the Francophone community.

The hub is looking into expanding training opportunities not only across the three partnering institutions but also across Canada. "We want to encourage our trainees to think outside the academic box — to pick something that excites them and go out and learn about it from experts anywhere in Canada, Dr. Merali added."



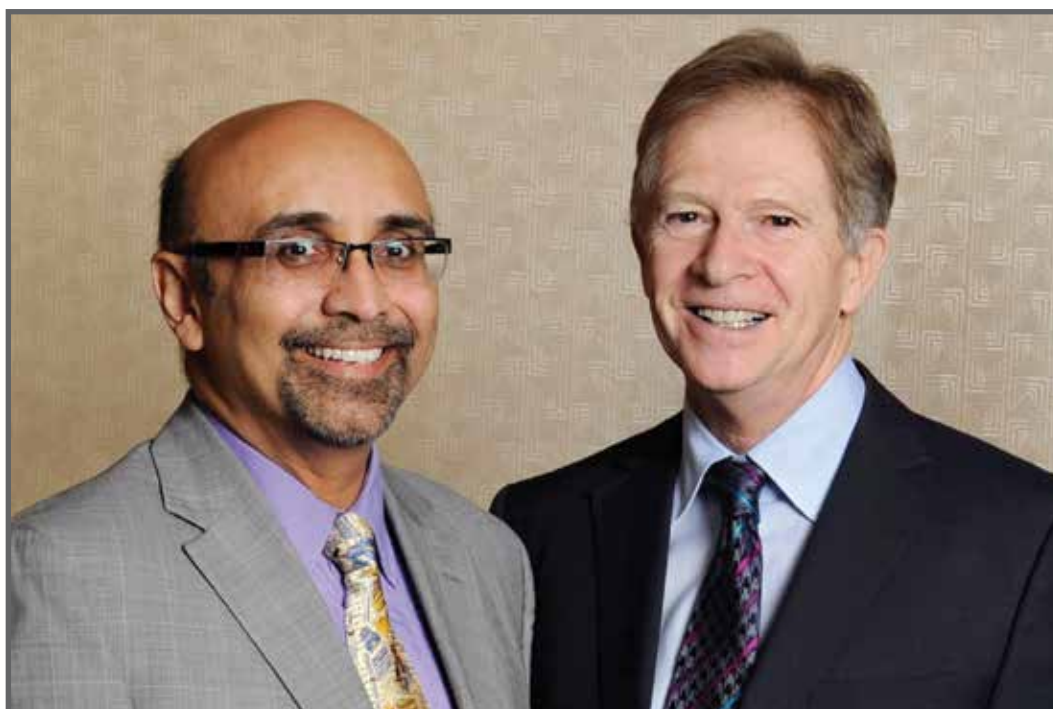
Ontario Hub – Where intelligence in mental health means reaching out to communities

For the Ontario hub — a joint initiative of CDRIN and CANMAT (Canadian Network for Mood and Anxiety Treatments) — improving “mental health intelligence” among primary care physicians and people with depression underlies every planned initiative. From addressing suicide risk/prevention and depression in the workplace, to evaluating potential clinical measures and biomarkers in real-world clinical settings, to exploring new treatments such as rTMS at regional centres, it all starts with putting the patient front and centre and building awareness.

As a first step, the hub - in partnership with the Mood Disorders Association of Ontario - is holding small workshops for patients, families and staff in community venues at the hub’s regional sites. To date, workshops have been held in Peterborough, Hamilton, Guelph and Kingston. Following a general overview of depression research and new treatments, a person with lived experience is invited to share his/her personal story.

The workshop approach will continue to be used to build links in the community, says the University of Toronto’s Dr. Sidney Kennedy, who is the hub co-lead along with colleague Dr. Sagar Parikh. “We are developing a good partnership with the Mood Disorders Association of Ontario, and will be working with them to help us roll out some of our initiatives.”

One initiative involves teaching primary care doctors how to use measurement scales to diagnose and treat depression. Dr. Parikh explains, “Depression scales are not widely used in primary care settings. We want to build awareness among doctors on how to use these scales in order to inform more effective treatments. For example, if in measuring a patient’s level of depression, the number on the scale is higher than it was two weeks earlier, this is what you should do in terms of treatment; four weeks later, if the number is this, this is what you do, and so on. By tying measurements to treatment decisions, we can help to improve diagnosis and treatment.”



