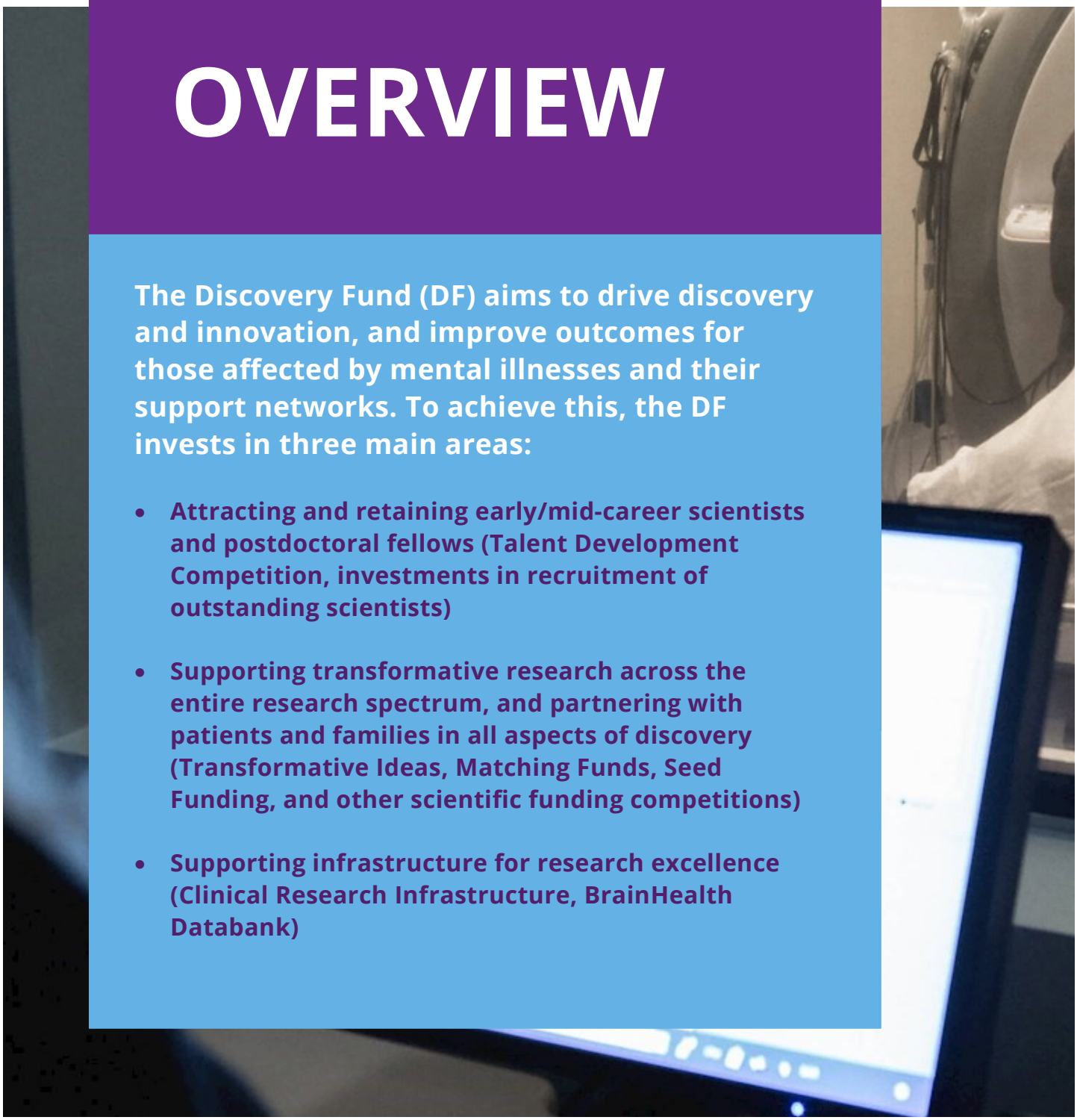
camh
Centre for Addiction and Mental Health

September 2023

DISCOVERY FUND

PROGRESS UPDATE

1.0 OVERVIEW



The Discovery Fund (DF) aims to drive discovery and innovation, and improve outcomes for those affected by mental illnesses and their support networks. To achieve this, the DF invests in three main areas:

- **Attracting and retaining early/mid-career scientists and postdoctoral fellows (Talent Development Competition, investments in recruitment of outstanding scientists)**
- **Supporting transformative research across the entire research spectrum, and partnering with patients and families in all aspects of discovery (Transformative Ideas, Matching Funds, Seed Funding, and other scientific funding competitions)**
- **Supporting infrastructure for research excellence (Clinical Research Infrastructure, BrainHealth Databank)**

DISCOVERY FUND:

BY THE NUMBERS

$32M

In funding garnered from major competitive agencies by researchers supported through the Discovery Fund

54

Post-doctoral fellows and graduate students recruited through annual Talent Development Competition

16

New scientists supported through Discovery Fund

32

Projects supported through Seed Funding, Accelerator and Collaborative Team Competitions

582

External presentations by researchers funded through Discovery Fund

582

Peer-reviewed articles published by researchers funded through Discovery Fund

113

External collaborations established with other researchers through Discovery Fund-supported projects

2.0 DISCOVERY FUND INITIATIVES

2.1 Securing Top Talent

The Discovery Fund invests in attracting and retaining superb trainees and early to mid-career scientists. Focusing on advancing training and professional development as essential drivers of discovery and innovation, the DF is committed to equity, inclusion and diversity, which is reflected in those recruited, trained and supported. To secure top talent, funds are provided to support New Investigators and trainees selected through a rigorous Talent Development competition.

The following pages list scientists that have been supported from 2018-2023.

Dr. Mahavir Agarwal

Clinician Scientist, Schizophrenia Division

Expertise in: the pathophysiology of schizophrenia.

Dr. Lisa Hawke

Independent Scientist

Expertise in: psychosocial aspects of youth mental health and substance use challenges, as well as service access issues.

Dr. Jamie Feusner

Clinician Scientist, Brain Health Imaging Centre

Expertise in: brain basis of perception, emotion, and reward across conditions involving body image and obsessions and compulsions.

Dr. Ishrat Husain

Clinician Scientist

Expertise in: novel treatments of mood disorders.

