



Message from the CEO & Board Chair

As we reflect on the past year, we are once again amazed at the outstanding accomplishments of our community and the tremendous growth that continues to soar. CHRIM researchers have made great strides in 2022 in each of their respective disciplines, with impressive federal funding, awards, and new knowledge and research discoveries in their labs.

We welcomed 15 new members who brought expertise from diverse areas, including gastroenterology, pediatric hematology and oncology, neurological diseases, and more. We're thrilled to see this community expand, as this is where the research magic happens. As our community grows, new perspectives and collaborations come together to ask complex questions, leading to new projects being formed and knowledge discovery.

As an institute, we were thrilled to announce the launch of our fourth theme, **PRIME - Partnering for Research Innovation in Mental health through eHealth Excellence**, which is committed to developing innovative mental health programs for families in Manitoba and beyond. PRIME is the first fully donor-funded theme, thanks to the Sobey's Family of Support fundraising initiative in partnership with Children's Hospital Foundation of Manitoba. We are grateful to Sobey's for their investment in mental health research, which will make a significant difference for future generations.

In 2022, we continued to build on Horizon 2026, the research framework that outlines the direction of CHRIM as a leader of knowledge, supporting all families across Manitoba.

Dr. Terry Klassen

CEO + Scientific Director, CHRIM

Scott Lancaster

Board Chair, CHRIM

Historically, CHRIM recognizes that we have not always represented the people of Manitoba as a whole. As one of our values, we are committed to viewing everything we do with a lens of equality, diversity, and inclusion to help ensure health equity, anti-poverty, and anti-racism in health research and health care delivery for all pregnant people, children, youth, and families.

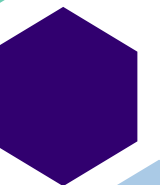
As part of this, one of the first ways we committed to these values was by adjusting our mission, vision, and values statements to better reflect CHRIM's commitment to the health of all children and families in Manitoba.

As we continued down this path, we welcomed Meaghan Cabel to the Administrative team as the new Strategic Initiatives Coordinator. This newly created position highlights our commitment to the research framework, as we now have a dedicated person leading strategic projects, including the work done through Horizon 2026.

Taking decisive action to become an anti-racist institution is an ongoing commitment. To ensure we're taking necessary and appropriate action, we embarked on a Justice, Equity, Diversity, and Inclusion Audit to identify the areas we need to improve in.

Looking to the year ahead, we will begin to take critical steps to ensure we are moving forward with a lens of equity and in a spirit of openness, truth, reconciliation, and commitment to the Truth and Reconciliation Commission of Canada's Calls to Action.

We want to acknowledge our research community for working in partnership with the institute to embrace change. Thanks to our Board of Directors for the guidance and support as we move research into action with the hope of benefiting all families in Manitoba.



CHRIM is built around collaboration and innovation – including shared, inter and multidisciplinary spaces and programs where teams regularly interact with and learn from each other. This gives all researchers a unique perspective looking at the overall picture of child health.

2022 Highlights

Here are just a few of the incredible accomplishments our researchers had in 2022.



CHRIM continued to be a trailblazer in children's diabetes research with nearly \$2 million dollars being allocated to an innovative translational diabetes research program led by CHRIM researchers, **Drs. Christine Doucette, Meaghan Jones, Brandy Wicklow, and Allison Dart.**

[Read more](#)



Eleven CHRIM researchers received **Natural Sciences and Engineering Research Council of Canada (NSERC) Discovery Grants.**



Three CHRIM members received funding as part of a \$30-million federal government investment in research infrastructure at 31 Canadian universities through the **CFI's John R. Evans Leaders Fund (JELF).**

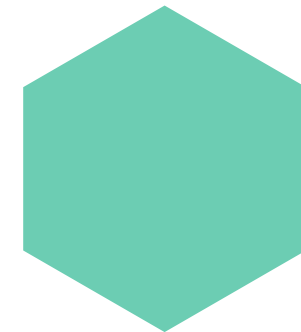


Dr. Garry Shen, CHRIM researcher, was awarded \$1,155,150 in Canadian Institutes of Health Research funding for a five year project that will support additional studies in the prevention of diabetes in remote First Nations communities through prenatal programming.

[Read more](#)



Angela Krutish, Project Manager with the **Canadian Prairie Metabolic Network**, won the 2022 Canadian Association of Genetic Counsellors New Leader Award.

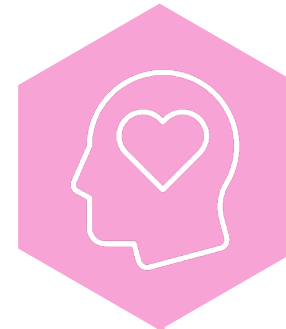


CHRIM researcher, **Dr. Elizabeth Sellers**, was recognized for her incredible contributions to children and families affected by type 2 diabetes at the 14th Annual Best Banting Gala.



Dr. Noralou Roos was inducted into the Canadian Medical Hall of Fame for her work using big data systems analysis to understand social determinants of health, promoting effective universal health care policies.

[Read more](#)



Six CHRIM researchers, **Drs. Dylan MacKay, Lyle McKinnon, Tracie Affi, Roberta Woodgate, Jennifer Yamamoto and Garry Shen**, received funding from the Canadian Institutes of Health Research Fall Grant competition.

CHRIM researchers, **Drs. Melanie Morris and Jean-Eric Ghia** were awarded Queen Elizabeth II Platinum Jubilee Medals (Manitoba).



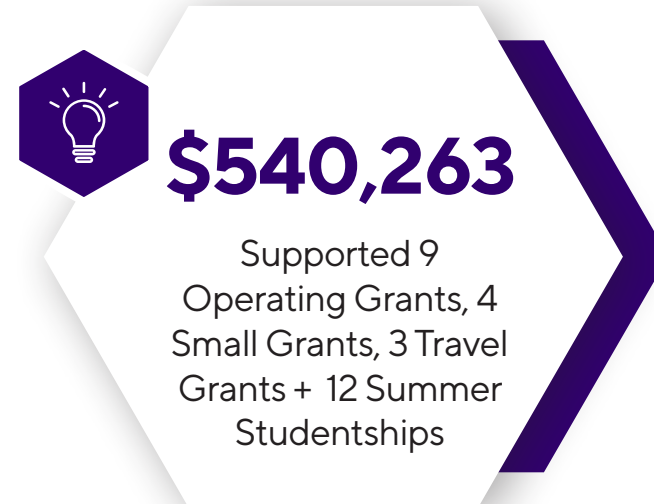
Three CHRIM researchers, **Drs. Lyle McKinnon, Mojgan Rastegar, and Peter Thompson**, won Canadian Institutes of Health Research 2022 Spring Project Grants.

[Read more](#)

Year in Review

New members:

Michel Aliani	Samantha Pauls
Felipe Siqueira Briglia	Joel Pearson
Stacy Chapman	Cielle Stapleton
Sabine Hornbach-Klonisch	Jennifer Theule
Thomas Klonisch	Cedric Tremblay
Maria-Elena Lautatzis	Michelle Ward
Paul Marcogliese	James Young
Aaron Marshall	



With core funding support from the Children’s Hospital Foundation of Manitoba and salary/facility support from the University of Manitoba, CHRIM investigators have more opportunities and better success in applying for external funding.

