



Building Connections

Research Manitoba

AT RESEARCH MANITOBA, WE ENSURE THAT RESEARCHERS AND INNOVATORS CAN EXCEL AND FOLLOW THEIR PASSION WITHIN MANITOBA’S RESEARCH COMMUNITY, ADVANCING AND IMPROVING ALL ASPECTS OF OUR SOCIETY.

OUR MANDATE IS TO PROMOTE, SUPPORT, AND COORDINATE THE FUNDING OF RESEARCH IN THE HEALTH, NATURAL AND SOCIAL SCIENCES, ENGINEERING, AND THE HUMANITIES IN MANITOBA.

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MESSAGE FROM THE CHAIR



ANDREA LEGARY
BOARD CHAIR

*Chief Science and Technology
Officer, The Recoup Group*

The 2020-21 year was transformative for Research Manitoba and momentous for research and innovation in our province and around the globe.

Despite the challenges of the global pandemic, our organization continued to advance research in the province, promote growth and commercialization in priority sectors such as Bioscience, ICT, Advanced Manufacturing, and Infrastructure and Transportation Industries and Technologies, and provided \$4.5M in highly responsive funding for COVID-19 research. We focused on building connections and rising to unexpected challenges with new opportunities, partnerships, and fresh faces.

In September 2020, our previous Board Chair, Ms. Tracey Maconachie, became the Deputy Minister of Economic Development and Jobs, and shortly thereafter, I was appointed as her replacement. We thank Tracey for her service and look forward to working with her together in her new role. I would also like to thank Mr. Sean McKay for his significant contributions to Research Manitoba as Interim Chief Executive Officer from August 2020 to February 2021, which provided a solid foundation for Ms. Karen Dunlop as she permanently joined the team as Chief Executive Officer in February 2021.

In this report, we highlight a sample of the numerous impacts and outcomes of our funding and the world-class research that is taking place in Manitoba. In addition to the Provincial funding of \$12.1M received, we leveraged an additional \$19.5M in funding to invest in research across the priority sectors, increasing Manitoba's global competitiveness and aiding in Manitoba's economic growth and recovery.

This year marked our first round of the Innovation Proof-of-Concept program, funding 14 recipients. A total of \$2,316,350 was invested into these collaborations between local companies and academics, which will foster research innovation and development in the Technology Readiness Levels 3-7 range, expand economic development and commercialization of products, and shift innovations from ideas to market usability.

In April 2020, Research Manitoba pivoted quickly to respond to the COVID-19 pandemic and announced the launch of the Manitoba COVID-19 Research Fund. As a result, nineteen COVID-19 projects were funded, and many made significant impacts in mental health, clinical trials, and palliative care. Our COVID-19 IPoC recipients are creating pioneering products. For example, in November 2020, COVID-19 IPoC recipient, Cubresa, announced that its NuPET Bio imaging system, the first in the world specifically designed for infectious disease research in BSL3 environments, received a contract and funding through Innovative Solutions Canada. The equipment will be installed at the IWK Health Centre in Halifax, Nova Scotia, and will be used to support the centre's SARS-CoV-2 research program.

In September 2020, we announced our inaugural Strategic Partnership with the Victoria General Hospital Foundation, and in November 2020 we announced a second partnership with Boehringer Ingelheim [Canada] Ltd. These partnerships are critical as they bring together our province's unique resources and assets to create new solutions to benefit and improve the lives of Manitobans.

Research Manitoba remains focused on the Research Improvements Through Harmonization in Research [RITHIM] initiative that will improve time to conduct for ethics, privacy, and impact application process and review across the province. In 2021-22, we look forward to launching this initiative and seeing the system come to life online, supporting increased industry investment and expansion of clinical trials.

As incoming Board Chair, I appreciate the support of our research community and would like to thank everyone across the research enterprise – the Manitoba Government, Minister Eichler and his team, our staff and Board Members, the Research Advisory Committee, the Provincial RITHIM Committee, our Review Committees, the many partners and companies, and all of the talented researchers – for your vision and commitment to championing Manitoba's research community. We look forward to working with all of you as we evolve as Manitoba's research hub in 2021-22.

MESSAGE FROM THE CHIEF EXECUTIVE OFFICER

I am pleased to present Research Manitoba's 2020-21 Annual Report, "Building Connections".

I joined the organization late in the last quarter of our fiscal year and was immersed immediately in the impactful work underway. I have been impressed by the talent, passion, and strong relationships Research Manitoba has within the provincial research enterprise. We are in the unique position of being the most trusted research funding agency within the province. We work with our funder, stakeholders, and partners to respond to the needs of the province including those created by the global COVID-19 pandemic.

In a year of unprecedented challenges, Research Manitoba stepped up by creating new programming, adjusting core programming, and entering new partnerships to ensure researchers and local industry have access to funding and program opportunities where they need it most. We created the Manitoba COVID-19 Research Fund, which included the Rapid Response Grant Program and the COVID-19 Innovation Proof-of-Concept Program to enhance innovation and local research and development. We introduced the Natural Science and Engineering Research Council Alliance – Research Manitoba Accelerate, Commercialize, Transform [NSERC ACT], and the Strategic Partnership Program that began with the Victoria General Hospital Foundation Research, and includes Boehringer Ingelheim, the Concordia Foundation, and Heart & Stroke Foundation of Canada. We held the first competition for the Innovation Proof-of-Concept Program resulting in 14 successful projects through the two streams, supporting academic and academic-industry consortiums. In this report we have included information and stories of the individuals and companies funded through our programs and are proud to champion and advance world-class research in our province that develops local talent and strengthens our economy.

Research Manitoba funded 241 internships through Mitacs, giving students the opportunity to work on research within industry, and local industry the opportunity to advance their research and development. Through these internships focused on our priority sectors, and our Trainee and New Investigator programming, we support students and early career researchers as they begin their career, providing an important investment in our province's future.

A key aspect of our program competitions is the high-quality reviews. I would like to thank every reviewer for their time and expertise; your involvement and efforts are critical to the success of our programs and goals.

Connecting and collaborating is at the heart of everything we do. The Research Improvements Through Harmonization in Manitoba [RITHIM] initiative was created by a shared vision within the research community to create a streamlined provincial system to harmonize the processes for health research reviews in ethics, privacy, and impact. This year, we focused on the design of the RITHIM system based on the extensive consultations and involvement of many stakeholders from across the provincial research ecosystem. Together, we will launch RITHIM in 2021.

It has been a privilege to take up the role of Chief Executive Officer and to have the opportunity to lead a team of passionate and driven professionals. In October 2020, we welcomed Elaine Burland, PhD, as RITHIM's CHIPER Coordinator and in September, said goodbye to Dustin Ameis as he moved on in his career path. I would like to thank the many individuals and organizations that welcomed me to my new role. I have benefited from the true Manitoba advantage, that of a shared commitment to our shared success.



KAREN DUNLOP
CHIEF EXECUTIVE OFFICER

Research Manitoba

RESEARCH MANITOBA BOARD OF DIRECTORS

Research Manitoba's Board of Directors includes membership from the research community, provincial government, industry, academic institutions, and health agencies. Board appointments are made by Order in Council by the Government of Manitoba.



MS. TRACEY MACONACHIE
CHAIR
[UNTIL SEPTEMBER 2020]
President, Bioscience Association Manitoba



MS. ANDREA LEGARY
CHAIR
[AS OF DECEMBER 2020]
Chief Science and Technology Officer, The Recoup Group



DR. DIGVIR JAYAS
VICE-CHAIR
[INTERIM CHAIR FROM SEPT TO DEC 2020]
Vice-President (Research and International), Office of the President, University of Manitoba



MR. EARL GARDINER
TREASURER
Founder and Executive Chairman of Careica Health



DR. RASHID AHMED
Associate Professor, Department of Community Health Sciences, Max Rady College of Medicine, Rady Faculty of Health Sciences, University of Manitoba



MS. DOREEN BILODEAU
Former General Manager, EM Plastic & Electric Products Ltd., EM Plastic [RETIRED]

RESEARCH MANITOBA BOARD OF DIRECTORS



DR. HANI EL-GABALAWY
Professor, Medicine and Immunology, Endowed Rheumatology Research Chair, University of Manitoba



MR. LUIS ESCOBAR
Principal, Operations Lead, Transportation, Stantec Consulting



MR. CHRIS JOHNSON
Co-founder and CEO, Permission Click Inc. Co-Founder and Chair of North Forge Technology Exchange



MS. CHERYL MAYER
[AS OF DECEMBER 2020]
Director, Policy Development, the Canadian Canola Growers Association

EX OFFICIO

MS. JAN FORSTER
[OUTGOING - OCTOBER 2020]
Deputy Minister, Province of Manitoba, Economic Development and Training

MS. TRACEY MACONACHIE
[AS OF DECEMBER 2020]
Deputy Minister, Province of Manitoba, Economic Development and Jobs

DR. NICOLE ROSEN
[SABBATICAL - AUGUST 2020]
Professor and Canada Research Chair in Language Interactions, Department of Linguistics, University of Manitoba

DR. BRIAN MARK
[INTERIM RAC CHAIR - AS OF AUG. 2020]
Dean, Faculty of Science, Professor, Department of Microbiology & Department of Biochemistry and Medical Genetics, University of Manitoba

MS. KAREN HERD
Deputy Minister, Province of Manitoba, Health, Seniors and Active Living

2020-2021 STRATEGIC GOALS

Throughout 2020-21, the Research Manitoba team worked with the Board to continue the implementation of a three-year Strategic Plan. Four strategic goals guide our work:

ADVANCE RESEARCH IN MANITOBA

STRENGTHEN THE ECONOMY THROUGH STRATEGIC RESEARCH AND INNOVATION INVESTMENTS IN PRIORITY INDUSTRY SECTORS

CHAMPION THE MANITOBA RESEARCH COMMUNITY

SUPPORT LOCAL TALENT DEVELOPMENT

In addition to these goals, the Research Manitoba team and Board of Directors worked in collaboration with both new and existing partners to help build connections, as part of our commitment to the Province of Manitoba's Economic Growth Action Plan.