Dr. Wai Haung (Ho) Yu

Independent Scientist

Expertise in: mechanisms of disease specifically in neurodegenerative diseases, such as Alzheimer's and Parkinson's.

Dr. Robert Kleinman

Clinician Scientist, Addictions Division

Expertise in: improving access to evidence-based treatments for substance use disorders.

Dr. Colin Hawco

Independent Scientist, Brain Health Imaging Centre

Expertise in: neuroimaging and brain stimulation focusing on individual variability across psychiatric and non-psychiatric individuals.

Dr. Nicole Kozloff

Clinician Scientist, Child and Youth Psychiatry
(Slaight Family Centre for Youth in Transition)

Expertise in: pragmatic clinical trials and qualitative research focused on treatment delivery for youth.

Dr. Clement Ma

Independent Scientist/ Biostatistician, Clinical Research

Expertise in: developing and implementing innovative statistical methods to improve the accuracy and efficiency of clinical trials.

Dr. Victor Tang

Scientist, Institute for Mental Health Policy Research

Expertise in: novel therapeutics and outcome improvements in mood and substance use disorders.

Dr. Matthew Sloan

Clinician Scientist, Addictions Division

Expertise in: neuropsycho-pharmacology, and determinants of treatment response in substance use disorders.

Dr. Erica Vieira

Independent Scientist, Campbell Family Mental Health Research Institute

Expertise in cellular-immune interface in neuropsychiatry.

Dr. Gillian Strudwick

Independent Scientist, Campbell Family Mental Health Research Institute

Expertise in: digital health and implementation science.

Dr. Wei Wang

Independent Scientist/ Biostatistician, Clinical Research

Expertise in: clinical trials and integrative data analysis.

Dr. Andre Carvalho*

Clinician Scientist, General Adult and Health Systems Psychiatry

Expertise in evidence-based psychiatry and meta-research and evidence synthesis.

Dr. Breno Diniz*

Clinician Scientist, Adult Neurodevelopment and Geriatric Psychiatry

Expertise in peripheral biomarker analyses.

*Moved to another institution

2.2 Providing Opportunity

In addition to attracting and developing talent, the DF also nurtures innovation and discovery. The DF supports promising, innovative projects by enabling investigator success and provides opportunities for internal and external collaborations and the pursuit of peer-reviewed funding. This is achieved through the previous annual Seed Funding, Accelerator, and Team Collaboration Competitions. The DF also offers matching funds for external competitive funding opportunities, and strategic investments in transformative research ideas in the DF priority areas. These innovative research ideas encourage collaboration across disciplines and areas of research, while igniting and accelerating platforms of convergence, supporting our most innovative research ideas.

2.2.1 TALENT FUNDING UPDATE

The Talent Development Competition provides support for trainees pursuing basic and clinical research to better identify, diagnose, prevent and treat mental illnesses. This award reflects an investment in the future generation of world class researchers in mental health. In 2018 this competition supported both Masters level trainees and postdoctoral fellows. Subsequent years were restricted to postdoctoral fellows.

2018

AWARDEE/GRADUATE	PROJECT TITLE
Navona Calarco	White matter network circuitry in first episode schizophrenia: Identification of neural correlates and preliminary prediction of persistent negative symptoms
Corey Fee	Somatostatin cell deficits as a contributing pathology in depression: bridging consequences from molecules to symptoms.
Michelle Goodman	Rest and active-state EEG dynamics: A mechanism for cognitive decline in mild cognitive impairment
Jeannette Hui	Effects of Theta Burst Stimulation on Plasticity in the Dorsolateral Prefrontal Cortex in Treatment Resistant Depression
Cameron Issacs-Trepanier	The Effects of Sex Differences in Brain Codeine Metabolism on Drug Response
Julia Kim	The clinical and functional imaging effects of transcranial direct current stimulation on insight in schizophrenia
Chantel Kowalchuk	Patterns in youth risk behaviour comorbidities and their associations with mental health outcomes
Matthew McPhee	Identifying neurocognitive markers of alcohol use disorder risk.
Edward Oh	The origins of schizophrenia: uncovering the role of genetic and epigenetic interactions
Thulasi Thiruchselvam	Stress, rumination and reward function: An exploration of the relationships between vulnerability factors for depression recurrence
Meng Yi Xu	Impact of miR137 point mutation on neural development of the cerebral cortex and hippocampus in a novel transgenic preclinical model for schizophrenia

2.2.1 TALENT FUNDING UPDATE

2018

AWARDEE	PROJECT TITLE
Mahavir Argarwal	Effect of antipsychotics on central insulin action in relation to glucose metabolism and cognition in healthy volunteers
Ali Bani-Fatemi	Genetic and Epigenetic alterations of Serotonin Genes predicting risk for Suicidal Behavior in schizophrenia
Jesus Chavarria	Can acute alcohol effects serve as a risk factor for alcohol use disorder and internalizing disorders comorbidites?
Natalie Forde	Multi-modal MRI Investigation of Function and Structural Connectivity Related to Neurodevelopmental Disorders
Michael Grossman	Mechanisms of Change in Cognitive Behavioural Therapy for Psychosis (CBTp): Who Benefits Most and Why
Ann-Christin Hauschild	Computational Longitudinal Modeling of Disease Co-Progression and Genetic Network Analyses in Depression and Dementia
Waqas Khan	Cognition, Functional Capacity, Metabolic Syndrome Risk, and Healthcare Utilization Trajectories in Older Adults with Schizophrenia: A 10 Year Longitudinal Cohort Study
Jinhee Kim	Anxiety and resting state dynamic functional connectivity in patients with Parkinson's disease
Marta Maslej	Assessing the feasibility and efficacy of an online expressive writing intervention: randomized controlled trials in depressed patients with delayed access to psychotherapy
Mina Nashed	Preclinical Assessment of Novel Targets for Rapid-Acting Antidepressants
Lindsay Oliver	Identifying dimensional, data-driven brain-behaviour relationships that predict social function in people with schizophrenia spectrum disorders
Thomas Prevot	Procognitive properties of a novel series of GABA-A receptor positive modulators with efficacy at alpha-a subunit: potential therapeutics for cognitive decline
Hera Schlagintweit	The impact of nicotine metabolite ratio and nicotine expectancy on risk of relapse following nicotine replacement therapy use: A laboratory study
Livia Veselka	Examining the mental-health antecedents and consequences of video gaming among clinical and sub-clinical samples