Thanks to this collaborative effort, we saw approximately **\$20,607,058** active research dollars in 2022.

Refreshed Mission, Vision, Values

To reflect CHRIM's commitment to the health of all children and families

Mission

To be a national leader of knowledge, science, and innovation in health for pregnant people, children, youth, and families; and, to become a recognized champion for health and healthcare equity for all pregnant people, children, youth, and families in Manitoba by 2026.

Vision

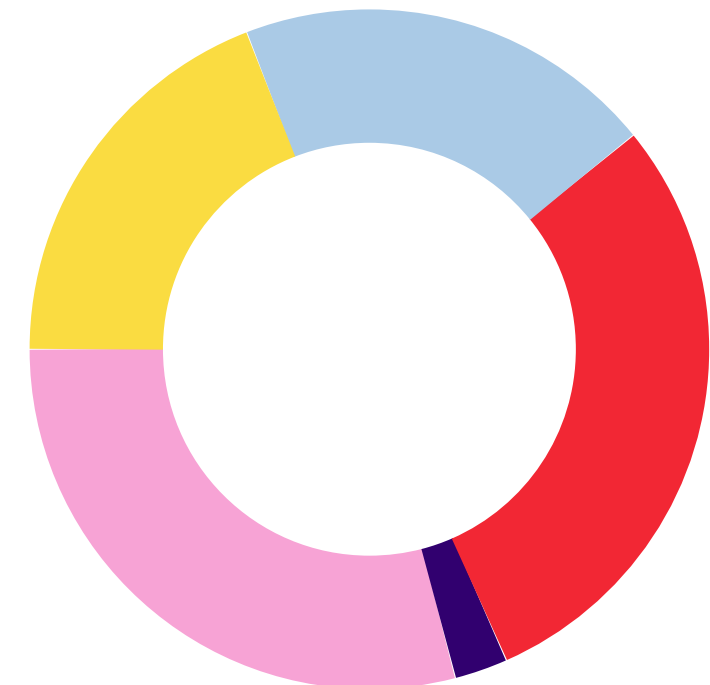
To advocate for equitable, evidence-based policies and innovations; and, to ensure an environment of equity, diversity, and inclusion that recruits, trains, and retains the best in basic, clinical, and translational research aimed at improving the lives of all pregnant people, children, youth and families in Manitoba.

Values

- Viewing everything we do through a lens of equality, diversity, and inclusion to help ensure health equity, anti-poverty, and anti-racism in health research and health care delivery for all pregnant people, children, youth, and families
- Being mindful of how we identify problems, approach research topics, engage others, collect data, report on results, and apply the resulting research evidence
- Being open to diverse perspectives and ways of doing things
- Ensuring excellence and integrity in health research and healthcare delivery for all pregnant people, children, youth, and families
- Committing to environmental sustainability practices
- Educating others with respect to these values

Funding Breakdown

	Children’s Hospital Foundation of Manitoba	19%
	University of Manitoba	20%
	Tri-Council (NSERC, CIHR, SSHRC)	30%
	Research Manitoba	2%
	Other (research contracts, etc)	29%





Events at CHRIM

It was an exciting year as we slowly and carefully transitioned back to in-person events and embraced the hybrid (online and in-person) world. From the annual Child Health Research Days conference to career development opportunities, we spent a large part of 2022 re-building our community culture and inspiring collaborations through events and networking.

Child Health Research Days

In 2022, we hosted our first-ever hybrid Child Health Research Days (CHRD), welcoming over 100 in-person attendees and 100+ guests online. As part of the pre-conference program, we were proud to host an event for the public: *"The Risk-Taker's Advantage: How to Make Kids More Resilient by Not Over-Protecting Them"*. Thanks to the many families and child care providers who attended in-person and online, making this year's public event the largest we have ever had!

This year's CHRD conference featured presentations from world-renowned researchers local to our community, to those from international destinations, including presenters from as far away as Estonia. Some highlights included the yearly Dr. Goodbear's Den competition, featuring nine finalists who presented their work to a team of judges. CHRD delegates attended two panel discussions: one discussing mental health interventions and another covering the importance of gender affirming care and the GDAAY clinic.

Truth and Reconciliation Day Walk

Our community recognized the National Day for Truth and Reconciliation, formerly known as Orange Shirt Day, by hosting a walk to reflect and honour the Residential School survivors and the children who did not return home. We are working towards truth and reconciliation by listening to the stories of Indigenous people, and actively engaging in education, discussion, and justice, equity, diversity, and inclusive initiatives.

Festive Brunch

For the first time in two years, we hosted the return of CHRIM's annual Festive Brunch with investigators, students, trainees, staff, and partners all in attendance. Through ticket sales, prize draws, and donation matches, this year's Brunch raised nearly \$1,000 for Children's Hospital Foundation of Manitoba!

Trainee Career Development

At CHRIM, we recognize the vital importance of fostering the professional development and mentorship of the next generation of child health researchers. To support all trainees as they transition from student life to life after graduation, we offer professional development resources led by our Trainee Career Development Group. The Trainee Career Development Group provides several development opportunities throughout the year including workshops, courses, and networking events that support graduate students on their path to a meaningful career.

As part of the trainee career development initiative, we were pleased to welcome Dr. Chika Stacy Oriuwa, a medical trailblazer spearheading change in healthcare and beyond. Dr. Oriuwa spoke about how to use your voice for change and the importance of communicating clear and factual information.

Healing Nation

CHRIM showcased and facilitated a documentary screening "Healing Nation" on November 21, 2022, at the Canadian Museum for Human Rights, with 75 people in attendance. The film showcased a raw and illuminating documentary about transforming colonial violence into intergenerational healing. Throughout colonial history, the Canadian government has had policies that legalize the

forced removal of Indigenous children from their homes and communities. The film featured stories spanning three generations of those who have either been removed from their families or felt the impact of family members who were taken away. Their stories guide us along the path of interconnectedness between generations and shared across communities - as well as the way ceremony plays an essential part in healing.

Symbia Barnaby led the event. Symbia is one of the producers and featured stories of Healing Nation, she is an Indigenous woman of Haida and Mi'kmaq descent, currently living in northern British Columbia. Her traditional Haida name is Guu Gaa Jung and her Spirit name is Warrior Woman. She is the mother of 6 children (5 of which have special needs) whom she is parenting solo.

Nookomis Debbie Cielen "Good Talking Turtle" and Amanda Smith provided cultural support for the event. Nookomis Debbie gave a beautiful Welcome to Treaty 1 to Symbia, opened the evening with a Welcome, a Prayer, and Water Ceremony, and ended the event in a good way.

Reflecting on 2022, we are excited to see what 2023 holds and look forward to another year of fun-filled events, professional development, and opportunities to establish new connections and collaborations.





YEAR IN REVIEW

Research Support Unit

The Research Support Unit (RSU) continued to support many researchers and their projects in 2022, resulting in a 25% increase in the number of clinical projects and 78 ongoing studies within the unit.

With the increase in projects, staffing needs also increased, which led to the hiring of Banke Oketola and Alix Blacklin as Intervention Study Research Coordinators. These new roles provide the skills for Good Clinical Practice (GCP), Health Canada Division 5, and Tri-Council Policy (TCPS CORE). Banke and Alix are responsible for all aspects of regulated and unregulated study coordination and can assist with protocol development and review, complete operational coordination with other institutions, and support the execution of intervention (drug or device) trials.