RESEARCH MANITOBA STAFF

Research Manitoba's team is dedicated to advancing outstanding research and creating strong connections with a wide variety of stakeholders and partners in the province of Manitoba. Each team member brings their own unique experience and expertise, which creates a collaborative energy, allowing us to foster excellence in the research community.



MS. KAREN DUNLOP
Chief Executive Officer
[AS OF OCTOBER 2020]



MS. FREYJA ARNASON
Director, RITHIM



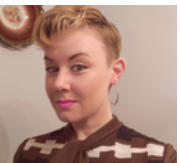
MS. NICOLE BARRY
Director of Finance and Administration



MS. JENNIFER CLEARY
Manager, Programs



MS. MIKAYLA HUNTER
Executive Assistant



MS. HOPE NICHOLSON
RITHIM, Stakeholder Engagement Coordinator



MS. CHRISTINA WEISE
Chief Executive Officer
[TO AUGUST 2020]



MR. DUSTIN AMEIS
Researcher, Evaluation and Impact
[TO SEPTEMBER 2020]



MS. JUDI BAHL
Manager, Strategic Partnerships



DR. ELAINE BURLAND
RITHIM, CHIPER Coordinator
[AS OF OCTOBER 2020]



MS. KRISTEN HOOPER
Communications Officer



MR. SEAN MCKAY
Interim Chief Executive Officer
[AUGUST 2020 TO FEBRUARY 2021]



MS. NECOLE SOMMERSELL
Manager, Evaluation and Impact

RESEARCH ADVISORY COMMITTEE

RESEARCH ADVISORY COMMITTEE MEMBERS FROM APRIL 1, 2020 – MARCH 31, 2021

DR. NICOLE ROSEN

Professor and Canada Research Chair in Language Interactions, Department of Linguistics, University of Manitoba – Chair [ON SABBATICAL AS OF AUGUST 2020]

DR. BRIAN MARK

Dean of Faculty of Science, Professor, Department of Microbiology & Department of Biochemistry and Medical Genetics, University of Manitoba
[INTERIM CHAIR AS OF AUGUST 2020]

DR. PAUL ALEXANDRE

Department of Geology, Brandon University

DR. JUDY ANDERSON

Department of Biological Sciences, University of Manitoba

DR. KATRIN ATNIKOV

Department of Science, University College of the North

DR. DANNY BLAIR

Department of Geography, The University of Winnipeg

DR. KAREN BUSBY

Professor, Faculty of Law; Director, Centre for Human Rights Research, University of Manitoba
[OUTGOING – FEBRUARY 2021]

DR. ALLISON DART

Department of Pediatrics and Child Health, University of Manitoba

DR. HEATHER DUNCAN

Associate Vice-President Research and Dean of Education, Brandon University

DR. JEAN-ERIC GHIA

Departments of Immunology & Internal Medicine, University of Manitoba

EX OFFICIO MEMBERS (NON-VOTING)

MR. LUIS ESCOBAR

Research Manitoba Board Representative

DR. TARA GILLER

Manager, Engagement Science, Symend [AS OF JULY 2020]

MR. ROBERT HASTINGS

CEO, West Canitest R&D Inc [WestCaRD]
[AS OF MARCH 2021]

MR. RAY HOEMSEN

President & Managing Director, Nexus Manitoba

DR. POURANG IRANI

Department of Computer Science, University of Manitoba
[OUTGOING – FEBRUARY 2021]

DR. JOSÉE LAVOIE

Community Health Sciences, University of Manitoba; Director, Manitoba First Nations Centre for Aboriginal Health Research [OUTGOING – FEBRUARY 2021]

DR. MICHELLE LOBCHUCK

College of Nursing, University of Manitoba; Manitoba Research Chair in Caregiver Communication

DR. ADOLF K.Y NG

Department of Supply Change Management, University of Manitoba [OUTGOING – AUGUST 2020]

DR. SIMON POTTER

Director, Research Partnerships and Innovation, Red River College [AS OF MARCH 2021]

DR. NANCY STEWART

Senior Scientific Manager, GVI Clinical Development Solutions
[AS OF JULY 2020]

DR. FEIYUE (FEI) WANG

Department of Environment and Geography, University of Manitoba; Canada Research Chair in Arctic Environmental Chemistry [OUTGOING – FEBRUARY 2021]

DR. RASHID AHMED

Research Manitoba Board Representative

The Research Advisory Committee [RAC] provides advice and makes recommendations to the Board on all research-related matters including administration of existing programs, opportunities for development of new programs, and research initiatives.

The membership of the Research Advisory Committee reflects the broad experience with research in industry, health, natural and social sciences, engineering, and the humanities in Manitoba, as well as multiple post-secondary institutions. The Research Advisory Committee is committed to creating a future with opportunities for trainees and early career researchers, ultimately supporting the growth of the research ecosystem in Manitoba.

FUNDING PROGRAMS

In 2020-21, Research Manitoba had total expenditures of \$12,113,000, of which \$11,632,644 was allocated toward our research programs.

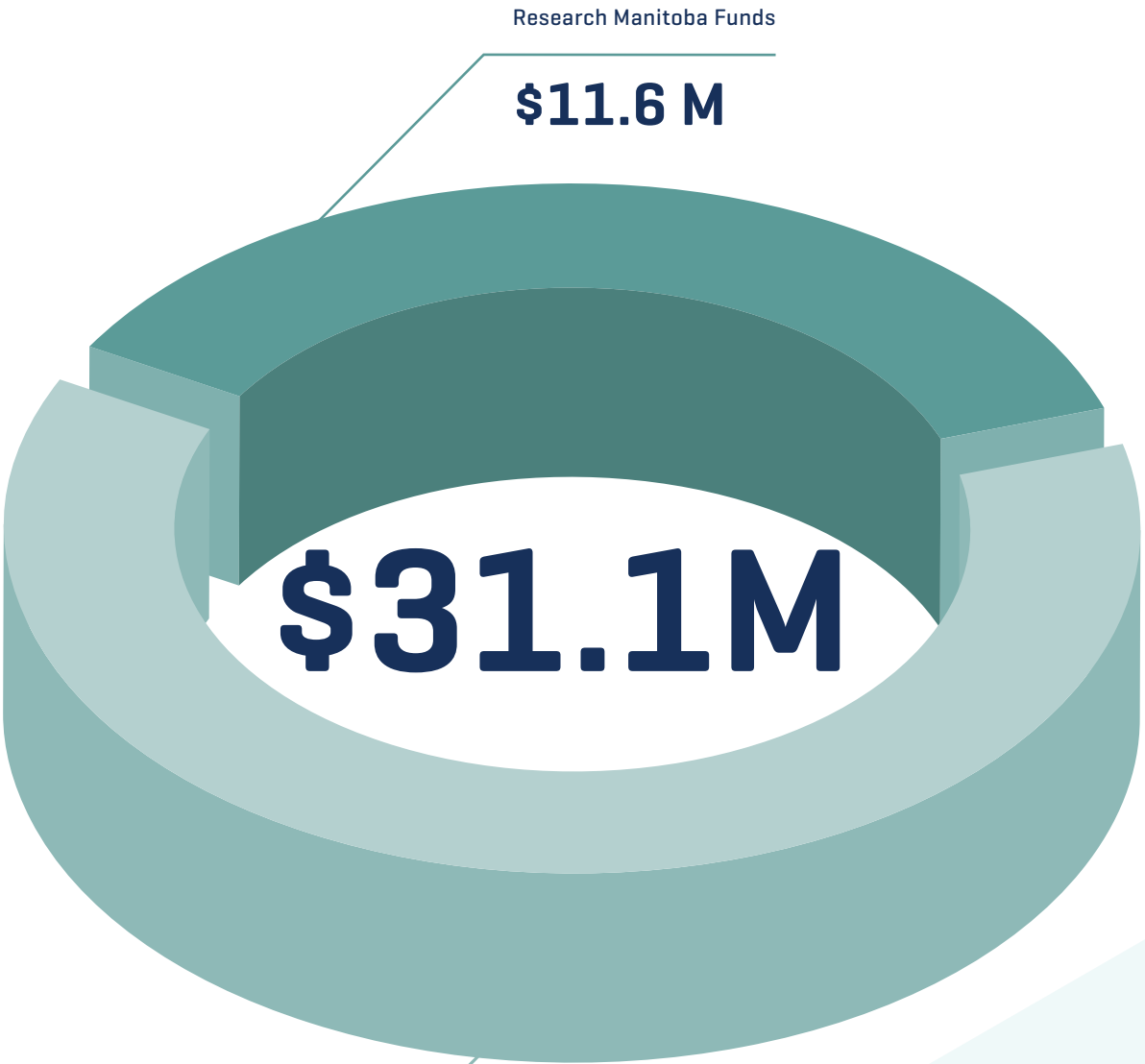
Successful research projects leveraged an additional \$19,513,948 from other funding sources to complement funding from Research Manitoba.