2.2.1 TALENT FUNDING UPDATE

2019

AWARDEE	PROJECT TITLE
Kenya Costa-Dookhan	Investigating the gut microbiome in relation to metabolic and cognitive dysfunction in first episode psychosis patients
Hajer Nakua	Identifying the Relationship between Cortico-amygdalar networks and behavioural dysregulation in children with Autism Spectrum Disorder
Patrick Jachyra	Suicidality among youth with autism spectrum disorder
Karen Le	Attachment theory-based e-intervention for smoking cessation
Amy Miles	Development and validation of a novel transcriptome-based polygenic risk score for depression
Emiko Koyama	Multigenic risk score for childhood impulsive aggression, adverse childhood experiences and youth suicide intention and attempts: An exploration of biological mechanisms and predictors of treatment response
Hali Kil	Associations between Trait Mindfulness, Maladaptive Parenting Cognitions, Stress, and Suicide Risk in Parents of Children with Emotional and Behavioural Disorders
Iska Moxon-Emre	Investigating the Neural Basis of Social Cognition in Autism Spectrum Disorders
Fumihiko Ueno	Glutamatergic System and Response to Clozapine in Patients with Treatment-Resistant Schizophrenia: a Prospective 1H-MRS Study
Malvina Skorska	Suicidality in Adolescents who Experience Gender Dysphoria: The Roles of Victimization/Bullying, Mental Health Challenges, and Body Representation Neural Networks
Alexia Polillo	Understanding disengagement from early psychosis intervention services: Analysis of clinical and patient- and family-reported factors.

2.2.1 TALENT FUNDING UPDATE

2020

AWARDEE	PROJECT TITLE
Amy Boyle	Development of positron emission tomography radiopharmaceuticals for Neuroimaging of glycogen synthase kinase-3
Alexander Daros	Using smartphone technology to examine emotion regulation as a treatment Mechanism in cognitive-behavioral therapy for outpatients with depression.
Nick Kerman	Helping the Helpers: Examining the Mental Health and Support Needs of Direct Service Providers Working with People Experiencing Homelessness
John Krzeczkowski	Behaviour parent training for the parents of children with emotional and behavioural disorders.
Sandra Pereira	Antipsychotics: effects on brain nutrient sensing in relation to metabolic adverse effects
Martin Rotenberg	Geographic and social factors and the risk of readmission following initial hospital admission for schizophrenia in Ontario: A retrospective population based cohort study

2021

AWARDEE	PROJECT TITLE
Sophia Atwells	Multi-modal MRI in daily e-cigarette users, daily smokers and healthy controls: functional and structural comparisons
Victor Tang	Repetitive Transcranial Magnetic Stimulation for Suicidality in Concurrent Major Depressive Disorder and Alcohol Use Disorder
Kazunari Yoshida	Investigating the genomic overlap between antipsychotic-induced weight gain and antipsychotic efficacy in schizophrenia
Annabel Sibalis	Deconstructing dysregulation: An examination of parent and child factors associated with the development of behavioural dysregulation in children
Alexia Pollilo	Delivering early psychosis intervention services during a pandemic: A mixed-methods analysis of factors associated with mode of delivery, digital equity, and associated outcomes
Christopher Morrone	Mechanisms of sleeplessness and failed proteostasis interact and facilitate cognitive decline in Alzheimer's disease
Ana Paula Silva	Analysis of mitochondrial DNA variants in youth diagnosed with schizophrenia and bipolar disorder.
Katrina Hui	Exploring Bias and Ethical Considerations of the Expansion of Artificial Intelligence Applications in Risk Assessments in Mental Health Care Through Natural Language Processing and Qualitative Interviews with Clinicians and Patients

2.2.2 SEED FUNDING UPDATE

The Seed Funding Competition supports CAMH scientists to develop innovative, high-risk/high-reward areas of research, with emphasis on external collaborations. The impact of the resulting projects will lead to greater effectiveness in diagnosis, to testing and implementation of new treatments, and to prevention and recovery from mental illness.

2018

AWARDEE	PROJECT TITLE
Dr. Alex Abramovich	Investigating Mental Health Care Utilization Trajectories & Mental Health Outcomes Among Transgender Individuals in Ontario
Dr. Marco Battaglia	A Study of Amiloride Intranasal Spray for Panic
Dr. George Foussias	Immersive Virtual Reality Based Assessment and Treatment of Cognitive Deficits in Schizophrenia
Dr. Leon French	Neuroanatomical Focus, Drug Enrichment and Discovery from Depression Genome Wide Association Results
Dr. Fang Liu	Nanoparticle delivery of a therapeutic peptide for PTSD
Dr. Lena Quilty	Online Cognitive Behavioural Therapy for Addiction: Efficacy and Cost-Effectiveness In a Pragmatic Clinical Trial
Dr. Etienne Sibille	Small Molecules Targeting Reduced Brain Plasticity in Psychiatric Disorders

2019

AWARDEE	PROJECT TITLE
Dr. Stephanie Ameis	Brain Stimulation as Treatment for Depression in Transition Age Youth with Autism
Dr. Brendan Andrade	Optimizing Treatment for Depressed Parents and Children with Emotional and Behavioral Disorders
Dr. Mounira Banasr	Cross-Species Identification of Astrocytic Targets for Antidepressant Development
Dr. Pushpal Desarkar	Does Aberrant Dorsolateral Prefrontal Cortical Plasticity Underlie Executive Dysfunction and Core Behavioural Characteristics of Autism Spectrum Disorder?
Dr. Cory Gerritsen	Criminal Justice Involvement in Early Psychosis: Toward a Subpopulation Approach
Dr. John Griffiths	Improving neurostimulation therapy for depression with personalized computational modelling
Dr. Sergio Rueda	The Impacts of Cannabis Legalization on Mental Health and Substance Use services
Dr. Shreejoy Tripathy	A multi-scale collaborative platform for human cellular neuroscience
Dr. Juveria Zaheer	Suicide at the Intersections of Faith and Mental Health: Understanding Suicidal Behaviour and Distress in Young Muslim Canadians