Dr. Sagar Parikh and
Dr. Sidney Kennedy



People with lived experience will be taught coping skills and self-management strategies — “they become much more of a partner rather than a recipient of care,” says Dr. Parikh.

Using the workshop model, the hub also plans to train local experts on suicide prevention strategies — such as cognitive remediation — which are being used effectively at St. Michael’s Hospital, where the hub is located.

Other key initiatives involve testing new technologies such as rTMS, and educating the sites on how to participate in a clinical trial and use diagnostic instruments. This could include testing biomarkers that are identified from the larger Biomarker initiative that is being conducted at a number of hubs across Canada. “We have completed EEG imaging of 40 patients and will be analyzing the data for the next few months,” says Dr. Kennedy. “Early next year, we expect to have developed a promising EEG marker, which we hope to roll out for beta-testing.”

Success for the co-leaders means building relationships with the hub’s regional sites and partners to the point where a strategy that has been developed and used in a research hospital is adopted and used effectively in the primary care setting. “Our objective is to build a platform of translational psychiatry that has a direct application to health care and improves ‘mental health intelligence’ across all domains,” says Dr. Parikh. “We are eager to develop outreach opportunities and build on 20 years of CANMAT activity,” adds Dr. Kennedy.

“CANMAT has been championing measurement-based psychiatry for over a decade. Our hub is enhancing and refining that.”


– Dr. Parikh

“We are excited about the opportunity for CANMAT to partner with CDRIN in extending some of the work that CANMAT has been doing since 1995. This is a good opportunity to build on 20 years of activity.”

– Dr. Kennedy

MENTAL HEALTH INTELLIGENCE GOES VIRAL

YouTube videos and other interactive Internet tools to help people with lived experience self-manage their depression. Webinars and videos geared to researchers to spread knowledge and new findings. Videos for clinicians and doctors on the use of measurement scales for diagnosing and treating depression. Social media awareness campaigns targeted to youth and adults. These and a host of other online tools are some of the ways that the Ontario hub plans to “broadcast a voice and face for mental illness,” says Dr. Kennedy.



Quebec Depression Hub — Where the focus is on suicidal behaviour

Suicide is a major cause of premature death. In Canada alone, it is estimated that in 2009, about 3,500 Canadians lost their lives to suicide. Research shows that more than 60% of people who commit suicide suffered from depression, while more than 90% of them suffered from one major mental disorder.

Given that the Douglas Mental Health University Institute in Montreal — and its associated McGill Group for Suicide Studies (MGSS) — has developed expertise in this area, it makes sense that the newly formed Quebec depression hub, which is located at the Institute, keeps a focus on this critical area within the general context of depression.

“We have developed a clinical program that is state-of-the-art in terms of depression assessment (initial and follow-up),” says Dr. Gustavo Turecki, psychiatry professor at McGill University, head of the depressive disorder program at the Institute, and one of the co-leads of the hub, along with Dr. Fabrice Jollant. Moreover, “most of our research work is trying to understand the neurobiology of suicidal behaviour.”

This involves using imaging techniques such as fMRI to understand the neurobiological differences between people

who are at risk of suicide and those who are depressed but not at risk of suicide. Another line of research involves studying the brains of those who have died by suicide, to discover what changes may have occurred at the more cellular or molecular levels.

On the treatment side, the hub is looking at identifying biomarkers to help predict those who will respond to certain anti-depressant drugs before the treatment is actually initiated — essentially reducing or eliminating the guesswork that is involved in the selection of the medication(s). Led by Dr. Marcelo Berlim, an assistant professor and psychiatrist in the same group, the hub is also investigating the effectiveness of repetitive Transcranial Magnetic Stimulation (rTMS) and other alternative (non-drug) techniques in treating depressive states.

The research findings will help to build understanding on many levels, including: what happens in the brains of people before they die by suicide; and what influence do other factors (such as personality, clinical factors and social development factors) have on a person’s predisposition to depression and risk of suicide? Most recently, investigators at the Institute published a major paper about the importance of microRNAs, which regulate the genes, demonstrating



◀ Dr. Gustavo Turecki
Dr. Fabrice Jollant ▶





that miR-1202 (specific to humans) is associated with the pathophysiology of depression and is a potential target for new anti-depressant treatments.

A major activity of the hub involves systematically assessing all patients using common measurement scales; capturing the data from these assessments (initial and follow-up) in a clinical database; and improving the quality of diagnoses by training clinicians on how to interpret the information in order to prescribe effective treatments.