PROGRAM
EXPENDITURE

\$11.6
Million

FUNDING
LEVERAGED

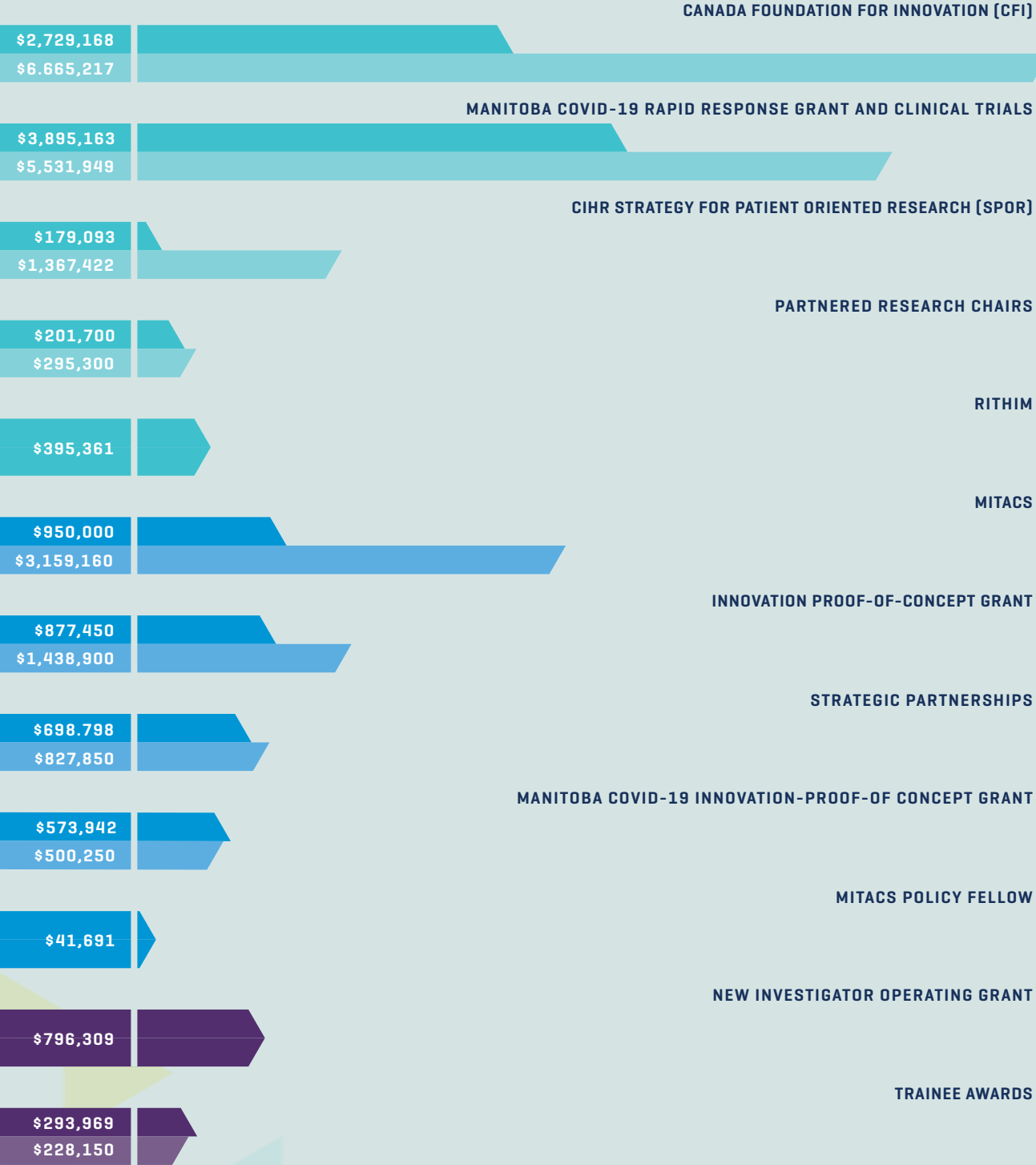
\$19.5
Million



Leveraged Funds

\$19.5 M

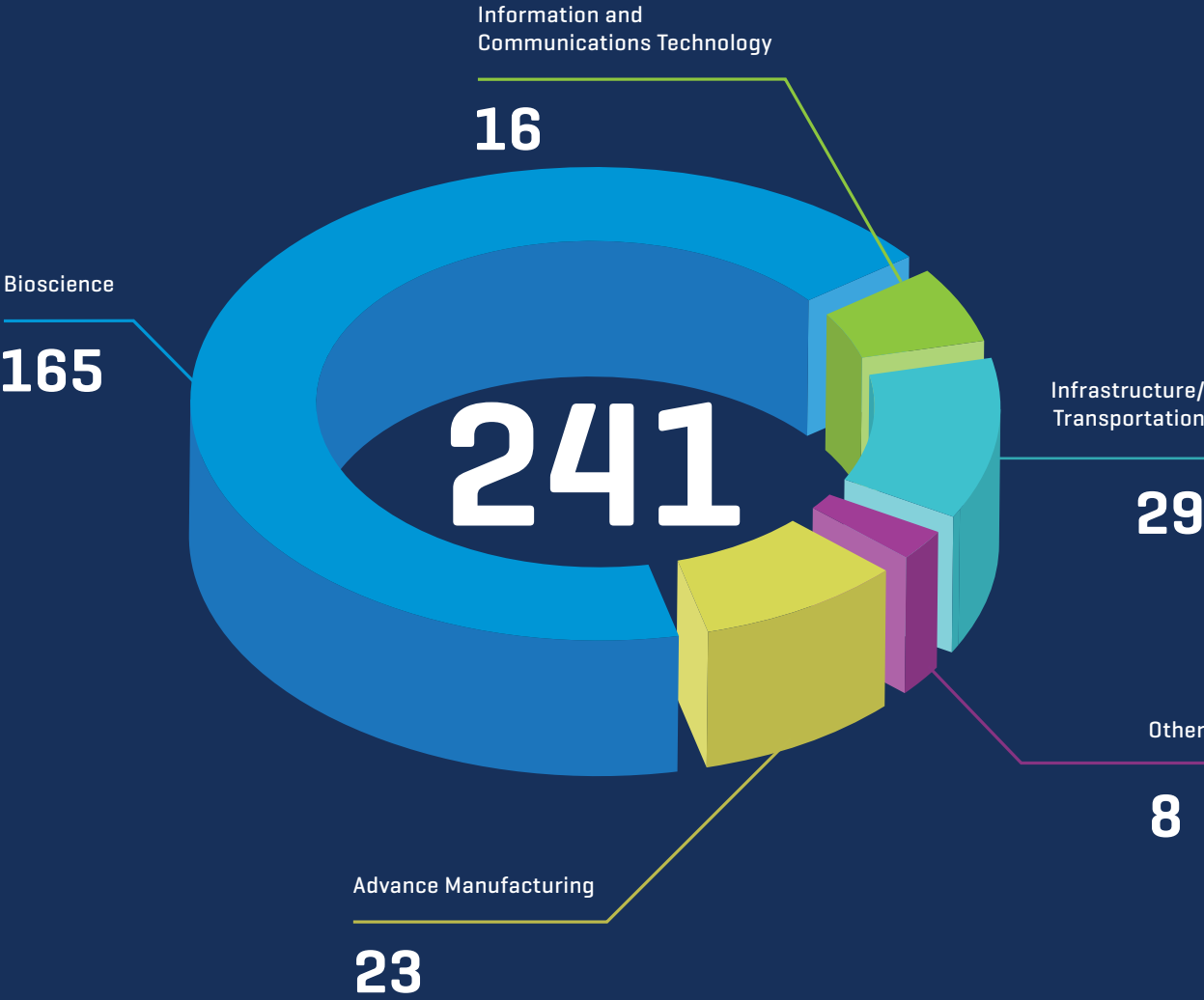
PROGRAM FUNDING AND LEVERAGED FUNDING



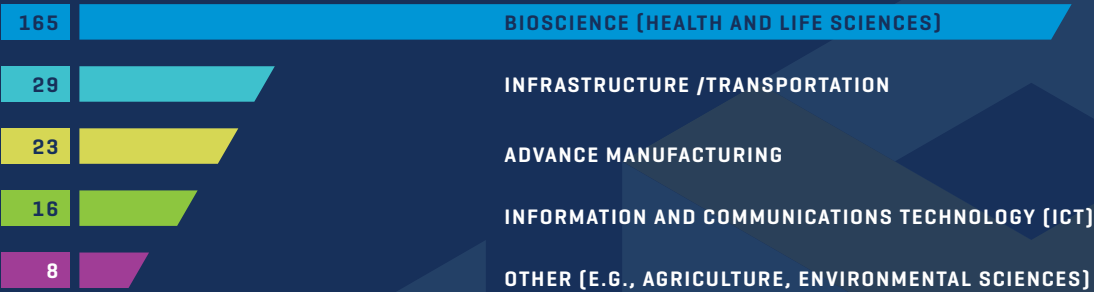
LEGEND:



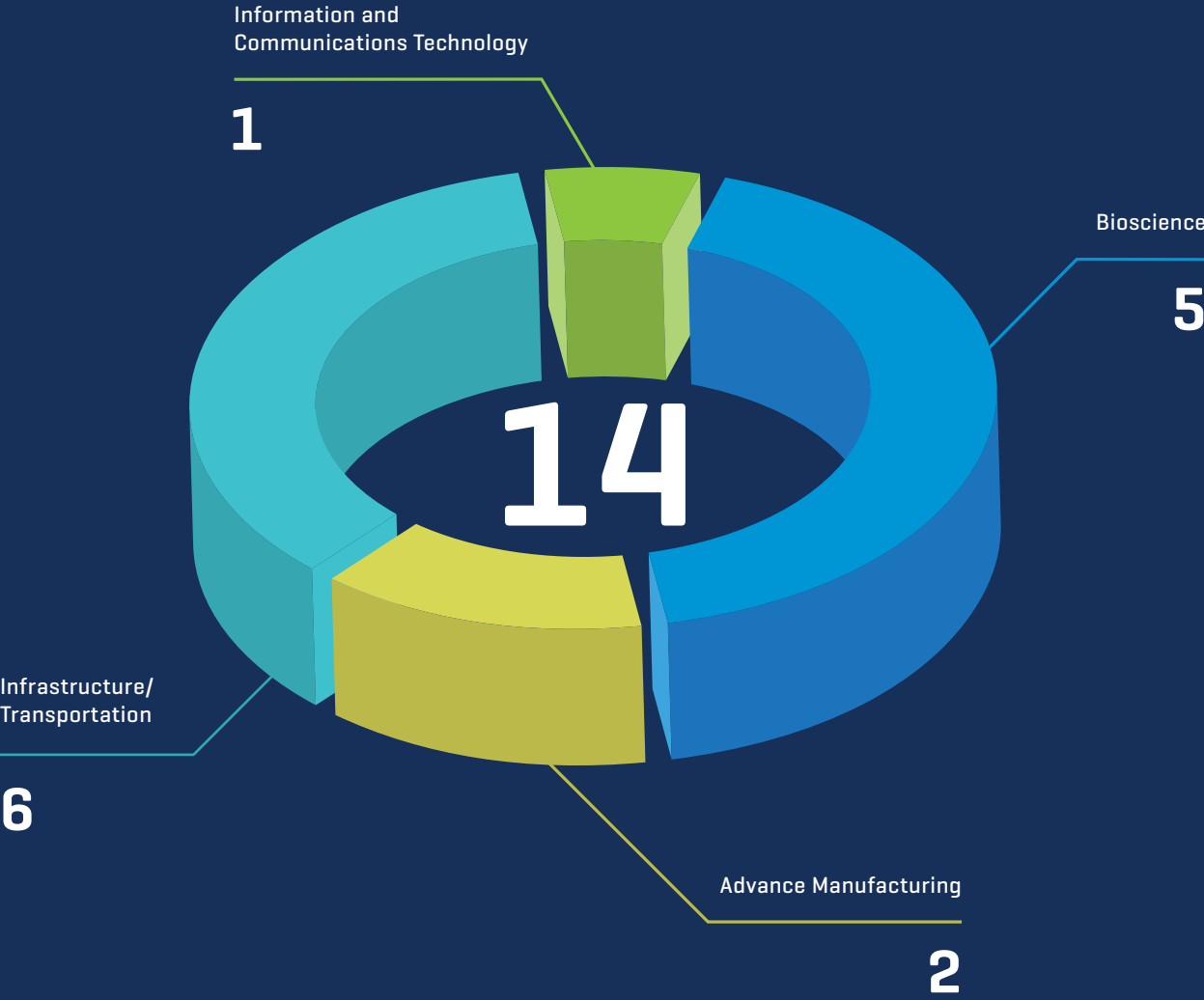
MITACS INTERNSHIPS BY PRIORITY SECTOR



MITACS INTERNSHIPS BY PRIORITY SECTOR



INNOVATION PROOF-OF-CONCEPT GRANTS BY PRIORITY SECTOR



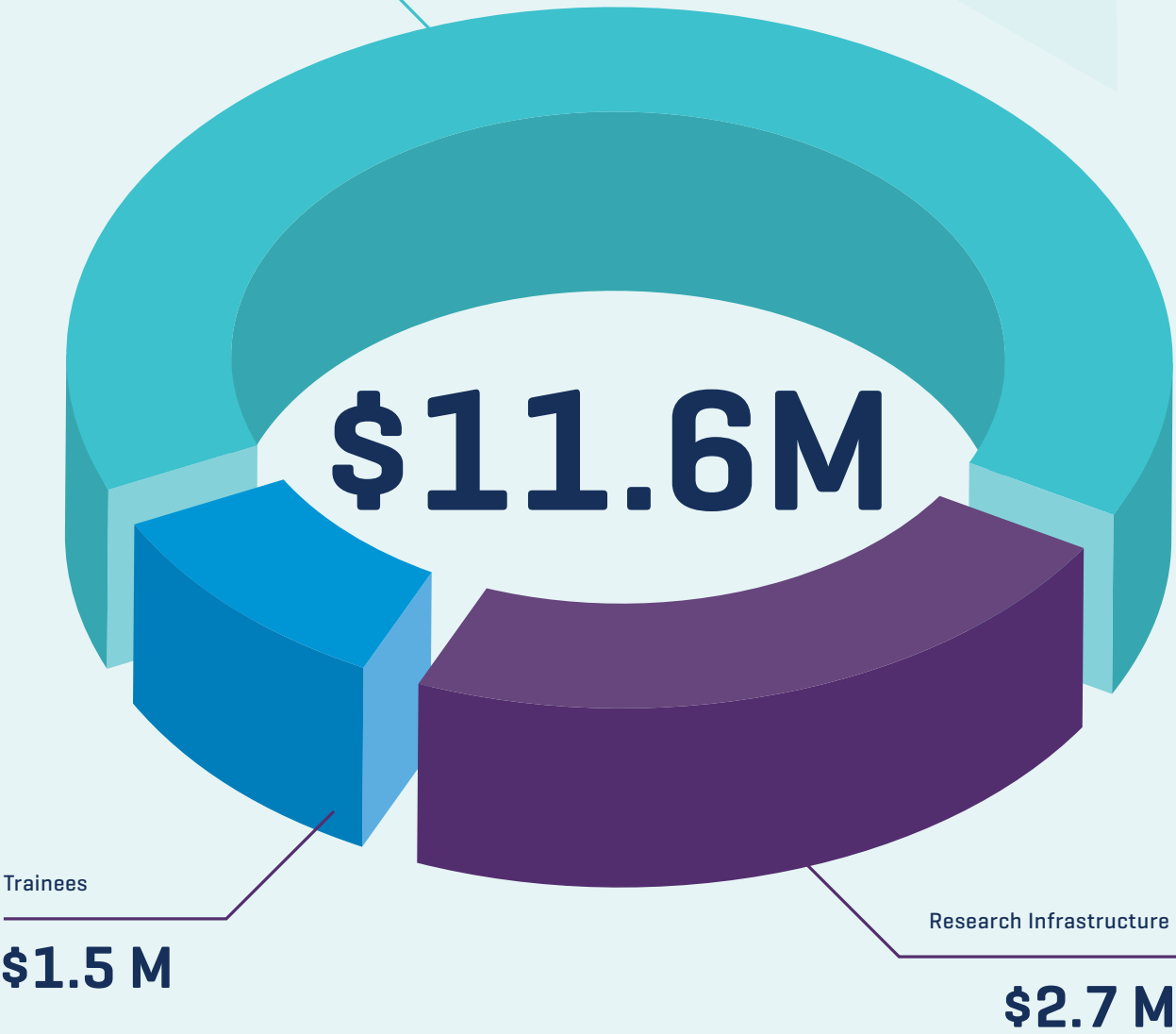
INNOVATION PROOF-OF-CONCEPT GRANTS BY PRIORITY SECTOR



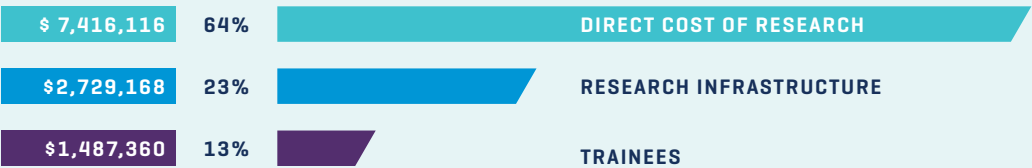
FUNDING BY RESEARCH EXPENSE TYPE

Direct Cost of Research

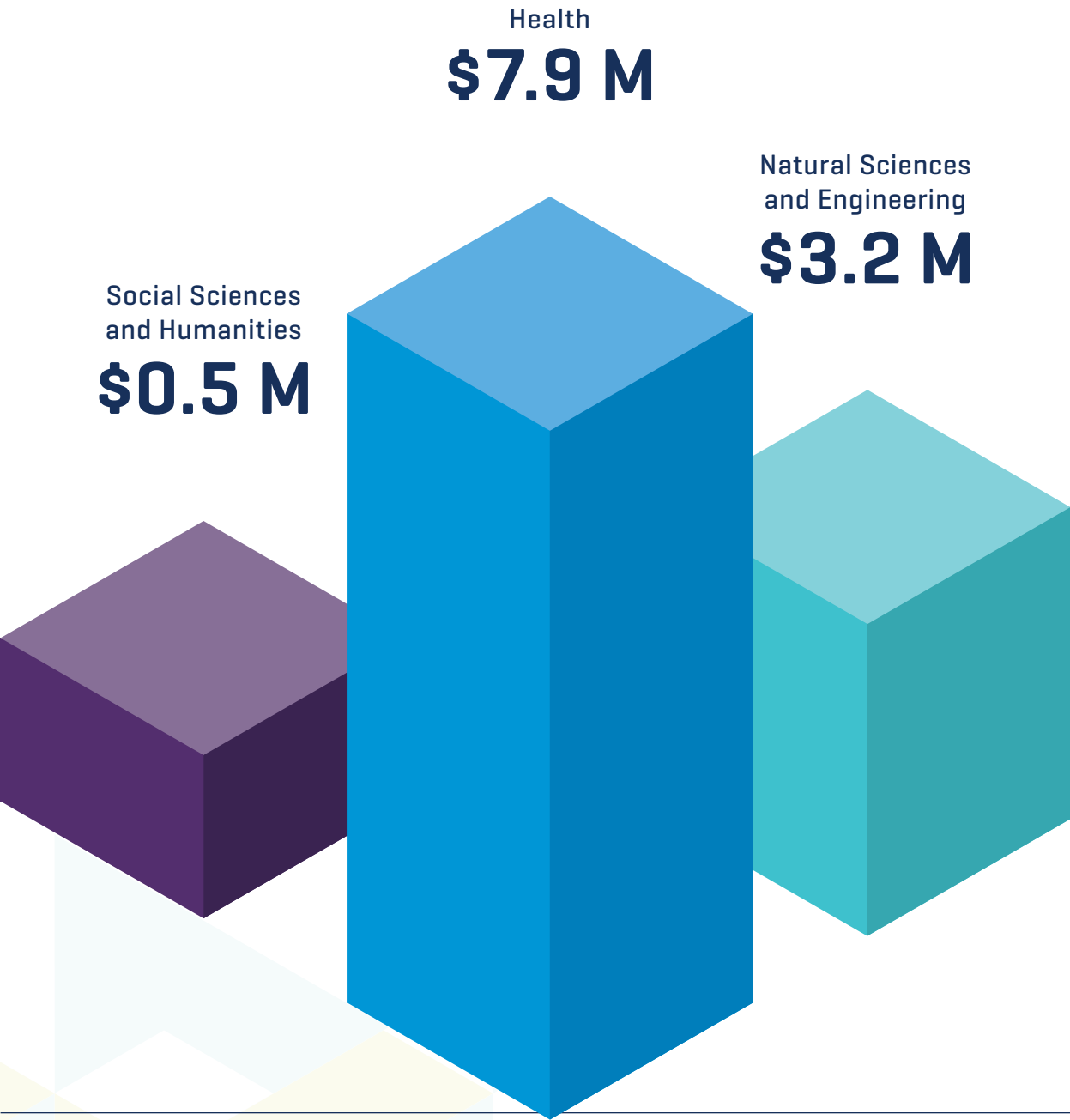
\$7.4 M



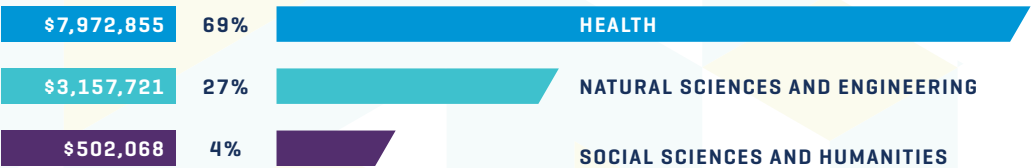
FUNDING OUTCOMES BY EXPENSE TYPE



PROGRAM FUNDING BY RESEARCH AREA



FUNDING BY RESEARCH AREA



Funding Programs

RESEARCH MANITOBA’S FUNDING PROGRAMS ARE DESIGNED TO DEVELOP, SUPPORT, AND ELEVATE THE RESEARCH ENTERPRISE IN MANITOBA.

PROGRAMS AND PROJECTS FUNDED ARE IN ACADEMIA AND PRIORITY AREAS WITHIN INDUSTRY.

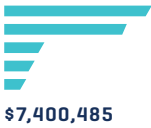
MANY OF MANITOBA’S RESEARCHERS GET THEIR START IN RESEARCH THROUGH ONE OF OUR PROGRAMS.

FUNDING PROGRAMS

This listing includes programs that ended prior to the 2020–21 fiscal year, but still have ongoing payments, and those that commenced in this fiscal year and are still in progress.

STRATEGIC GOAL #1: ADVANCE RESEARCH IN MANITOBA: \$7,400,485

Research Manitoba advances our provincial research ecosystem by creating responsive programming, increasing investments in research, strengthening research capacity, decreasing administrative burden, and supporting an environment for clinical trials and data intensive research in Manitoba. Research Manitoba held a special Rapid Response Grant in 2020–21 to support the province’s immediate response to the COVID-19 global pandemic.

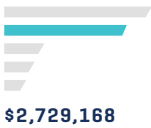


CANADA EXCELLENCE RESEARCH CHAIRS (CERC) PROGRAM – THE 2020-21 FINANCIAL COMMITMENT WAS MADE IN THE PREVIOUS FISCAL YEAR TO ACCOMMODATE ADDITIONAL FUNDING FOR THE MANITOBA COVID-19 RESEARCH FUND.

The Canada Excellence Research Chairs (CERC) program attracts top international scientists and scholars to Canada to positively contribute to Canada’s global competitiveness and well-being and to help Canadian institutions compete in the global market for research talent. The work of these leading researchers sparks the creation of new services and policies that support Canada’s economic competitiveness, helps sustain the environment, and improves our quality of life. In partnership with the federal CERC program, Research Manitoba