2.2.2 SEED FUNDING UPDATE

2020

AWARDEE	PROJECT TITLE
Dr. Mahavir Agarwal	Does abnormal insulin action in the brain underlie cognitive and metabolic dysfunction in schizophrenia?
Dr. Vanessa Gonçalves	Mitochondria, Inflammation and Genetics: A new approach for psychosis early detection and intervention
Dr. Ishrat Husain	Astrocytes as targets of lithium treatment in bipolar disorder: a [11C]SL2511.88 positron emission tomography study
Dr. James Kennedy	Identifying suicidality subtypes using machine learning and genomic data
Dr. Yuliya Knyahnytska	Neural correlates of anti-suicidal response to ketamine in treatment resistant bipolar depression
Dr. Matthew Sloan	Evaluating Cannabidiol as a Novel Anticraving Medication for Alcohol Use Disorder: A Human Laboratory Study
Dr. Gillian Strudwick	Co-producing interventions to improve the adoption of OpenNotes in Ontario mental health contexts
Dr. John Vincent	Identification and assessment of therapeutic potential of small molecules as allosteric modulators or chaperones for the Rett syndrome protein MECP2

2.2.3 Accelerator Funding Update

The Accelerator Funding Competition supports efforts to accelerate development of diagnostics and therapeutics in any phase of development. Emphasis is placed on technologies that have the potential to advance rapidly into patient care through development with external partnerships. The award aims to translate academic discoveries into drugs, technology or diagnostic tools that address unmet clinical needs, stimulate innovative translational research and encourage collaborative, transdisciplinary work.

2021

AWARDEE	PROJECT TITLE
Dr. Fang Liu	Testing the therapeutic effect of small molecule compounds in a mouse model for multiple sclerosis
Dr. Etienne Sibille	Determine Drug-like Parameters of Novel Compounds with Pro-Cognitive Efficacies
Dr. Bruce Pollock	Validation of a new calcium fluorescence assay for quantification of agonist and antagonist cholinergic activity
Dr. Sean Kidd	App for Independence-O (A4i-O) – Expanding a Validated Platform for Complex Behavioral Health to Address Opioid Use Disorder
Dr. Andreea Diaconescu	Suicidality Statistical Modelling for Prevention and Clinical Intervention Evaluation (SUSPINE): Technology for Treatment Evaluation and Suicide Prevention

2.2.4 Team Collaboration update

The Team Collaboration Competition supported the formation of newly configured collaborative teams across CAMH with research aimed at addressing a significant mental health problem that ensures inclusion of health disparity populations and/or considers the impact of racial inequalities.

2022

Project Title	Implementing protocols for suicide prevention in primary care	Pharmacogenetics-Based Predictive Modelling for Personalized Treatment of Depression	C-MAP, a virtual program enhancing addiction treatment for Canadian Muslims
Principle Investigators	Nadia Minian Peter Selby	Daniel J. Mueller Shraddha Pai	Ahmed Hassan
Co-Investigators	Rosa Dragonetti Scott Veldhuizen, Laurie Zawertailo Juveria Zaheer Braden O'Neill Shannon Lange Nicole Thomson	Stefan Kloiber Sean Hill Joanna Yu James Kennedy Daniel Felsky Samar Elsheikh Victoria Marshe	Arfeen Malick Nazila Isgandarova Marwa Azab Heba Allie Ali

2.2.5 Transformative Ideas

The **Cognitive Dysfunction in the Addictions** is a multi-disciplinary approach to study the impact of cognitive dysfunction in the onset, maintenance and relapse of addictive behavior. The program aims to recruit 6,000 individuals with substance use disorder with recruitment having commenced this past fiscal year. This highly innovative program offers excellent potential for cross-disciplinary collaboration and data for future studies.

The **Toronto Adolescent and Youth CAMH Cohort Study** was launched in September 2020 and aims to discover who is at highest risk of developing psychosis, the relationship between those risk trajectories, and functional outcomes. This longitudinal cohort study will follow 3,000 youth ages 11-24, who are currently accessing mental health services within the Child, Youth, and Emerging Adult Program at CAMH. This transformative study has progressed in recruiting 620 youth participants and 244 caregiver participants.

The CAMH Suicide Prevention Cohort Study (CAMH-SPCS) proposes a novel, integrated cohort study design that represents a key advancement in suicide prevention research. It aims to address the characteristics, trajectories, perspectives and outcomes of people experience suicidal ideation and behaviour who present to the CAMH emergency department. It will characterize and understand these individuals by using a range of clinical, health services, qualitative and biological data. This study was approved over the past fiscal year and is preparing to launch.

Schizophrenia spectrum disorders (SSDs) are associated with significant functional impairments, disability and low rates of personal recovery, along with tremendous economic costs linked primarily to lost productivity and premature mortality (from natural and unnatural causes). The **Characterization and Prediction of Individual Functional Outcome Trajectories in Schizophrenia Spectrum Disorders (PREDICTS Study)** aims to:

- Determine the longitudinal functional trajectories of individuals with SSDs across three co-primary domains: personal recovery, disability, and community functioning.
- Develop and test predictive models to accurately determine functional trajectories at the person level.
- Based on the predictors of longitudinal outcome trajectory subtypes, co-design and pilot targeted real-world interventions developed with patients, family members, and service providers

In the coming year, an additional transformative idea with a focus on a molecular science platform will be set in motion, following a peer review process.

2.2.6 Matching Funds

Offering matching funds to peer-reviewed and externally-funded competitions, the DF enables CAMH scientists to secure major external awards for their research. Some highlights are listed below.

2018/2019 Fiscal Year

- Dr. Leon French (Canada Foundation for Innovation match) – John R. Evans Leaders Fund: Genomic Portal for Polygenic Molecular Maps of the Brain.
- Dr. Aristotle Voineskos (Canadian Institutes of Health Research Strategy for Patient Oriented Research match): Enhancing Evidence-Based Practice for Youth and Emerging Adults with Early Psychosis: Implementation and Evaluation in Diverse Service Settings (EPISET).
- Dr. Sanjeev Kumar (Brain Canada match): The Toronto Dementia Research Alliance (TDRA) Dementia Database: A platform in neurodegenerative diseases.
- Dr. Tarek Rajji (Brain Canada match): Standardizing Care for Neuropsychiatric Symptoms and Quality of Life in Dementia.