Shannon Willis who is a phlebotomist, has also joined the RSU on a casual basis and is skilled in taking blood samples from both children and adults. She is available to the RSU as well as other CHRIM study teams for blood sample collection and processing. This new role also provides lab support including fridge/freezer maintenance, supply ordering, weekly equipment calibrating, and autoclaving.

In 2022, the RSU was excited to support new areas of research and researchers. CHRIM researcher, [Dr. Lauren Kelly](#), is currently leading a clinical trial involving cannabinoids. As part of this work, the RSU is providing central coordination of cannabis shipping to study participants across Canada, which involves the proper storage, inventory management, accountability, shipping/receiving, and destruction.

The RSU also purchased a new ultrasound machine for improved imaging in 2022. The new machine can support several new applications that could not be supported previously and can be used across many projects at CHRIM. Some of these new uses include adult cardiac (2D and 4D transesophageal) coronary, pediatric cardiac, intracardiac, intraoperative, intraluminal; pediatric, including neonatal, fetal heart, obstetrics, gynecology, abdominal, small parts, thyroid, adult and neonatal cephalic, peripheral vascular, musculoskeletal conventional; and superficial, including nerves and urology. This new machine also has the potential for renal ultrasound in the future.

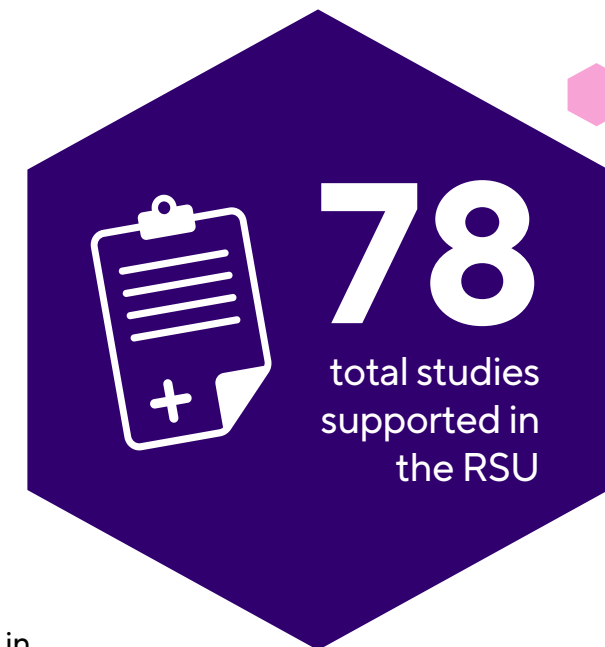
Research Support Unit

by the numbers:



25%

Growth in new clinical projects



78

total studies supported in the RSU



17

New studies initiated



Research conducted in

16

hospital clinics and inpatient areas



38

Clinician-scientists supported in the RSU



3500+

Families participating in clinical research



12

Studies consulting for future initiation at CHRIM

"Children require medicines and other non-drug therapies for many reasons, however, most treatments have never been tested in children or approved for use in their age group. Clinical trials help answer important questions about which treatments work best under which conditions."

Dr. Lauren Kelly

Clinical Trials Director, Research Support Unit



Bioinformatics Core Facility

The [Bioinformatics Core Facility \(BCF\)](#) at the research institute supports CHRIM researchers in their efforts to improve the health of children and youth.

The facility is led by Dr. Richard LeDuc, Director, Bioinformatics Core Facility, Associate Professor University of Manitoba, who specializes in bioinformatics and biometrics with a strong background in proteomics. Dr. LeDuc provides computational expertise and resources for the design and analysis of high throughput omic studies.

“Bioinformatics has been working with the CPMN to establish the high-performance computational infrastructure needed for implementing a new proposed bedside-to-bench-to-bedside multi-omic pipeline based on genomic, proteomic, and metabolomic approaches. This new approach will be used to reclassifying genetic variants of unknown significance.”

Dr. Richard LeDuc
Director, Bioinformatics Core Facility

Canadian Prairie Metabolic Network

The [Canadian Prairie Metabolic Network \(CPMN\)](#) is a Genome Canada/Genome Prairie funded project that is now in its third year. The aim of this project is to evaluate whether DNA testing (called the “OMICS First” approach) very early in the diagnostic workup of a patient suspected to have an underlying inherited metabolic genetic disorder offers advantages over the traditional diagnostic approach where DNA testing is typically offered much later in the patient’s journey.

During the first two years of the study, 160 patients have been approved for “OMICS First testing” and to date, the team has received 92 DNA results and counting! A diagnosis has now been established in 22% of these patients, consistent with results of “OMIC First” testing in the literature.

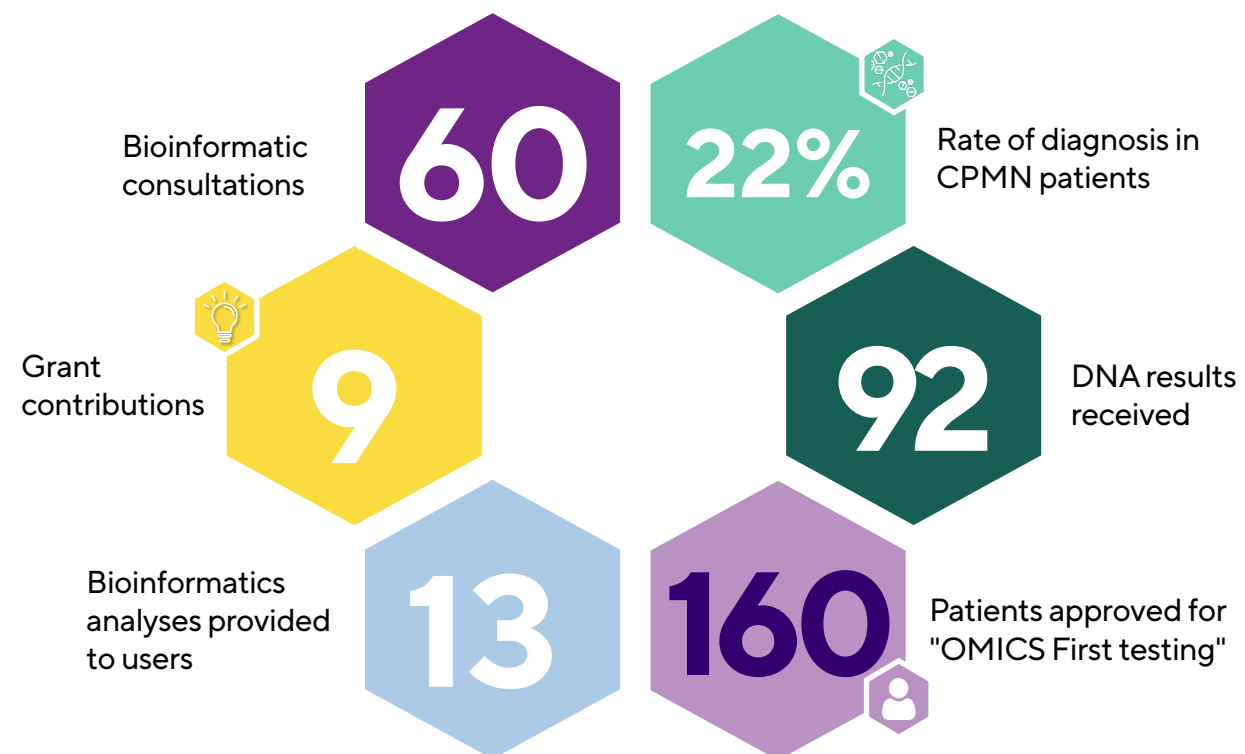
Benefits have extended beyond providing a firm diagnosis and include much shorter wait times and fewer tests to find an answer for their signs and symptoms. Even those whom DNA testing did not provide a definitive diagnosis, patient satisfaction was very high because patients’ concerns were heard and addressed in a timely manner.