is providing \$10 million over seven years (2018-2025) to support a world-renowned researcher and their team at the University of Manitoba in Arctic Ice, Freshwater Marine Coupling, and Climate Change. The federal CERC program requires 1:1 matching funds from applicant institution. Without Research Manitoba support, this world-renowned program would not have been successful in Manitoba.

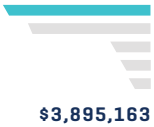
CANADA FOUNDATION FOR INNOVATION (CFI) – \$2,729,168 12 INFRASTRUCTURE PROJECTS FUNDED

The Canada Foundation for Innovation (CFI) is the federal government agency for funding research infrastructure within universities and colleges. Research infrastructure includes state-of-the-art equipment, laboratories, databases, specimens, scientific collections, computer hardware and software, communications linkages, and buildings necessary to conduct leading-edge research. Research Manitoba’s CFI Matching Fund program provides matching funds (20–40% of project total) for proposals that have been awarded grants through one of CFI’s competitions. The federal CFI program only supports 40% of total project costs. The additional 60% must be acquired from sources such as our provincial matching funds program.



In 2020–21 Research Manitoba supported a variety of projects from both the CFI John R. Evans Leaders Fund and the Innovation Fund programs. Examples of areas of research funded include water quality analysis, genotypic and phenotypic analysis, National Centre for Truth and Reconciliation (NCTR) digital architecture, digital agriculture, and cancer research.

FUNDING PROGRAMS



MANITOBA COVID-19 RESEARCH FUND: RAPID RESPONSE GRANT & CLINICAL TRIALS - \$3,895,163
16 RESEARCH PROJECTS AND 8 CLINICAL TRIALS FUNDED

The Manitoba COVID-19 Research Fund was created to support Manitoba-based academics in pivoting their research towards supporting the province’s response to the global pandemic. Through the Rapid Response Grant and International Clinical Trials, Research Manitoba was able to support crucial research, which has had an impact on Manitoba’s response to the pandemic and helped to prepare for subsequent waves of COVID-19 and future viruses.

Research Manitoba is proud to have partnered with the CancerCare Manitoba Foundation, CIHR, and the Victoria General Hospital Foundation on these crucial research projects and clinical trials.