2019/2020 Fiscal Year

- Dr. Benoit Mulsant (Brain Canada match): Prevention of Alzheimer's Dementia with Cognitive Remediation plus Transcranial Direct Current Stimulation in Mild Cognitive Impairment and Depression (PACt-MD).
- Dr. Nelson Shen, Supervisor: Dr. Gillian Strudwick (Health Systems Impact Fellowship match): Patient and Family Engagement in Health IT Initiatives.

2020/2021 Fiscal Year

- Dr. Patricia Di Ciano and Dr. Sergio Rueda (EMHSeed Fund): Safety of Vaped Cannabis: Cognitive, Physiological, Pulmonary and Toxicity Differences Between Cannabis Smoking and Vaping
- Dr. Ruth Ross: Toronto Cannabis and Cannabinoid Research Consortium (TC3)

2021/2022 Fiscal Year

- Dr. John Griffiths (John R. Evans Leaders Fund match): Measurement and Modelling Infrastructure for Neuroinformatics-Driven Precision Psychiatry in Youth
- Dr. Philip Gerretsen (Early Researcher Award): The Effects of Noninvasive Brain Stimulation on Treatment Adherence in Persons with Schizophrenia
- Dr. Abigail Ortiz (2022 Department of Psychiatry Funding Opportunity in Suicide Studies): Community-based, technology-enabled predictions of post-discharge suicidal behavior in bipolar disorders using passing sensing and pattern recognition
- Dr. Lisa Hawke (2022 Department of Psychiatry Funding Opportunity in Suicide Studies): Suicide and medical assistance in dying for mental illness: A qualitative study

2.3 Creating Conditions

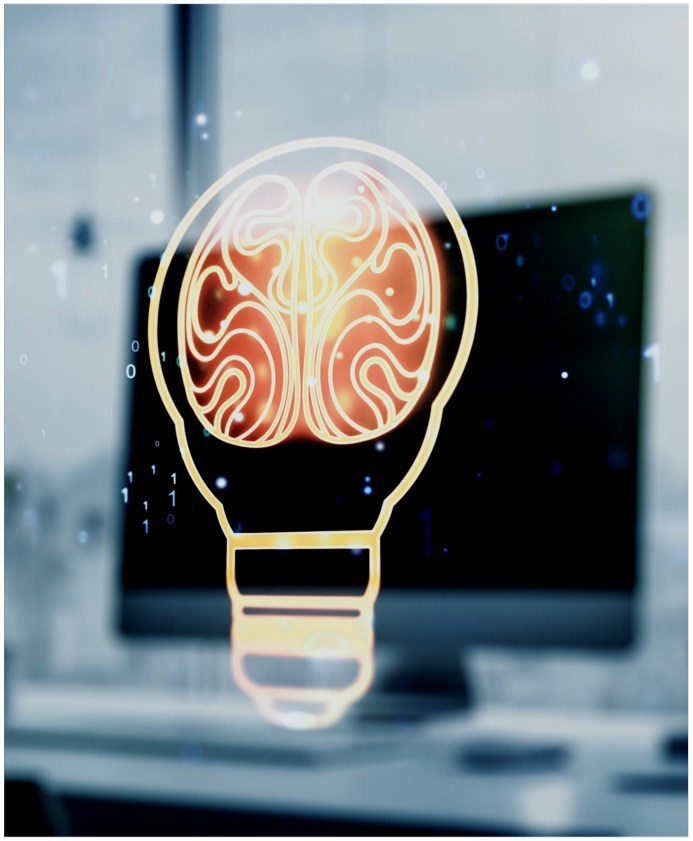
The DF is investing in advancing clinical research infrastructure to advance our discovery platforms. This includes the BrainHealth Databank, which focuses on integrating diverse data sources to improve the understanding of illness trajectories and guide the development of personalized treatments.

The enhanced clinical research infrastructure engages patients and families as partners in new knowledge creation, while providing additional resource support for clinical research to work toward better integration of research into clinical services. This gives opportunity to all CAMH clinical staff, physicians and patients the opportunity to participate in research.

Investments have focused in the following areas:

- Developing infrastructure to support groundbreaking research through a core team of research analysts, coordinators, research methods specialists and research nurses.
- Building infrastructure to incorporate the voices of those with lived experience in research initiatives.
- Developing and aligning processes across clinical research at CAMH.

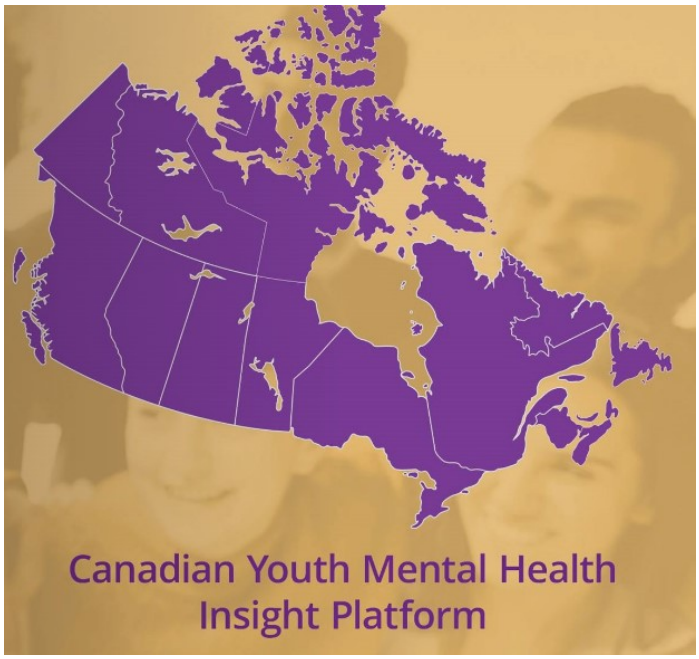
The hospital-wide **BrainHealth Databank** team, led by the Krembil Centre for Neuroinformatics, supports clinical and research data integration and analytics, leveraging large data sets to answer questions about disease trajectories, advancing diagnostic models and identifying new opportunities for prevention, early intervention, treatment and recovery from mental illness. Designed to collect all types of data from patients, including electronic health record, sleep pattern, behavioural, genetic, and brain structure data, the BrainHealth Databank aims to become a rich resource of collaboration with scientists across CAMH and increasingly nationally and internationally, as evidenced by a recent successful competition through Canada Brain Research Fund (CBRF), an innovative arrangement between the Government of Canada (through Health Canada) and Brain Canada Foundation, RBC Foundation and Power Corporation (spotlight on p.19).