One new treatment being proposed by the hub will be a computerized cognitive rehabilitation program for people with depression who exhibit cognitive impairments following treatment. Dr. Jollant, an assistant psychiatry professor at McGill and a psychiatrist at the Institute, explains: "Many patients may be considered to be in clinical remission, but still remain poorly functional because of residual cognitive symptoms." Another research direction will be to improve particular cognitive functions, for instance decision-making and cognitive control, to reduce the risk of future suicidal acts.

In addition to McGill University, the hub's partnering institutions include the Université de Montréal, Hôpital Louis-H. Lafontaine, Montreal University Health Centre and St-Jerome Hospital.

"CDRIN is providing an important infrastructure to facilitate people working on common depression-related issues to be working together, to develop innovative approaches for assessing, treating and involving patients with lived experience."

— Dr. Turecki

"CDRIN represents a wonderful opportunity to increase the effectiveness of individual teams across the country that are involved in the difficult treatment of depression and prevention of suicide — by promoting a closer integration of care and research, facilitating experience-sharing and stimulating active collaboration."

— Dr. Jollant

MCGILL GROUP FOR SUICIDE STUDIES

The MGSS is unique in Canada and globally. Its main objective is to better understand suicide from a variety of perspectives, taking into account clinical and psychosocial factors, as well as an individual's predisposition to suicide.

Here, researchers and clinicians from a variety of disciplines study the risk factors associated with suicidal behaviour and major depressive disorder, using a range of different approaches and methodologies.

Some of these approaches include studying the brain tissue of people who have died by suicide, a person's genome (the complete set of DNA, including all of its genes), brain functioning using neuroimaging and neuropsychological tasks, clinical factors and the social environment of people who are depressed and/or at risk of suicide.

Maritimes Hub — Where the passport to care lies in building a comprehensive registry

The Maritimes hub, which is located at Capital Health/ Dalhousie University in Halifax, has a vision: that people living with depression and related conditions will be active participants in informing large-scale research and, ultimately, improving clinical care.

This vision hinges on one key piece — developing a comprehensive registry that patients, clinicians and researchers have access and contribute to, and where patients can also find information on community resources that provide access to services, including consultation services that help people find employment. “The registry will provide a platform for better clinical outcomes, inform and complement research activities, and be integrated with local services,” says Dalhousie University’s Dr. Rudolf Uher, one of the hub’s co-leads along with Dr. David Pilon, also at Dalhousie and Capital Health.

Currently in development, Dr. Uher expects it will take the next three years to complete patient diagnostic interviews, in advance of being able to run large clinical research trials and building awareness among clinicians, psychiatrists and

psychologists on how to access and use it for their purposes. Here’s how the secure and confidential registry will work: a person with depression will enter the registry and complete a diagnostic interview that will be conducted by a nurse, as well as a personal questionnaire. This information will be linked to their electronic health record, thus minimizing or eliminating altogether the need for clinicians to ask similar diagnostic questions of the patient over and over. On an ongoing basis, the person will contribute information online; the same option applies to the person’s psychologist or psychiatrist. As well, on request, a patient who may be seeing a new clinician can request that their personal information be forwarded. On the research side, patients who become members of the registry will be approached about their openness and willingness to participate in different types of research projects.

“Think of the registry as a passport,” says Dr. Uher, who is a strong advocate that data collected for research purposes should be used to improve the care of the very patients who participate in a research or clinical study. “All the information on the registry that pertains to an individual



Susan Kilbride Roper,
Dr. Rudolf Uher,
Dr. David Pilon



can be accessed, provided that the person agrees to it.” Such a comprehensive record of information, accumulated over a long period, will be especially helpful if there is a change in the person’s mental condition — not to mention the ability to use new treatment interventions as they become available. Although there is a potential to use the registry to contribute to the identification of biomarkers, this is not its primary purpose.

“We are working on ways to make the registry not just a research platform but one that will be useful for people with lived experience,” he says — hence the link to community resources that people with depression may find useful and valuable.

Furthermore, the hub is looking at how the registry can be used to provide support to clinicians, particularly around the use of particular measurement scales, says Dr. Pilon.

Integrating the research and clinical sides, and improving the reliability of diagnosis — these are essentially the core drivers of a registry that promises to shape health care throughout the Maritimes.

“Research endeavours often happen in a disconnected way. It’s exciting that CDRIN is placing a strong emphasis on applying research findings to change the way that services are delivered to people who are directly affected.”