PARTNERED RESEARCH CHAIRS - \$201,700
2 PARTNERED RESEARCH CHAIRS FUNDED

Arthroplasty Research Chair at Concordia’s Hip and Knee Replacement Institute

In partnership with the Concordia Foundation, the Concordia Arthroplasty Research Chair is held by an arthroplasty surgeon practicing in Manitoba. Over a five-year period (2021 to 2025), the Chair will lead research staff, engineers, fellow physicians, orthopaedic residents, and medical students to execute research projects that will achieve its principal research goals, directly impacting those suffering from arthritis and other musculoskeletal diseases. This research will be conducted within the catchment area of Concordia’s Orthopaedic Program: Manitoba, Nunavut, eastern Saskatchewan, and western Ontario.

CIHR Indigenous Research Chair in Nursing

In partnership with CIHR and the Canadian Nurses Foundation, Research Manitoba is co-funding a five-year Chair position. The Chair is based out of the First Nations Health and Social Secretariat of Manitoba (FNHSSM) and runs from October 1, 2019 – September 30, 2024. By leveraging collective expertise and resources, this initiative supports research on health issues affecting First Nations, Inuit, and Métis peoples in Manitoba and Canada. This Chair advances the fields of Indigenous health and nursing and supports training and education of Manitoba’s Indigenous nursing students.

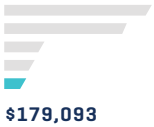
This is the first time that an individual working for a community-based Indigenous organization has received a Research Chair and Manitoba’s first Indigenous Research Chair in Nursing, which opens the door to developing a group of young nurses and nursing leaders in Indigenous health with the ability to influence patient care, patient continuity, and health outcomes among Indigenous peoples.



RESEARCH IMPROVEMENTS THROUGH HARMONIZATION IN MANITOBA (RITHIM) - \$395,361

In 2015, the Province of Manitoba asked Research Manitoba to lead an initiative to improve the process for approvals necessary to conduct health research. Specifically, Research Manitoba was tasked to create a single electronic application form and a single review body for a harmonized review of ethics, privacy, and institutional impact, in order to improve the time-to-conduct for health research in our province. Currently there are over 25 bodies responsible for providing ethics, institutional impact, and data access reviews in Manitoba, each of which have their own applications, deadlines, criteria, and review processes.

FUNDING PROGRAMS



CANADIAN INSTITUTES OF HEALTH RESEARCH (CIHR) STRATEGY FOR PATIENT ORIENTED RESEARCH (SPOR) - \$179,093

Patient-oriented research is focused on engaging patients, their caregivers, and families as partners in all aspects of the research process. This engagement helps to ensure that studies focus on patient-identified priorities, which ultimately leads to better patient outcomes. Funding in support of CIHR SPOR is used to strengthen support for clinical trials and intervention studies, as well as research that compares the effectiveness, benefits, and harms of existing treatment options. SPOR projects provide the evidence needed to inform the development of health policies and improve the health care system. The goal of these projects is to move scientific discoveries to the bedside and produce the information that decision-makers and health-care providers need to improve care for patients.



STRATEGIC GOAL #2: STRENGTHEN THE ECONOMY THROUGH STRATEGIC RESEARCH AND INNOVATION INVESTMENTS IN PRIORITY INDUSTRY SECTORS: \$3,141,881

Research Manitoba is strengthening the economy through strategic research and innovation investments in key provincial priority sectors including advanced manufacturing, biosciences, information and communication technologies, and infrastructure and transportation. In response to the COVID-19 pandemic, in 2020-21 Research Manitoba held a special COVID-19 Innovation Proof-of-Concept Grant research call to assist Manitoba-based businesses to quickly pivot their research and development programs to develop products and services that would support the province’s immediate response to the global fight against COVID-19.



INNOVATION PROOF-OF-CONCEPT GRANT - \$877,450
14 PROJECTS FUNDED

The Innovation Proof-of-Concept Grant strengthens Manitoba-based research and innovation by filling a funding gap in the Manitoba innovation ecosystem, to test innovative products that have the potential to push an industry or market forward. This funding program fills that gap and supports companies’ drive for innovation, a competitive advantage, and job growth. Funding is targeted towards Bioscience, Information and Communication Technology (ICT), Advanced Manufacturing and Infrastructure, and Transportation industries and technologies.



MANITOBA COVID-19 RESEARCH FUND: INNOVATION PROOF-OF-CONCEPT GRANT - \$573,942
6 PROJECTS FUNDED

The Manitoba COVID-19 Research Fund: Innovation Proof-of-Concept Grant was created to support Manitoba-based industry members pivot their research and development innovation towards championing and advancing Manitoba’s efforts in the pandemic.

FUNDING PROGRAMS



MITACS - \$950,000
241 STUDENTS SUPPORTED

Mitacs is a national, not-for-profit organization that works with post-secondary institutions, companies, and not-for-profit organizations to build partnerships that support industrial and social innovation in Canada. Through this program, Research Manitoba supports local talent development and the training of Manitoba’s highly qualified personnel towards careers in academia or local industry. Through Research Manitoba’s formal partnership with the Mitacs program, Manitoba trainees at all levels can continue their academic training while also working with local companies on industry research and development. Research Manitoba’s funding of Mitacs in Manitoba allows provincial trainees the opportunity to gain valuable work experience and engage with local companies, while also supporting businesses to hire new talent that advances the company’s research and development and growth. Research Manitoba’s Mitacs funding is vital to supporting the recruitment and retention of Highly Qualified Personnel (HQP) to the province. In Manitoba, Research Manitoba provides the required matching funds to support provincial access to Mitacs programs.

Of the 241 students supported by the 2020-21 Research Manitoba/Mitacs partnership:

- 2 Undergraduates
- 86 Master’s students
- 83 PhD students
- 64 Postdoctoral Fellows
- 6 students who received Elevate internships and awards



STRATEGIC PARTNERSHIPS PROGRAM: \$698,798

The Strategic Partnerships initiative establishes partnerships with industry, the public sector, and philanthropic organizations to advance and translate Manitoba’s innovations into solutions that impact the health and well-being of Manitobans and enhance the economy of the province. These collaborations enhance funding, resources and expertise, increasing the amount of research conducted in the province.

Active partnerships include:

- Boehringer Ingelheim [Canada] Ltd – in collaboration with the First Nations Health and Social Secretariat of Manitoba (FNHSSM) to support a Kidney Check Program. This research program will begin in 2021-22.
- Concordia Foundation – a new Arthroplasty Research Chair at Concordia’s Hip and Knee Institute (listed above under Strategic Goal #1).
- Heart & Stroke Foundation of Canada – a new Research Chair in Clinical Stroke Research to begin in 2021-22.
- Victoria General Hospital Foundation:
 - Manitoba COVID-19 Research Fund – provided support for eight clinical trials.
 - Victoria General Hospital Foundation – Research Manitoba Research Operating Grant: 2 projects funded.
 - Targeted Project: Telepresence Robots for People Living with Dementia and their Caregivers.

FUNDING PROGRAMS

MITACS POLICY FELLOW - \$41,691

Working with the Province of Manitoba Deputy Minister of Central Services, Research Manitoba supported a Mitacs Policy Fellow who examined evidence-based decision making within government using a big data analytics approach to inform policy decisions and improve the outcomes for Manitobans.



STRATEGIC GOAL #3: CHAMPION THE MANITOBA RESEARCH COMMUNITY

The focus of Research Manitoba’s communications strategy is to promote Manitoba’s research excellence as a key economic strength for the province. This includes increasing awareness of the research, its impact, and the return on investment in research that is achieved within the province.

STRATEGIC GOAL #4: SUPPORT LOCAL TALENT DEVELOPMENT: \$1,090,278

Research Manitoba supports local talent development by providing research support to early career researchers and graduate students to increase the knowledge and skills in Manitoba workspaces. Regardless of their future role in industry, academia, government or philanthropic organizations, recipients take with them a stronger understanding of how to resolve technological and scientific challenges through the application of research and experimentation. Our programs allow us to recruit successful researchers and retain talent in the province.



MASTER’S STUDENTSHIP AWARDS - \$293,969 RESEARCH MANITOBA & \$118,950 PARTNER FUNDING
30 STUDENTS SUPPORTED

The Master’s Studentship program has one competition annually. All one-year awards consist of an annual stipend of \$12,000. Stipends support highly qualified Master’s students to prepare for careers as independent researchers in industry, within the healthcare system, and in other environments thus attracting and retaining the best students within Manitoba.



NEW INVESTIGATOR OPERATING GRANT - \$796,309
7 PROJECTS FUNDED

The New Investigator Operating Grant program supports independent research programs for new faculty in Manitoba. These grants support the direct costs of research, helping early-career researchers achieve the research productivity and track-record necessary for obtaining longer-term, more substantial funding. This investment in early career researchers (ECRs) is integral to supporting local talent development and a strong Manitoba research ecosystem.



Review Process

In 2020-21, Research Manitoba’s research review process and high-level reviews were supported by 130 experts in academia and industry from across the province and the country.