This CPMN project has established a process, as well, for further collaborations between CPMN, Shared Health, University of Manitoba, and CHRIM researchers. This will increase access to new diagnostic tools that will help diagnose rare inherited disorders. We would like to thank all of the patients and their families for enrolling in this study, all collaborators, and Genome Prairie.

DNA testing can help diagnose health conditions, which can:

- Change medical care
- Allow patients and their family to access certain resources
- Help patients, their family, and healthcare providers understand health conditions better
- Tell you the chance that patients' relatives will have the same health condition

By the numbers:



Patient Engagement



It was an exciting year for patient engagement (PE) as many more researchers incorporated PE into their projects. Over 20 researchers consulted with patient partners, and 15 projects were supported with patient partners' perspectives.

Here at CHRIM, we have patient partners in a variety of roles, including as advisory group members for the institute, as well as for specific projects or research themes. Patient partners may be parents, caregivers, youth, children, and/or community members who support children. Over 45 patients are part of our advisory groups, including the iCARE patient advisory group, NextGen patient advisory group, Manitoba Children's Hospital Emergency Advisory Group, ENRRICH Patient Advisory, Research Advisory Council for Youth (RACY), and Research Advisory Council (RAC), for parents and caregivers.

The councils, supported by Patient Engagement Coordinator, Carrie Costello, have provided feedback on a variety of projects and questions, including study evaluation forms and research project recruitment efforts.

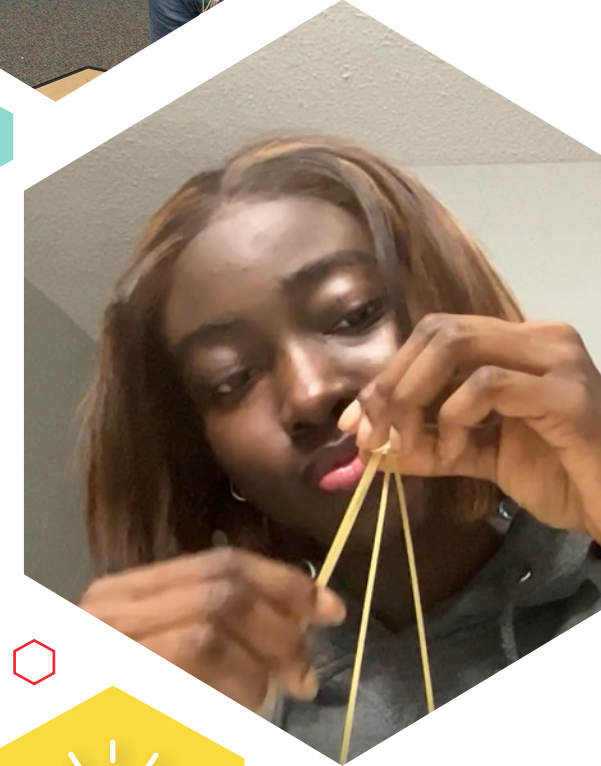
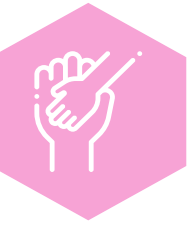
"Talking with Carrie Costello was like a crash-course in patient engagement!", said **Dr. Christy Pylypjuk**, Assistant Professor, University of Manitoba. "Her awareness of the resources available to CHRIM investigators who are planning patient engagement activities was particularly helpful. From my first interaction with Carrie, I was inspired to involve more patients/families as members of the research team. What once seemed a daunting challenge now seems achievable with the right framework and planning."

In addition to supporting researchers, Carrie and patient partners were involved in 12 different outreach presentations. This included a panel presentation at the 18th Annual Child Health Research Days conference that brought together caregivers and youth to share their experiences about the importance of mental health for youth with type 2 diabetes. Patient partners from RAC and RACY presented at CHRIM Research Rounds, and other advisory groups were involved in various events on campus and at Specialized Services for Children and Youth sharing the importance of having patient partners involved in research.

"As someone who has not done any patient surveying before, it was nice to hear a patient perspective on how to approach and the types of things to be attentive on when dealing with one's story."

Evan Abram

Student researcher, accessed MB Children's Emergency Advisory Council



Patient Engagement by the numbers:





YEAR IN REVIEW

Horizon 2026

Rather than a fixed plan with immovable goals, we will seek to perpetually check our path and make choices to adjust course and steer toward a vision of health equity fueled by actions of anti-poverty and anti-racism.

The work that began in 2021 for Horizon 2026 continued with enthusiasm and ambition throughout 2022. Horizon 2026 is the research framework that is intended to showcase the researchers within CHRIM who represent a broad spectrum of disciplines, ranging from pre-clinical (basic science) to clinical research with human participants, to data-focused epidemiological studies, or to examining how to get research evidence into the hands of decision makers.

Within this framework, we added the underlying values of health equity, anti-poverty, and anti-racism, which we seek to apply these values through education of ourselves and others as well as advocacy for systematic changes that will promote health equity, reduce poverty, and address racism.

One of the first items we reviewed to reflect the direction of the research agenda was the adjustment to our mission, vision, values statements.

In addition to the refreshed mission, vision and values statements, it was very important that we incorporate Indigenous perspectives to further support researchers at the institute. Careful consideration was taken, and conversations began around the potential of an Indigenous Elder or Elder Council joining CHRIM. Consultations were made with a diverse group of people, including Indigenous healthcare professionals, CHRIM members, community partners, and advocates.

We will continue to work on understanding and acknowledging the impact of Indigenous health research and care, and the responsibility CHRIM has to Indigenous families in Manitoba. We intend to continue collaboration with Indigenous community members and create a structure at CHRIM where Indigenous cultural awareness is supported and promoted, and where Indigenous perspectives are embedded into the institute.

The Justice, Equity, Diversity, & Inclusion (JEDI) Audit

We endeavor to keep the horizon of equity in sight as we move forward in a spirit of openness, truth, reconciliation, and commitment to the Truth and Reconciliation Commission of Canada's Calls to Action.

Out of our strategic research agenda, Horizon 2026, feedback from engagement with community members highlighted the need for improvement of diversity, equity, and inclusion (DEI) in our research cohorts and teams.

Taking decisive action to become an anti-racist institution is an ongoing commitment, and a DEI Audit was essential to identify areas where we need improvement. As part of this commitment, CHRIM welcomed Meaghan Cabel in the summer of 2022 as the new Strategic Initiatives Coordinator who will support and help to operationalize strategic projects, including the coordination of an external DEI audit at CHRIM.