– Dr. Pilon

“It’s terrific to have the opportunity to connect with people across Canada, and to work with people with lived experience who are engaged and want to change the way that services are delivered and the way that research is done.”

– Dr. Uher

AN INCLUSIVE REGISTRY

From children (age 8 and up) to youth to adults to seniors to members of the Armed Forces — the plan is for the Maritime depression registry to be all-inclusive in terms of age groupings and scope.

The hub’s partners/stakeholders are key to making this happen: the Capital District Health Authority oversees a large urban catchment area and focuses primarily on adult mental health services; youth-serving institutions provide the youth perspective; Halifax’s IWK Health Centre provides care to children, youth and women; and the Annapolis Valley Health Authority supports individuals and families living in Kings and Annapolis Counties. Other health authorities are currently merging and will be contributing to the hub. Plans are also under way to establish sites in New Brunswick and Prince Edward Island.

Healing Tree Communications, which specializes in providing communications to health and mental health organizations, has been brought on board to help with training around reducing stigma and building effective communications between the research communities and people with lived experience.



Dr. Lorraine Breault

Training the next generation of researchers the 'right' way

What does *better* feel like? People with lived experience will often describe their depression using stories or impressions. In terms of medications, they know what worked and

what didn't work for them. Yet, conventionally, a researcher would normally design the research study, collect the data and write the research paper, and, while doing so, does not actively involve patients in this process.

"People are much more comfortable doing this type of research because that is how they have been trained, to be independent, and because they have more control over their environment. It is more predictable and neat," says Dr. Breault, a professor in the University of Alberta's psychiatry department.

For research to be valuable and pertinent, however, it is critical that the patient perspective be integrated "from the get-go," she emphasizes. For this reason, she and colleague Dr. Glen Baker, at the University of Alberta, and Dr. Darrell Mousseau from the University of Saskatchewan, along with Dr. Barbara Everett, then an independent consultant, have developed a curriculum to teach the next generation of researchers how to work with people with lived experience. Titled "*Collaborative research: Working with people with lived experiences of depression and caregivers*," the curriculum is based on a model called community-based participatory research, and has received CDRIN's support.

"Researchers tend to research things they believe are important but some of these may not be perceived as being relevant at all to people with lived experience," explains Dr. Breault. Not surprisingly, she says, the traditional research model has "not always proven to be effective in managing depression from the consumer's perspective" — hence the reason why both the United Kingdom and New Zealand

have already adopted a collaborative approach in the design of research projects.

As a first step in training the next generation of depression researchers, the University of Alberta's psychiatry department is piloting the CDRIN's new curriculum to psychiatry residents enrolled in the 2014–15 academic year. The first interactive workshop/presentation was held in October. Periodic workshops are also being offered for people with lived experience, to help them understand the research process and how interact with researchers to express their needs. Down the road, the university is looking to expand this training to graduate-level students enrolled in psychiatry, nursing and related programs.

"Universities need to recognize the value of collaborative research and the importance of engaging with the community in order to generate knowledge that will be taken up by the community. This model has great potential to drive meaningful results."

—Dr. Lorraine Breault

"Over the next year we hope to train four or five groups of students, and by the end of the academic year, we will have a good idea where we need to refine the curriculum," says Dr. Breault. Although this is an Alberta-based hub activity, Dr. Breault and her team are comparing notes with the B.C. hub, which is working on this

curriculum. Once the curriculum is fleshed out, and is well received by researchers, students and people with lived experience, it will be rolled out to the other CDRIN hubs.

"It takes a certain type of person to do this type of research," admits Dr. Breault. "You need to be able to relate to people who have significant health issues, and to appreciate what they bring to the research table. The way you perceive the world and interact in the world will determine the kind of research you end up doing," she says.

By exposing the next generation of researchers to a collaborative model that has the ability to translate into meaningful results, which will have a direct impact on people's lives, Dr. Breault is hopeful that this new research model will one day inform all depression research across Canada.

LISA BATTEN, A RECENT GRADUATE WHO VALUES COLLABORATIVE RESEARCH

A PhD graduate who is set to start a new job at Dalhousie University in the spring of 2015, working under Dr. Rudolf Uher, Lisa Batten is the epitome of the type of researcher Dr. Breault and her team want to encourage.