Each year, our organization uses a competitive peer/merit review process to evaluate and select research funding proposals for the Board’s approval. This process is undertaken by a committee of active experts with the appropriate background and knowledge of the application topics under review. Committee members review applications in advance of the committee meeting and then discuss, assess, and score the applications during a live meeting. Each committee is chaired by a respected researcher from a relevant field and are sometimes accompanied by a skilled Scientific Officer.

The Innovation Proof-of-Concept (IPoC) College of Reviewers consists of six research innovation and commercialization experts from across Western Canada. Each IPoC Full Proposal is reviewed by two members of the College of Reviewers who are matched with applications based on their experience and expertise. In addition to these two reviews, each Full Proposal is reviewed by one scientific expert in the field. Scientific reviewers are from across North America.

From time to time, Research Manitoba supports special research programs, which employ the same standard of review as our annual programs. In 2020-21, Research Manitoba supported the Victoria General Hospital Foundation Research Grant, and Manitoba COVID-19 Research Fund competitions.

REVIEW COMMITTEES

1. Basic-Biomedical Health Research - Master’s/PhD Studentship Review Committee
2. Natural Sciences and Engineering - Master’s Studentship Review Committee
3. Social and Population Health Research - Master’s/PhD Studentship Review Committee
4. Social Sciences and Humanities - Master’s Studentship Review Committee
5. Health Research - Postdoctoral Fellowship Review Committee
6. Basic-Biomedical Health Research - New Investigator Operating Grant Review Committee
7. Natural Sciences and Engineering - New Investigator Operating Grant Review Committee
8. Social and Population Health Research - New Investigator Operating Grant Review Committee
9. Social Sciences and Humanities - New Investigator Operating Grant Review Committee
10. Innovation Proof-of-Concept Grant – College of Reviewers

REVIEW COMMITTEE MEMBERS

Institutions involved on Review Committees: Brandon University, Children’s Hospital Research Institute of Manitoba, CancerCare Manitoba, St. Boniface Research Centre, Public Health Agency of Canada, University of Manitoba, The University of Winnipeg, Nexus Manitoba, National Research Council of Canada, North Forge Technology Exchange, Manitoba Institute of Trades & Technology, Medtronic, and Global Public Affairs.

For more information or to see a list of our 2020-21 Review Committees please visit our website www.researchmanitoba.ca.

Working in Partnership

PARTNERSHIP IS A CRITICAL COMPONENT OF MAXIMIZING MANITOBA’S RESEARCH POTENTIAL. RESEARCH MANITOBA IS PROUD TO PARTNER WITH THE FOLLOWING 32 ORGANIZATIONS AND INSTITUTIONS:

- ◆ Boehringer Ingelheim (Canada) Ltd
 - ◆ Brandon University
 - ◆ Canada Excellence Research Chairs
 - ◆ Canadian Foundation for Innovation
 - ◆ Canadian Institutes of Health Research
 - ◆ Canadian Mennonite University
 - ◆ Canadian Nurses Foundation
 - ◆ CancerCare Manitoba Foundation
 - ◆ Children’s Hospital Research Institute of Manitoba
 - ◆ Concordia Foundation
 - ◆ First Nations Health and Social Secretariat of Manitoba
 - ◆ George & Fay Yee Centre for Healthcare Innovation
 - ◆ Health Sciences Centre Foundation
 - ◆ Heart & Stroke Foundation of Canada
 - ◆ Interlake-Eastern Regional Health Authority
 - ◆ Lung Association, Manitoba
- ◆ Mitacs
 - ◆ Natural Sciences and Engineering Council of Canada
 - ◆ Prairie Mountain Health
 - ◆ Province of Manitoba
 - ◆ Department of Central Services
 - ◆ Department of Economic Development and Jobs
 - ◆ Department of Agriculture and Resource Development
 - ◆ Department of Health and Seniors Care
 - ◆ Advanced Education, Skills and Immigration
 - ◆ Red River College
 - ◆ Shared Health
 - ◆ Southern Health-Santé Sud
 - ◆ The University of Winnipeg
 - ◆ University of Manitoba
 - ◆ Victoria General Hospital Foundation
 - ◆ Winnipeg Regional Health Authority

“The George & Fay Yee Centre for Healthcare Innovation is proud to launch the Patient-Oriented Research Training Award in collaboration with Research Manitoba. Building on the long-standing partnership between our organizations, this initiative supports research trainees, patients and their families in becoming partners in health research—ensuring future work aligns with the priorities of Manitobans and gives rise to better patient outcomes.”

Carly Leggett, Executive Director, George & Fay Yee Centre for Healthcare Innovation

Outcomes and Impacts

RESULTS OF FUNDED PROJECTS THAT ENDED BY MARCH 31, 2021

2020-21 was a very busy year for Research Manitoba!

Throughout each fiscal year we track, measure, and evaluate our work and the impact of our investments to inform the Province of Manitoba, Department of Economic Development and Jobs.

This section features key impacts and outcomes of Research Manitoba’s funding and the variety of research taking place in the province.

Through the support of Research Manitoba funding, procedures and policies have been influenced or achieved in the following ways:

- Changes in clinical care guidelines [e.g., Canadian evidence-based guideline for the first-line treatment of chronic lymphocytic leukemia; COVID clinical care]
- The creation of new database systems [e.g., a new Manitoba Infant Feeding Database was integrated into the CFI-funded Manitoba Interdisciplinary Lactation Centre]
- Improved access to cell samples for research [e.g., improved access to primary biological cell samples for researchers which will help to track disease progression over time or on treatment]
- Data analysis techniques in early childhood development [e.g., linkage of individual early life and biological data from the longitudinal CHILD pregnancy cohort with Early Development Instrument (EDI) data at Healthy Child Manitoba, the results of which may influence school readiness levels of the children involved]
- Improvements to research infrastructure [e.g., the development of the Bioinformatics Core Facility located within the Children’s Hospital Research Institute of Manitoba]
- Improving access to healthcare for Indigenous women in Northern Manitoba [health system interventions are continually being developed to improve care transitions and health outcomes for Indigenous women in Northern Manitoba]

348

People were employed through the programs funded by Research Manitoba

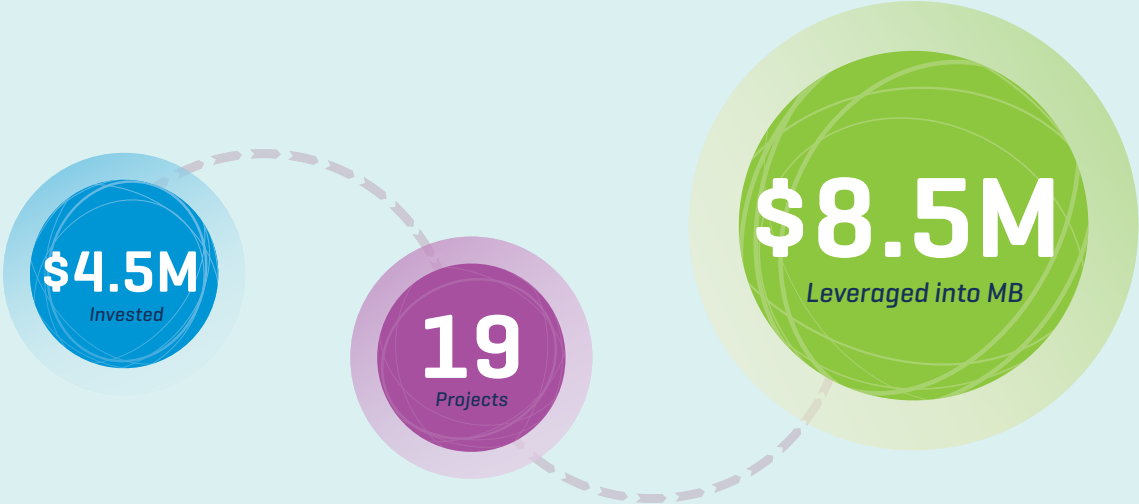
437

Activities were completed
338 publications
99 presentations

40

National grants have been received from Research Manitoba funded researchers

Manitoba COVID-19 Research Fund



The Manitoba COVID-19 Research Fund, created in April 2020, was created to support Manitoba-based academics and industry members to pivot their research and innovation towards supporting Manitoba’s response to the global pandemic.

Research Manitoba was able to support crucial research and clinical trials, which have had an impact on Manitoba’s response to the pandemic and helped to prepare for subsequent waves of COVID-19 and future viruses.

This fund also supported local industry to respond to the pandemic by pivoting their business through research and innovation. We funded 14 industry-academic partnerships, which supported 18 companies or organizations in their research and development. These grants include training opportunities supporting the advancement of skills and knowledge necessary to be successful in Manitoba’s workforce.