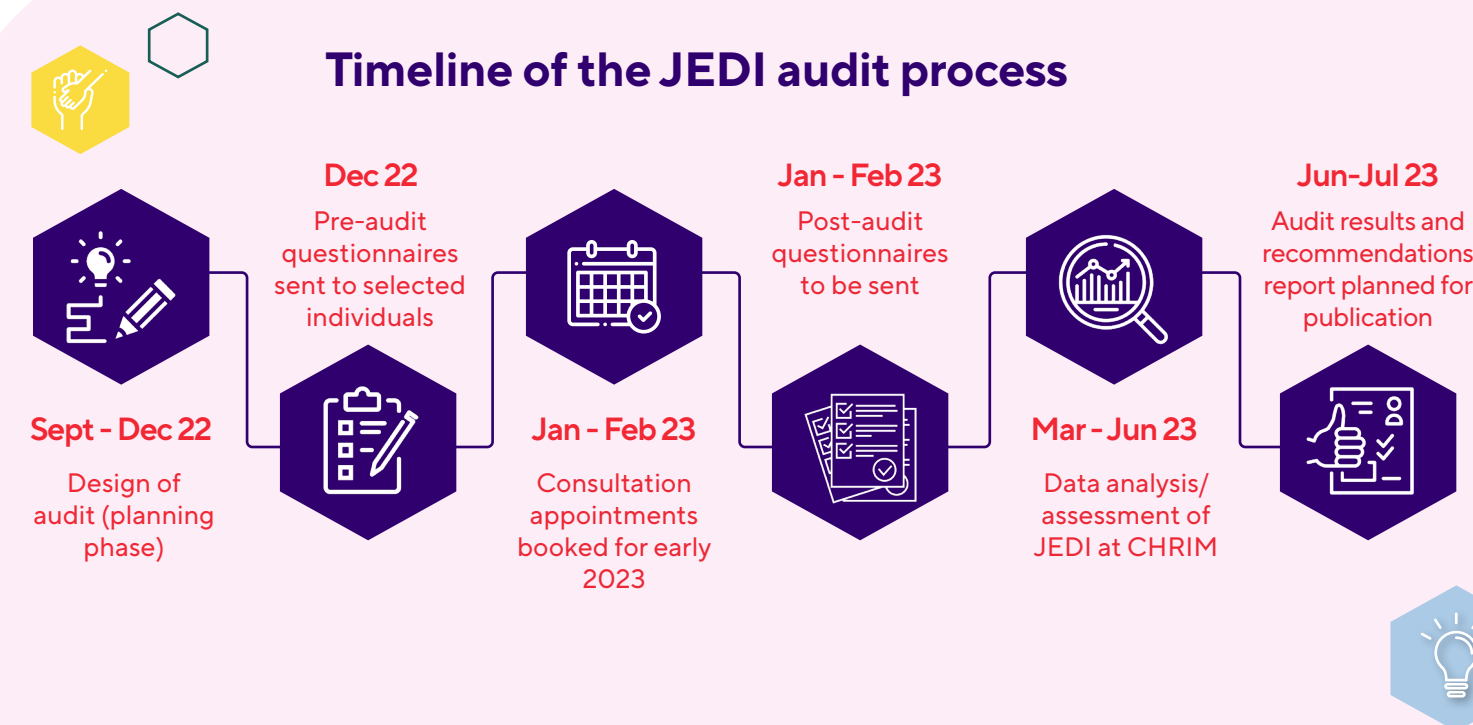
The JEDI (Justice, Equity, Diversity, and Inclusion) Audit began in the fall, with a projected end date in the summer of 2023.

The Audit Research Team is comprised of auditors, Maya Simpson and Craig Brown, consultant, Dr. Heather McRae, and CHRIM Strategic Initiatives Coordinator, Meaghan Cabel.

The Audit Research Team constructed a plan that informs the execution of a JEDI Audit for the organization. Specifically, the audit will allow CHRIM to assess where our organization stands in relation to establishing an organizational culture that is imbued with the tenets supporting JEDI.

Fifteen people were identified at CHRIM as essential, "internal stakeholders", to be invited to participate in the JEDI Audit. Stakeholders include the Chair of the Board of Directors, the CHRIM Executive team, and each of the Research Themes Lead Investigators. The audit plan was shared with all stakeholders in December 2022, with consultations planned to start in January 2023.

The JEDI Audit Report is scheduled for 2023, with implementation and accountability measures to be determined.





YEAR IN REVIEW

Biology of Breathing

Asthma disproportionately affects children and youth compared to adults. More than 850,000 children under the age of 14 have asthma, which makes it one of the most common chronic diseases among children and a leading cause for both school absenteeism and hospitalization.

Biology of Breathing (BoB) researchers at CHRIM work collaboratively with other researchers from the University of Manitoba, along with many other investigators provincially, nationally, and internationally.

More than 850,000 children under the age of 14 have asthma, which makes it one of the most common chronic diseases among children and a leading cause for both school absenteeism and hospitalization.

The BoB theme is led by [Dr. Andrew Halayko](#), Professor, University of Manitoba, and [Dr. Richard Keijzer](#), Professor, University of Manitoba. In 2022, the theme held a total of \$9,749,000 in membership research funding in the 2021-22 fiscal year.

In 2022, BoB provided catalyst grants on several new projects for CHRIM researchers including:

Establishing Cannabis Smoke Exposure Capacity in CHRIM Murine Lung Function Laboratory

[Dr. Meaghan Jones](#) (\$7,500)

Establishing Vital Signs Monitoring Capacity in Murine Lung Function Laboratory

[Dr. Chris Pascoe](#) (\$6,000)

Multi-Plex Cytokine and Biomarker Analysis on human Lung and Blood Samples

[Drs. Chris Pascoe, Biniam Kidane, Neeloffer Mookherjee and Andrew Halayko](#) (\$3,000)

Maintenance and Upgrade to Cigarette Smoking Robot in Murine Lung Function Laboratory

[Sujata Basu](#), Laboratory Manager of Murine Lung Function Lab at CHRIM (\$5,000)

These catalyst grants will support core research capacity needed to generate new knowledge creation that will support the efforts of BoB researchers when applying for external national funding in the years ahead.

Exciting new collaborations were formed in 2022. Dr. Chris Pascoe, Assistant Professor, University of Manitoba, formalized a collaboration with Dr. Meghan Riddell (University of Alberta) as part of a successful application to the New Frontiers Research Fund (NFRF). As part of the \$200,000 funded project, Dr. Pascoe will analyze amniotic fluid samples that Dr. Riddell collects following Cesarean section delivery. The project specifically measures changes in amniotic fluid cytokines to determine whether maternal smoking or diabetes influences inflammatory profiles.

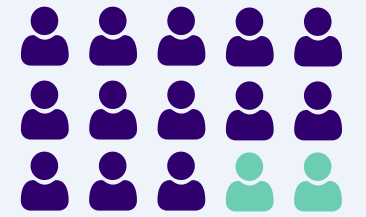
[Dr. Barbara Porto](#), Assistant Professor, University of Manitoba, led the development of a new team project focused on sex-associated protective effects of early life treatment with interferon lambda for the prevention of virus-induced asthma. This study involves unique mouse models of RSV infection, which is very important, given the recent surge of RSV and influenza being seen in the pediatric population. Additionally, this project looks at the mechanisms that could be contributing to the "immunity gap" that appears to have developed in children born just before and during the COVID-19 pandemic. For this project, she collaborated with [Dr. Deanna Santer](#), Assistant Professor, University of Manitoba, (an interferon lambda expert with unique facilities to induce and monitor respiratory infections in mice) and Dr. Andrew Halayko, who specializes in lung pathophysiology expertise.