Since 2007, while studying for her doctorate at Carleton University in Ottawa, the 31-year-old has been a member of Dr. Pierre Blier's Mood Disorders research team at The Royal. From the rat lab to the clinic, Lisa has seen first-hand how lab findings — combination drug strategies and drug choices such as ketamine — can be applied directly to patients, and how these findings have achieved immediate results.

"Some researchers spend their lives dedicated to their field of research but don't have actual clinical experience and have never seen a patient who suffers from depression and might benefit from their research," she says. "But seeing actual results in the clinical setting as well as talking to people about their life gives you a better perspective on how to approach your research. It's also motivating."

In addition to being a full-time research assistant for Dr. Blier, Lisa also organized the Young Researchers' Conference at The Royal's Institute of Mental Health Research, bringing students from a range of disciplines together to provide exposure, build collaborations and offer the patient perspective through the popular 'Mental Illness: My Story' perspective.



Lisa Batten, Dr. Pierre Blier

TRAINING PEOPLE WITH LIVED EXPERIENCE ABOUT RESEARCH

In the past, people with lived experience have had little or no opportunity to fully engage in the research process — they were essentially receivers rather than participants.

CDRIN recognizes that people who have experienced depression are invaluable allies in the knowledge translation and dissemination phase. To harness this partnership, they will be at the research table, helping to guide research issues relevant to the clients, and to help close the gap between research and practice.

To ensure such an innovative approach is successful, CDRIN is training people with lived experience about the research process — and the important role that they play. Under the guidance of Dr. Barbara Everett, senior researcher for the Mood Disorder Society of Canada, a training curriculum containing eight modules of interactive learning strategies and exercises was developed. This at a three-day training session has been presented at separate sessions in four regions of the country and there have been 72 graduates of the program. The program now has been digitized and is accessible online from all areas of the country, providing optimum access to this advanced program.

The curriculum is designed to help people with lived experience understand what collaborative research is and why it's important; become familiar and comfortable with the research process; understand the limits of research projects; and become comfortable and valuable contributors at various research tables. Sue, one of the participants, felt that she "came away from the training much more confident in my ability to engage in a meaningful and valuable way in the types of research projects that would be overseen."

Learning the mechanics of research, as well as the differences between the roles of 'influencer' and 'advocate', are other important elements of the curriculum.

"Learning more about the research process itself, the interpersonal dynamics between teams members and the ethical considerations really helped me understand the bigger picture and how people with lived experience can contribute," said Joe, another participant.



INNOVATION + COLLABORATION = TRANSFORMATION

Partnerships and collaborations = sustainability

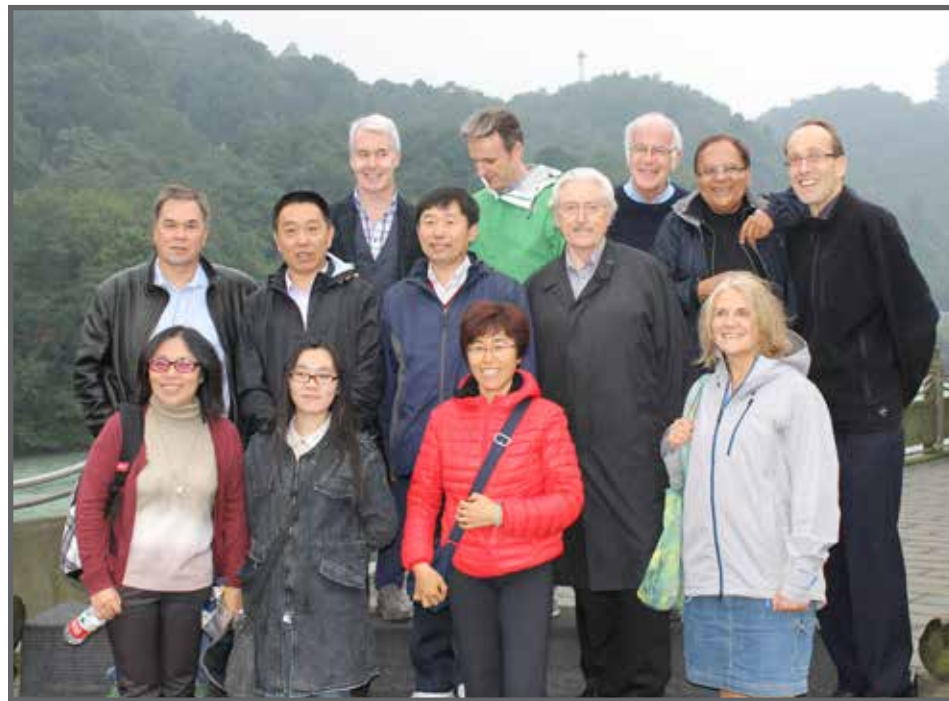
As this national movement sets sail, it is important to ensure that its momentum remains powerful and sustained. Partnerships and collaborations are the building blocks of any successful enterprise. No small wonder then that a network such as the Canadian Depression Research and Intervention Network has its eyes set on a long-term vision through a sustainability strategy, guiding its efforts into the future.