CAMH to create groundbreaking youth mental health data platform

Knowledge exchange initiative to improve quality of research and care for young people Canada-wide

The Centre for Addiction and Mental Health (CAMH), in collaboration with youth, family, service providers, policymakers, as well as health researchers and data scientists from across Canada, will build "**Canadian Youth Mental Health Insight Platform (CYMHI)**", powered by RBC Future Launch, with support from Power Corporation, and the Canada Brain Research Fund (CBRF). This is a first-of-its-kind Canada-wide cooperative effort between youth mental health stakeholders across the spectrum, especially youth and their families. The result will empower the sharing of and learning from mental health data to better prevent, diagnose and treat youth mental illness in Canada.



CAMH leads the pan-Canadian team that has been awarded a $5.13-million grant for this project over three years via a 2021 open call for applications to the Brain Canada Youth Mental Health Platform, powered by RBC Future Launch, with support from Power Corporation.

"The state-of-the-art informatics tool will incorporate information from diverse organizations across the country including academic institutions, community-based mental health services, hospitals, and youth and family advisories from organizations such as Foundry, Youth Wellness Hubs Ontario and other youth substance use and mental health services," said Dr. Sean Hill, Director of CAMH's Krembil Centre for Neuroinformatics, and principal investigator. "The CYMHI platform will facilitate high-impact research and the development of innovative youth mental health approaches that would otherwise not be possible."

The interactive web portal will enable knowledge sharing in creative new ways. One feature will be personalized services tool to match youth based on their unique needs to available services in their area. It will include precision modelling to predict the future needs of individual youth and help them and their families make decisions about their care. And, it will also incorporate a national atlas of service demand & utilization—the largest of its kind ever built—to help decision-makers understand a community's youth mental health needs in order to better allocate resources.

2.3.1 Centre Funding

Dr. Benjamin Goldstein, Centre Director

Led by Dr. Benjamin Goldstein, the **Centre for Youth Bipolar Disorder** is Canada's leading clinical and research team in youth bipolar disorder, and is a world leader in the field. They conduct a range of research studies including descriptive clinical studies, novel intervention studies and translational studies that bridge neuroscience with bipolar disorder.

The **Centre for Youth Bipolar Disorder** currently supports eight trainees and has two affiliated scientists. The Centre has multiple collaborations with the International Society for Bipolar Disorders Vascular Task Force as well as collaborations with the University of Pittsburgh, University of California Los Angeles, CLA, University of North Carolina, and University of Texas Houston.

The Centre actively engages patients and family members in their work through working groups, knowledge translation, protocol development, and educational presentations. This year the Youth Advisory Council published a lived-experience booklet that was feature on the CAMH website.

3.0 EVALUATION FRAMEWORK INDICATORS

To evaluate the fund's impact, the DF Steering Committee developed an evaluation framework to facilitate annual progress review. Key performance indicators include patient and family engagement, reach and impact, and training and leadership.

Partnering with patients and families across the entire research spectrum

Advancing CAMH as a leader

Attracting new funding

Disseminating discovery and innovation for impact

Collaborating locally, nationally and internationally

3.1 Key Performance Indicator 1:
Patient and Family Engagement

The DF aims to include the voices of people with lived experience (PWLE) in all aspects of discovery. The Patient and Family Engagement in Research Advisory groups were launched in fiscal year 19/20. They support research working groups, research protocol development and knowledge dissemination, with several PWLE acting as co-investigators and as collaborators on specific research studies. The Patient and Family Engagement coordinators similarly participate in a number of DF working groups, including the Internal Advisory/Platform of Convergence and the BrainHealth Databank working groups, to ensure the perspectives of PWLE can be included to all DF-supported initiatives.

This year we have increased patient and family engagement throughout research at CAMH by providing training to researchers, and building relationships and partnerships with all research areas.

Key Performance Indicator 1: Patient and Family Engagement

METRIC	2018-19	2019-20	2020-21	2021-22	2022-23
# of DF supported working groups including patient and/or family advisors	2	5	8	13	15
# DF supported research protocols including patient and/or family advisors	3	5	11	17	14
# knowledge dissemination activities involving patients and/or family advisors	1	8	9	15	17

*This metric is partially cumulative based on the nature of engagement in ongoing research projects

3.2 Key Performance Indicator 2:
Reach and Impact

The reach and impact of the DF is highlighted by knowledge dissemination activities. These include publications and presentations by DF-funded scientists and trainees, as well as external grants secured by DF-supported scientists, and their policy and practice impact. The COVID-19 pandemic had an impact on research indicators in 2020-2021 however, researchers continue to thrive as seen by the increase in publications and presentations and external grants.

Key Performance Indicator 2: Reach and Impact

METRIC	2018-19	2019-20	2020-21	2021-22	2022-23
# peer-reviewed publications arising from DF-supported initiatives	115	135	52	155	125
# non peer-reviewed publications arising from DF-supported initiatives, including briefing notes and technical	6	7	15	40	6
# external grants (and funding) secured through DF-supported initiatives	6 (totaling ~4M)	9 (totaling ~$3M)	19 (totaling ~$3M)	28* (totaling ~$4M)	36* (totaling ~$7M)
# presentations arising from DF-supported initiatives	66	75	69	186	202
# hits on DF website			32,577		

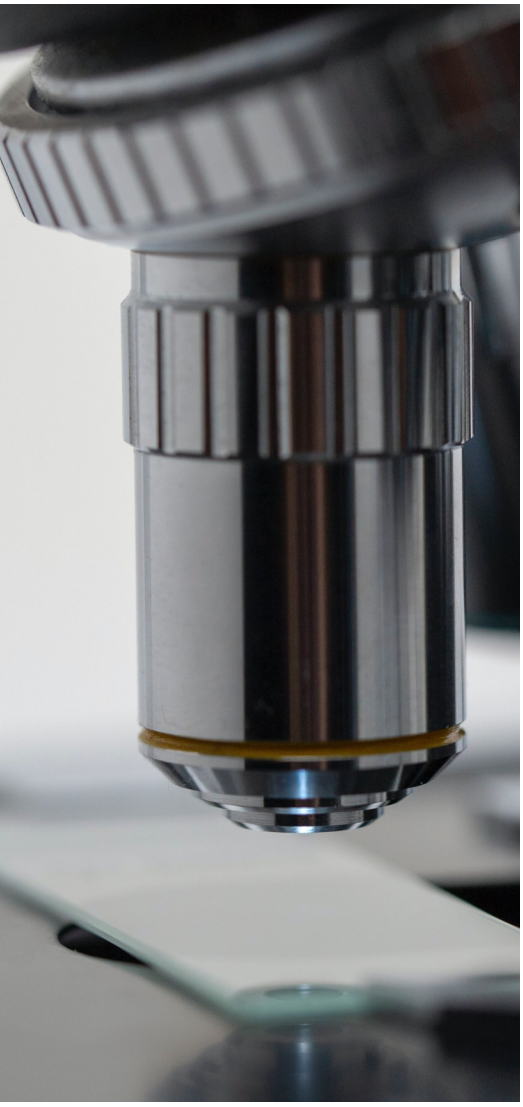
*This includes other funding from the CAMH Foundation and the Koerner Scholarship