Trainees within the theme are supported in a variety of ways as they grow and develop in their studies and careers. In 2022, BoB invited two external speakers brought forward by the trainees as part of their development. BoB also offers support for trainees to attend meetings with small travel allowances. This support helps cover the costs for conference registration fees, meetings, and workshops, which seven trainees utilized.

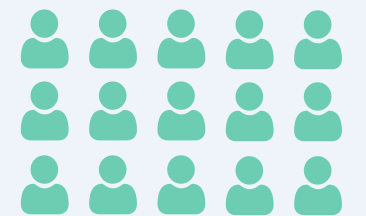
Biology of Breathing

by the numbers:

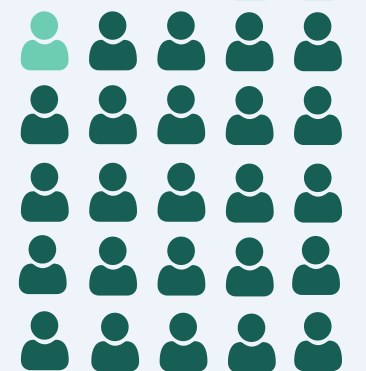
13
Principal
Investigators



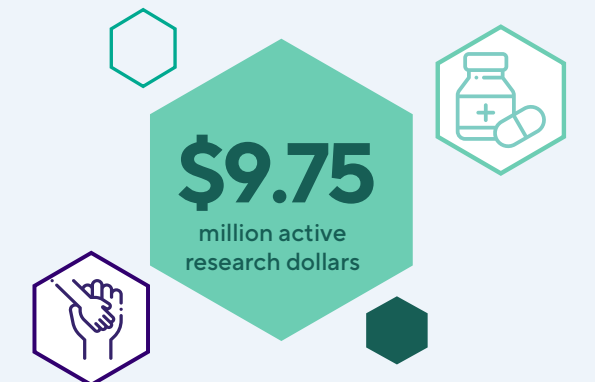
18
Affiliate
Members



24
Trainees



\$9.75
million active
research dollars



**BIOLOGY OF
BREATHING**
Research Theme



YEAR IN REVIEW

DREAM

Type 2 diabetes is the fastest growing chronic illness in Canada, and Manitoba has one of the highest rates of type 2 diabetes in children in the world. Manitoba is disproportionately affected by type 2 diabetes in youth, and First Nation children are 25 times more likely to be affected. Most of the youth with type 2 diabetes are diagnosed in the early adolescent years, however specialists have seen kids as young as four with type 2 diabetes.

Over the last 10 years, DREAM has prioritized advancing knowledge about childhood onset type

2 diabetes, and in 2022, DREAM had over \$3.7 million in active research funding awarded to theme researchers and their labs.

Since its inception, DREAM has secured over \$52 million in external funding to learn more about this disease, and has created patient and community advisory committees to ensure that the work is relevant to families served, hosted symposia for members of the scientific and lay community, and made numerous discoveries that have shaped the way doctors and families

understand type 2 diabetes in youth.

Included in that funding is an innovative translational diabetes research program that received nearly \$2 million as part of the [Government of Canada's 100 Years of Insulin: Accelerating Canadian Discoveries to Defeat Diabetes initiative](#). The [research project](#) is led by [Drs. Christine Doucette, Meaghan Jones, Brandy Wicklow](#), and [Allison Dart](#), and aims to better understand why children develop type 2 diabetes and kidney disease.

This past year, DREAM expanded its research expertise to include investigators who specialize in type 1 diabetes research. Type 1 diabetes may affect people of any age, but usually develops in children or young adults. People with this form of diabetes need injections of insulin every day to control the levels of glucose in their blood. If people with type 1 diabetes do not have access to insulin, they will die.

Rates of type 1 diabetes are increasing – about 3 per cent each year in Manitoba.

New members of the team are focused on understanding mechanisms of type 1 diabetes development, which may lead to new therapies. Specifically, [Drs. Peter Thompson](#) and [Jennifer Yamamoto](#) were awarded with over \$1 million in grants from the Canadian Institutes of Health Research for type 1 diabetes research.

Another incredible achievement was for [Dr. Elizabeth Sellers](#), Associate Professor, University of Manitoba, who was recognized as the Diabetes Canada 2022 Honouree at the 14th Annual Best Banting Gala. Dr. Sellers has been an integral part of the D-Camps program since 1993 at Camp Banting in Ontario and continues as Camp Medical Director for Manitoba's Camp Briardale. Dr. Sellers is also an active member of their National Medical Task Force for D-Camps.

The iCARE 2.0 pilot intervention: dialectical behavioral therapy for adolescents with type 2 diabetes

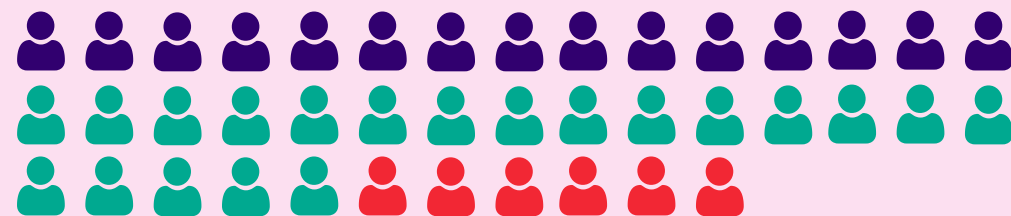
Our work as a team has led to a better understanding of the most important risk factors for complications in children living with diabetes.

Mental health has emerged as an important challenge for patients, impacting their disease management, and has become the focus of the iCARE 2.0 pilot intervention. This intervention is a novel therapy for diabetes that focuses on mindfulness and personal strengths.

DREAM members are working with Indigenous Knowledge Keepers to incorporate traditional medicine into the next phase of the study, with the goal of improving the quality of life of youth living with type 2 diabetes.

DREAM

by the numbers:



15

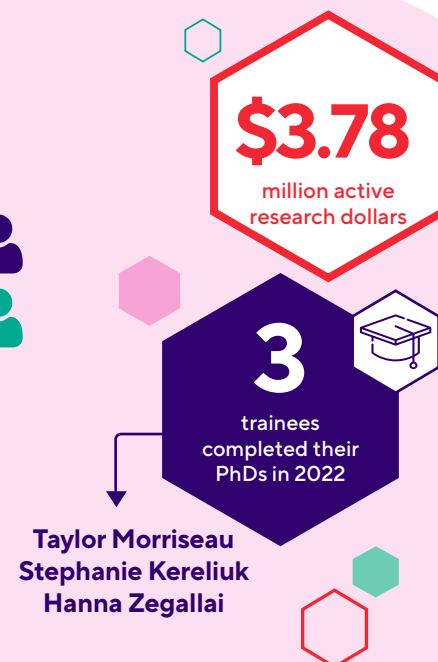
Investigators

20

Trainees

6

Indigenous partners



Further to the research accomplishments, the DREAM Theme commissioned an audit on racism with the goal to establish a sustainable anti-racist culture amongst DREAM members. They are working to develop a 3-year action plan beginning in 2023 to implement changes for the future.