The strategy contains two important pieces: a framework (why and what), which outlines the overall approach and principles; and an action plan (how). Using the strategy as a blueprint, CDRIN is set to secure ongoing financial support to fuel its activities, through partnerships and leveraging. The development of a Partnerships Fund — where contributions from private donors, foundations and

corporations can be directed to the Fund in general or to a specific activity or program — will enable CDRIN to create targeted funding opportunities for the hubs as well as take advantage of existing funding programs to support its own overall activities.

Another important goal is to develop momentum by looking for strategic partnerships that will help to extend the network's impact both in Canada and on the international front.

As an example, CDRIN has joined forces with the European Alliance Against Depression (EAAD), which creates community-based networks that use an evidence-based, four-level approach to improve the care of people with depression and to measurably reduce or prevent suicide. By becoming a member in EAAD, CDRIN will have an opportunity to collaborate on joint (Europe-Canada) funding initiatives and help open the doors for the CDRIN hubs to pursue additional research grants.



China, October 2014

In partnership with the National Natural Science Foundation of China and the Institute of Neurosciences, Mental Health and Addiction of the Canadian Institutes of Health Research, CDRIN co-hosted a China-Canada Depression Workshop in China in late October — a strategic alliance that is expected to open new and exciting collaborations with a country identified by the federal government for its emerging economic and research strengths. At the workshop,

CDRIN was able to promote its research approach concerning the inclusion of people with lived experience and future collaborations. CDRIN may also serve as a model for a similar planned national network across China.

On another front, CDRIN has already signed a Memorandum of Understanding with The National Network of Depression Centers (in the United States), which has fostered strong cross-collaborations between the two like-minded networks. So CDRIN not only has strong local roots (through the hubs) but also national and international reach. To further promote international networking, CDRIN co-hosted a reception at the Embassy of Canada in Washington in November, in conjunction with Neuroscience 2014, the world's largest forum for neuroscientists from around the world, to present emerging research.

Although CDRIN is still in its infancy, momentum is being generated, not only by the individual hubs located in key regions across the country — each with their own partnership linkages — but also by the efforts of a sustainability team to identify potential partners and stakeholders in the government, non-profit, philanthropic and health care sectors, along with potential revenue sources and funding opportunities. For example, the Great-West Life Assurance Company came on board as a Founding Sponsor of the Pan-Canadian Depression Research Network secretariat. Working together in a coordinated fashion reduces competition and confusion; takes full advantage of personal connections and existing linkages; and focuses on prospects where there is a good fit.

For CDRIN, sustainability is not solely about securing funding for the network infrastructure and the individual hubs. It's about creating meaningful, mutually beneficial partnerships with a vast variety of stakeholders, enabling meaningful and sustained studies (rather than short studies) to find out what interventions work for whom, over the long term, and to provide a unified voice for consumers and researchers.

MARITIMES DEPRESSION HUB: A CASE STUDY

When it comes to securing financial and in-kind support, the Maritimes Depression Hub represents a wonderful example of what to do.

To get through the door and make a case for support, it first helped that the hub organizers and potential partners and stakeholders already had a history of working together. Having successfully made initial contacts, the organizers linked the significance of addressing depression — which is a major health problem — to the value of a national initiative that is bringing together researchers, clinicians and people with lived experience to make a real difference. The quality of the team that had been assembled to create the hub, plus this 'value proposition', helped to seal the deal and move supporters from being interested to agreeing to commit financial and/or in-kind support.

Personal connections are very helpful when it comes to approaching potential partners and contributors. In the case of the Maritimes hub, the organizers identified the best person to make the initial contacts — someone with long-standing tenure at Dalhousie University, who has been involved with CDRIN from the start and has well-established connections. Every initial approach made was followed by a formal request for support, which included a backgrounder on CDRIN, the goals of the proposed hub and the team composition.

In the end, the hub secured well over a quarter million dollars in cash as well as in-kind contributions from eight partners.





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