Highlights of Impacts

Seed Funding

Dr. Alex Abramovich (Recipient of 2018/19 Seed Funding Award) was invited to present on LGBTQ2S youth homelessness and transgender health at the House of Commons before the Standing Committee on Health for a study on LGBTQ2S health in Canada. Subsequent to this, the House of Commons Standing Committee on Health released a national report on LGBTQ2S Health in Canada, including 23 recommendations to the Government of Canada with numerous citations from the work conducted by Dr. Abramovich.

Dr. Lena Quilty (Recipient of 2018/19 Seed Funding Award) secured a peer-reviewed Canadian Institutes of Health Research (CIHR) grant using lessons learned and results obtained from the DF Seed Funding Award. This highlighted the potential value of peer support in increasing engagement in research.



Dr. Mounira Banasr (Recipient of 2019/2020 Seed Funding Award) leveraged the Seed Funding Award to support a Post-Doctoral Fellow, who subsequently received a competitive Labatt Family Research Fellowship in Depression Biology.

Dr. Fang Liu (Recipient of 2018/2019 Seed Funding Award) made advances in new drug discovery that have the potential to address PTSD-like fear-related behaviors.

Dr. Yuliya Knyahytska (Recipient of 2020/2021 Seed Funding Award) improved access to novel interventions for marginalized and hard-to-treat conditions. Through talks to the media around ketamine interventions, she has advocated for change in practices and better regulation and oversight for these treatments.

New Investigators

Dr. Gillian Strudwick has conducted work leading to changes in the design of the CAMH patient portal, to improve patient-centered care and the patient experience.

Dr. Nicole Kozloff has led the implementation of the Service Engagement Scale to measure service engagement among all patients treated in the Slaight Centre for Early Intervention Services (SCEIS) and has secured a CIHR peer-reviewed grant to examine service engagement in this population.

Dr. Jamie Feusner developed a protocol for clinical treatment of adults and children with obsessive-compulsive disorder using remote (video) teletherapy to deliver cognitive-behavioural therapy, in the U.S., Canada, Australia and the U.K.

3.3 Key Performance Indicator 3:
Training and Leadership

The DF has successfully recruited scientists and trainees, and established new academic collaborations as highlighted below:

	Key Performance Indicator 3: Training and Leadership				
METRIC	**2018-19**	**2019-20**	**2020-21**	**2021-22**	**2022-23**
# trainees by DF Funding	25	10	6	8	4
# trainees supported through DF Centres	-	-	-	22	8
# scientists currently supported by DF	6	5	2	14	14
# external awards and recognitions of DF	16	8	18	33	21
# external academic collaborations supported by DF (including local, provincial, national and international, research networks, government institutions and policy makers/health authorities)	15	26	21	34	17

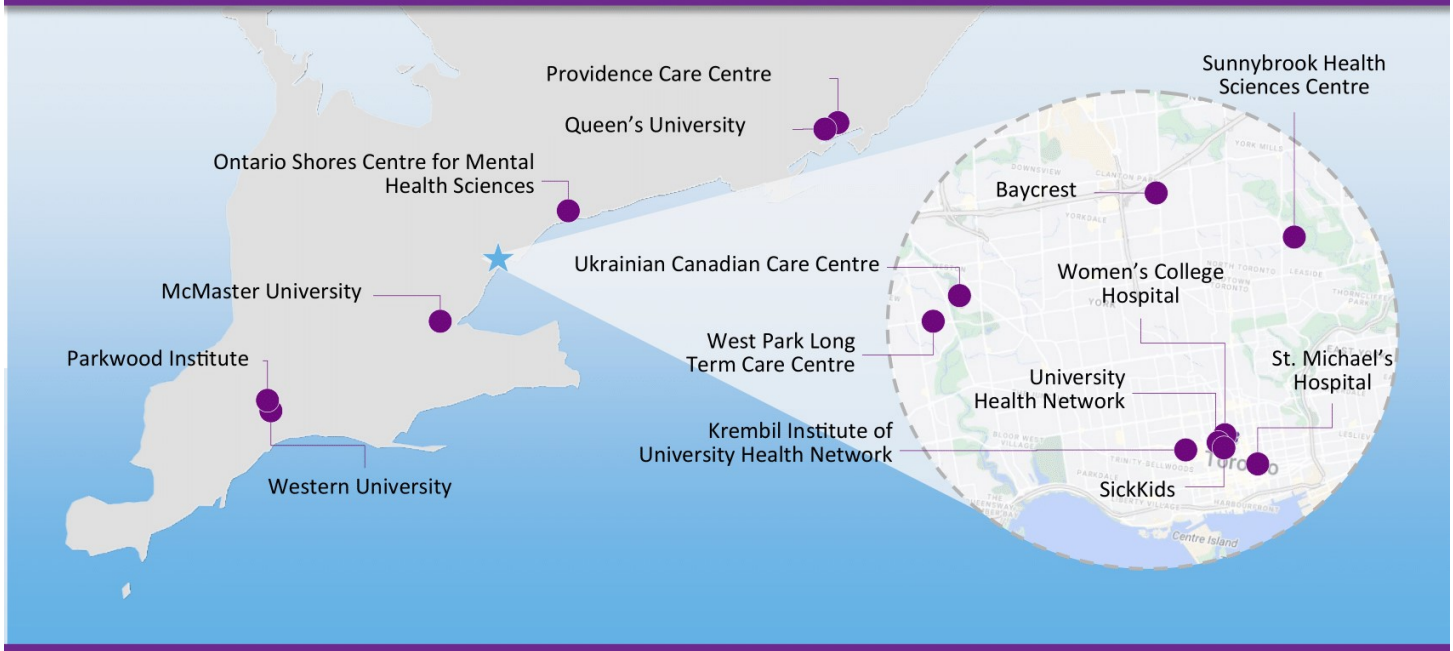
A number of our supported scientists and trainees have received external awards or recognitions, including awards of academic excellence and recognition for outstanding work, as highlighted below:

- CIHR Peer Review: Recognition of Outstanding Contributions
- American Psychological Association (APA) Award for Distinguished Scientific Early Career Contributions to Psychology
- PULSES Scholarship

Discovery Fund Collaborations

Discovery Fund project collaborations span across the globe, forging partnerships with organizations locally, nationally and internationally.