This will be done using an Anti-Racism Pathway in three steps:

- 1 Truth and Self-Reflection
- 2 Critical Consciousness and Anti-Racism
- 3 Advocacy and Partnership/Changing Policies



YEAR IN REVIEW

ENRRICH

Statistics show that five per cent of Canadian children aged five to 14 years have a disability, and 74 per cent of these are identified as having a neurodevelopmental condition and disability. More so, Manitoba has a higher proportion (4.1%) of youth aged 0-14 years who live with at least one disability.

Excellence in Neurodevelopment and Rehabilitation Research in Children's Health (ENRRICH) is a collaborative effort between three major provincial hubs for pediatric neurodevelopment and rehabilitation located in Winnipeg, Manitoba: Children's Hospital, Specialized Services for Children and Youth (SSCY), and the Pan Am Concussion Program. Researchers within the ENRRICH theme are committed to improving the quality of life for children and families requiring pediatric neurodevelopment and rehabilitation services in Manitoba, central Nunavut, and northern Ontario through research.

Collaboration Grant Recipients:

Dr. Robert Beattie & Dr. Galen Wright
Developmental Origins of Rett Syndrome and the Cell Autonomous Role of Fan1 in Regulating Disease Severity,

Dr. Jacquie Ripat, Shea Hunt, & Dena Stitz
Power up! How becoming a new power mobility user contributes to children's participation and well-being

Dr. Mojgan Rastegar & Dr. Hassan Marzban
Exploring a new role for MeCP2 in hippocampal neurons; implications for neurodevelopmental disorders

Maynan Robinson & Leanne Leclair
Jordan's Principle Program Evaluation: An Indigenous approach (literature search and needs assessment)

The theme is led by [Dr. Kelly Russell](#), Associate Professor, University of Manitoba, and [Dr. Kristy Wittmeier](#), Associate Professor, University of Manitoba. In total, ENRRICH members held \$3,252,152 in research funding from the 2021-22 fiscal year.

During 2022, the theme transitioned from one annual ENRRICH Catalyst Grant competition to two Catalyst Grant competitions, allowing research teams to be more strategic in their local versus national application efforts, and improving the chances of having a sufficient number of applications for each ENRRICH Catalyst Grant competition. As part of this transition, one ENRRICH Catalyst Grant was awarded in the fall 2021 competition:

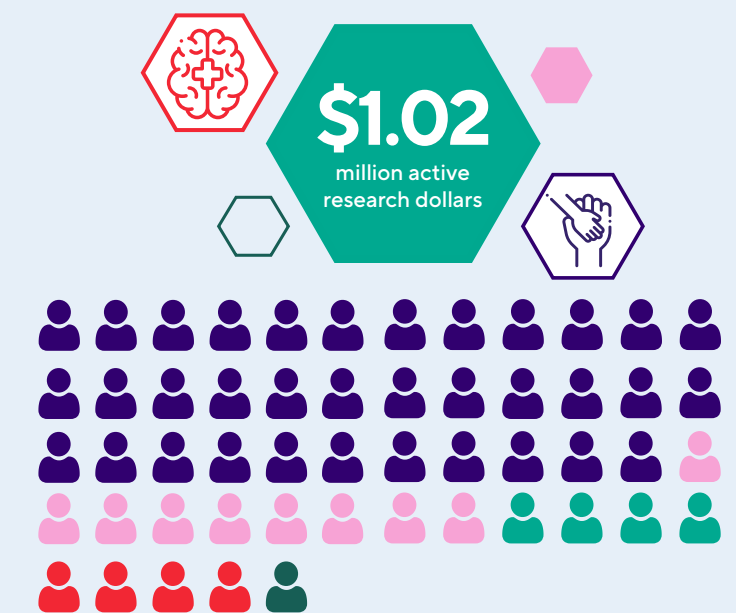
Exploring the association between autism spectrum disorder and immigration among a cohort of preschoolers in Manitoba

[Dr. Florencia Ricci](#), Dr. Mara Fridell, [Dr. Ana Hanlon-Dearman](#), Dr. Stefanie Narvey, and resident trainee Ryan Phung

Dr. Ricci's resident trainee, Dr. Ryan Phung presented this work at the 18th Annual Child Health Research Days conference. The remaining grant funds were allocated to a one-time Collaboration Grant

ENRRICH

by the numbers:



competition where four grants were awarded.

In the fall 2022 competition, two awards were granted:

Building Circles of Support, an education series about FASD: A Preliminary Program Evaluation

[Dr. Kristene Cheung](#), Dr. Jennifer Theule, Dr. Ana Hanlon-Dearman, Laura Bennett, Dr. Michelle Ward, and Lisa Balcaen

RESONATE – Identifying pRactical and Effective mentorShip strategies to infOrm caregiver-to-caregiver meNtorship: an integrated knowledge translation study

[Dr. Jennifer Protudjer](#) and Carrie Costello

The ENRRICH-ED blog launched as a new platform for knowledge translation and to highlight study participant opportunities and ENRRICH member recruitment. Since launching in June 2022, the blog page has been viewed over 300 times, with new content being published monthly. The blog has been received well, with individual posts visited up to 89 times.

In the spring of 2022, an ENRRICH member identified a gap in student funding opportunities, as the majority of available awards are GPA-based, which creates barriers for some students. A committee was formed to manage the project, and based on current and proposed EDI-related studentships, we developed the ENRRICH Studentship to align with the principles of equity, diversity, inclusion, (EDI), and justice. The purpose of the studentship is to recognize and prioritize the valuable skills and knowledge that come from life experience. It was developed to support inclusion, diversity,

equity, accessibility (IDEA), and justice, and to enhance the participation of historically and systematically marginalized groups.

Strengthening Partnerships and Increasing Research Capacity was another focus for the theme in 2022. SSCY Centre strongly encourages both internal and external clinicians and researchers to conduct their work at the Centre with families and staff members. Since the launch of ENRRICH and our partnership with RCC and SSCY Centre, research projects taking place onsite at SSCY Centre have more than doubled. Since before 2020, research has increased from an average of five projects per year to 11 projects in 2022. With ENRRICH funding, a research assistant was hired to clean and validate RCC clinical e-chart (Accuro) data for research and quality improvement projects. The chart data for children with cerebral palsy (CP), fetal alcohol syndrome disorder (FASD), and autism spectrum disorder (ASD) was included in this process. We also developed and finalized a data sharing agreement to transfer de-identified RCC clinical data housed at SSCY Centre to the Manitoba Centre for Health Policy (MCHP). The linkage of this data will hopefully lead to future studies within ENRRICH that are able to assess the demographic and clinical data to inform policy at a provincial level.

The ENRRICH Trainee program also continued to develop in 2022. As the theme grows and with the implementation of quarterly team meetings, the team is beginning to see more engagement from the trainees through increased attendance and participation in quarterly meetings, and participation on the Summer Studentship Committee.



YEAR IN REVIEW

PRIME

Mental illness is a leading cause of disability in Canada, with 70% of mental health problems and illnesses having their onset during childhood or adolescence. Children's hospitals across Canada are facing unprecedented demand for mental health services. Unfortunately, the impacts of COVID-19 have created an even greater need for this kind of support for children and teens.

eHealth technologies can offer tremendous potential to advance the reach and efficacy of mental health therapeutics to an increasingly digital-connected population. These technologies can then be used to enhance in-person services, tailored to community needs.

In 2022, CHRIM launched its fourth research theme at the institute: **PRIME – Partnering for Research Innovation in Mental health through eHealth Excellence**. PRIME brings together shared expertise in unmet child mental health and program development needs with a dedicated team of eHealth professionals who will help reduce burdens of mental illness in Manitoba and potentially across the country.

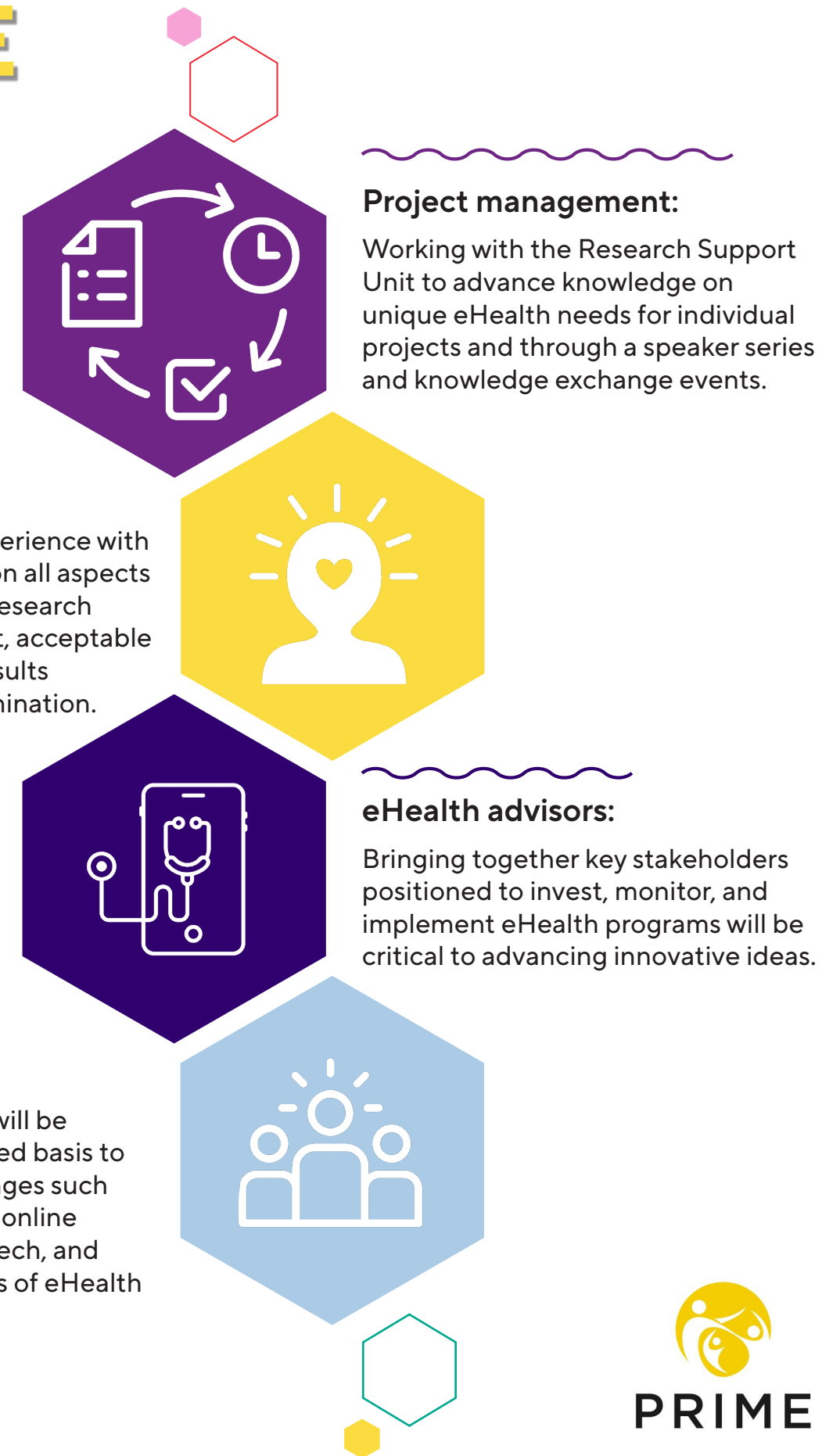
CHRIM researchers, [Dr. Mandy Archibald](#), Assistant Professor, University of Manitoba, and [Dr. Leslie Roos](#), Assistant Professor, University of Manitoba, will lead the new theme and help to create infrastructure, resources, and advisory groups to enable excellence in the rapid-cycle development of evidence-based eHealth therapeutics that promote mental health, complement chronic disease management, and help children to thrive.

The new theme received funding of \$450,000 over the next three years from the Sobeys Family of Support fundraising initiative in partnership with Children's Hospital Foundation of Manitoba.

Mental illness is a leading cause of disability in Canada, with 70% of mental health problems and illnesses having their onset during childhood or adolescence.

PRIME

key activities





Children’s Hospital Foundation of Manitoba proudly supports the teams at Children’s Hospital Research Institute of Manitoba and their life-changing impact on the health of kids across Manitoba.

Together, we have built a foundation of discovery that impacts children at home and around the world. We are committed to long term and incremental funding to not only sustain CHRIM but to grow pediatric research, and we are excited at what the future holds in discoveries and developments that will come from researchers with the Institute.

We are all working together to #GiveBetterFutures to sick and injured kids. Thank you for your boldness, innovation and drive to help kids.



Stefano Grande
CEO + President,
Children's Hospital
Foundation of Manitoba



Zoë Richardson
Chair, Board of Directors,
Children's Hospital
Foundation of Manitoba

Our Research Partners

Children's Hospital Foundation of Manitoba

Children's Hospital Foundation of Manitoba is the main operating funding source for the Children's Hospital Research Institute of Manitoba. The Foundation invests directly into research by providing core funding for research projects, and provides administrative and infrastructure supports for researchers.

With the support of the Foundation and the resources provided to the institute, CHRIM investigators have more opportunities and better success in applying for external funding.

We are grateful to the Foundation for continuing to support child health research in Manitoba and beyond. Your investment directly impacts the next generation of scientists, and is helping to fuel the discovery of scientific breakthroughs, treatments, and cures, as we work towards a healthier future for families.

Children’s Hospital
Foundation of Manitoba
directly supports research
through funding for grants,
operations, and facilities.
In 2022, they raised

\$3.8 million

to sustain child health
research in Manitoba.

University of Manitoba

Our partnership with the University of Manitoba is integral to training the next generation of child health researchers, recruiting and retaining world-class scientists within Manitoba, and fostering research collaboration at every level. We're working together to make kids better and keep them from getting sick in the first place.

A unique relationship with the Department of Pediatrics and Child Health allows upcoming residents, fellows, and physicians to be a part of collaborative projects—working in the areas of basic science, clinical trials and knowledge translation.

While the [University of Manitoba's](#) investment in child health research goes above and beyond a dollar amount, we are grateful to their contribution of more than \$3.4 million in salary support and approximately \$675,000 in facilities support for our research institute.





Thank you

We are fortunate to work with dedicated research groups and individuals who make our community a vibrant and collaborative space where child health research thrives.

Thank you to our Board members, committee members, funders, partners, researchers, trainees, and staff who have all contributed to past successes and a healthier future for all children – locally, nationally, and globally.