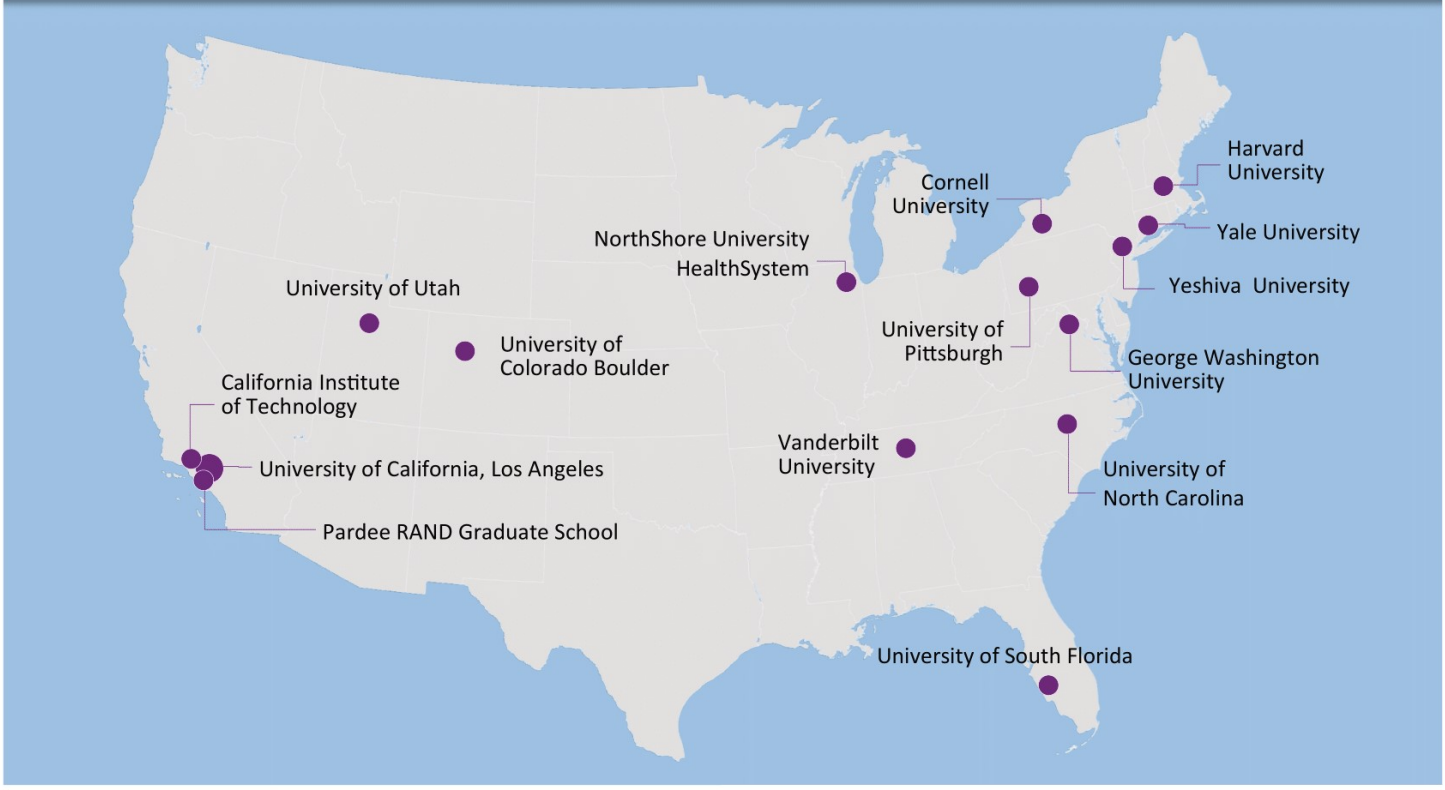
Local Collaborations



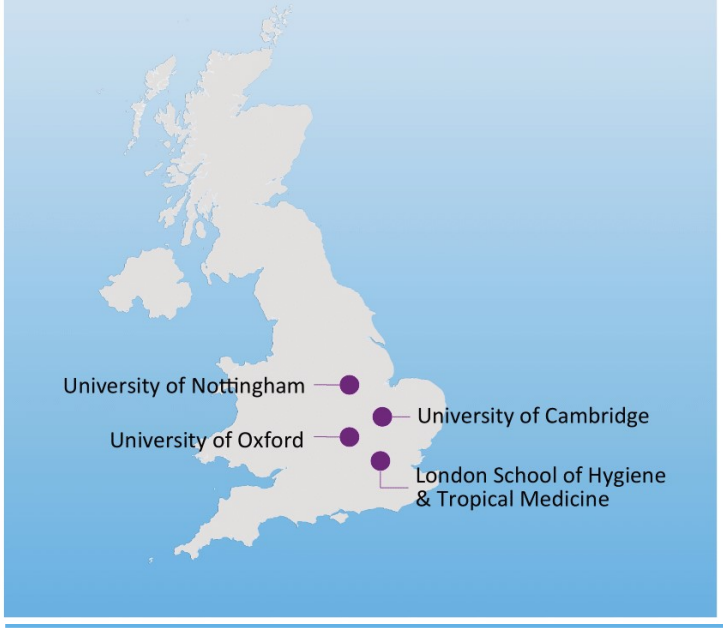
National Collaborations

International Collaborations

United States



United Kingdom



Australia

camh

Centre for Addiction and Mental Health