Key Milestones:

- April 2020 – Manitoba Government and Research Manitoba announced the Manitoba COVID-19 Research Fund (Support for Rapid Response Grant, COVID-19 Innovation Proof-of-Concept, COVID-19 Clinical Trials)
- August 2020 – First two COVID-19 Innovation Proof-of-Concept Grants announced
- September 2020 – Rapid Response Grants and Clinical Trials funding announced
- October 2020 – Four COVID-19 Innovation Proof-of-Concept Grants approved
- January 2021 – Two additional Rapid Response Grants approved
- February 2021 – Two additional COVID-19 Innovation Proof-of-Concept Grants approved

MANITOBA COVID-19 RESEARCH FUND

OUTCOMES AND IMPACTS

RAPID RESPONSE GRANTS

63 COVID-19 Rapid Response Grant (RRG) applications were received and of these, 14 were funded.

Two of the successful grants were in partnership with the Canadian Institutes of Health Research (CIHR), one was in partnership with the Children’s Hospital Research Institute of Manitoba (CHIRM) and one was in partnership with CancerCare Manitoba Foundation (CCMF).

A Provincial Priority Committee was created to review the applications for the Rapid Response Grants. This committee consisted of members from Shared Health, Manitoba Department of Health, Seniors and Active Living, and a Research Manitoba board member. Applications were also reviewed by CIHR, Genome Prairie, and over 40 scientific reviewers across Canada and the United States.

Two additional grants related to the second wave were funded for a total of \$184,105 in January 2021.

CLINICAL TRIALS

Eight COVID-19 clinical trials were funded.

This includes Strategic Partnerships with CancerCare Manitoba Foundation and the Victoria General Hospital Foundation. Funding for clinical trials was also received from the Canadian Institutes of Health Research. A total of \$1.6 M supports Manitoba’s participation in, and/or lead on, eight clinical trials related to COVID-19 led by Dr. Ryan Zarychanski.

Clinical Trials include the following:

1. Pre-Exposure Prophylaxis (PrEP) trial
2. Post-Exposure Prophylaxis (PEP) trial
3. Pre-Emptive Therapy (PET) trial
4. A Multi-centre, Adaptive, Randomized, Open-label, Controlled Clinical Trial of the Safety and Efficacy of Investigational Therapeutics for the Treatment of COVID-19 in Hospitalized Patients
5. Short PeRiodic IncideNce sTudy of Severe Acute Respiratory Infections (SPRINT-SARI)
6. A Randomized Open-Label Trial of CONvalescent Plasma for Hospitalized Adults with Acute COVID-19 Respiratory Illness
7. Anti-thrombotic Therapy to Ameliorate Complications of COVID-19 (ATTACC) trial
8. Randomized Embedded Multifactorial Adaptive Platform trial for Community Acquired Pneumonia (REMAP-CAP)

MANITOBA COVID-19 RESEARCH FUND

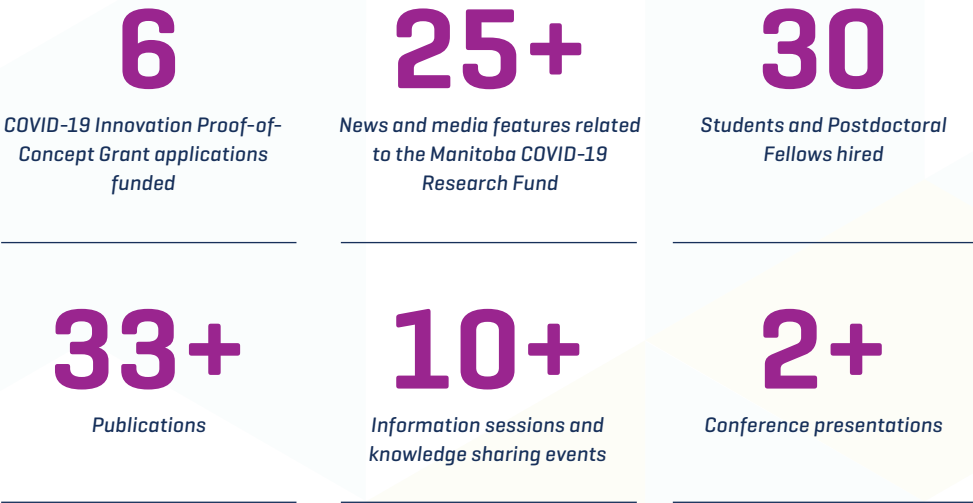
COVID-19 INNOVATION PROOF-OF-CONCEPT GRANT:

Six COVID-19 Innovation Proof-of-Concept Grant applications were funded.

These grants supported industry-academic partnerships with eight Manitoba-based organizations who were able to quickly adapt their operations to support the provincial and national response to COVID-19.

Products created by COVID-19 IPoC recipients, Adva Diagnostics Inc. and Cubresa Inc. are the first of their kind, a testament to the innovation and creativity that can be found in Manitoba’s medical technology sector [Research Today Story – November 2020].

MANITOBA COVID-19 RESEARCH FUND – KNOWLEDGE TRANSLATION



Impact Reporting

Research in Manitoba has created entire industries that contribute to and strengthen our economy.

Research in Manitoba saves lives and improves health and social systems locally and globally.

The purpose of Research Manitoba’s Impact Reports is to document the outcomes and impacts of research in the province. The goal of the impact report is two-fold:

- a) to communicate the impacts of research to a wide variety of audiences such as academics, industry, community groups, the public, government and other users of research findings, and
- b) to link outcomes and impacts to the original research.

Our impact report series is designed to capture these complex stories in compelling ways and in 2020/21 we partnered with Manitoba Agriculture and Resource Development to publish three Impact Reports.



FOOD DEVELOPMENT CENTRE

Canada is a global powerhouse in the agri-food industry. For Manitoba, this industry is a key performer in the province’s economy, driven by a rich history of pioneers and entrepreneurs. Manitoba’s Food Development Centre (FDC) plays an essential role by providing a foundation for companies to develop and market new food products, and powers Manitoba’s reputation as a province on the cutting edge of agri-research. The continuing support from the Government of Manitoba to the FDC and the agribusinesses they work with fuels the economy and positions the province as a major player on the global stage.

This impact report showcased four successful companies who utilized the FDC, and how their support both strengthened the companies and advanced the Manitoba economy.

MANITOBA’S PORK INDUSTRY

The pork industry is one of the largest agricultural industries in Canada. With an export value of nearly \$4.7 billion in 2019, Canada is the sixth largest exporter of hog and pork in the world. Manitoba is playing a key role in building Canada’s global reputation as a supplier of quality pork products while also leading the country in hog production.

This impact report focuses on research and innovations conducted in Manitoba related to manure management, animal welfare, and biosecurity, some of the main areas important for promoting sustainable growth in Manitoba’s pork industry. These examples demonstrate how collaborative research is a vehicle through which the Manitoba pork industry addresses its challenges, adopts new technologies, and innovates.



MANITOBA HEMP INDUSTRY

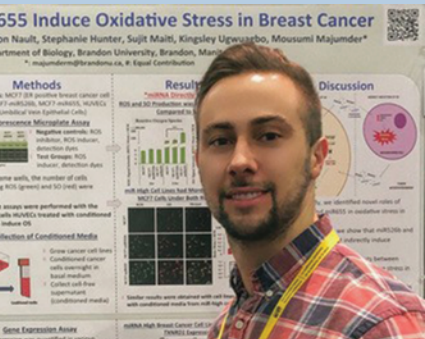
In 2019, the hemp industry across Canada generated \$260 million in sales. In the same year, Manitoba exported hemp seeds and products valued at nearly \$96 million, accounting for nearly 86% of Canada’s total hemp export. The majority of Canadian export and sales come from hemp foods at Manitoba Harvest and Hemp Oil Canada.

This impact report demonstrates the impacts of research and innovation on Manitoba’s hemp industry, including how provincial funding has helped propel the Manitoba hemp industry into a world leader.

Research Profiles

OUR FUNDS HELP TO SUPPORT LOCAL TALENT DEVELOPMENT AND IN 2020-21 WE STARTED INTRODUCING MANITOBANS TO THE RESEARCH COMMUNITY THROUGH A SERIES OF ONLINE RESEARCHER PROFILES.

PLEASE MEET SOME OF OUR TALENTED AND INNOVATIVE RESEARCHERS!



RILEY FESER

Program and Year: 2020 Master’s Studentship

Project Title: Systemic Analysis of the Breast Cancer Secretome to Decipher miRNA Tumor Biology

Supervisor: Dr. Mousumi Majumder

Brandon University, Master of Science (Environmental & Life Sciences) MELS, Faculty of Science

One in eight women in Canada will be diagnosed with breast cancer in their lifetime. But early detection of the disease can save the lives of 99% of breast cancer patients. Detecting breast cancer early through the blood is simpler than, and can be combined with current treatments to save patients’ lives. This would also make testing at a younger age more accessible, as primary breast cancer screening starts at age 50 in Canada, but incidences continue to rise in younger populations. Riley hopes to further strengthen the use of microRNA 526b/655 as early detection markers for breast cancer, ultimately reducing the number of breast cancer fatalities in Manitoba, Canada, and the world.

“I am extremely grateful for being chosen for the Research Manitoba Master’s Studentship Award. The funds I received through this award allow me to focus on my project full-time, without having to worry about obtaining income through any other means. This is an excellent opportunity for any researcher that is avid about their work to have that as their sole outlook throughout the duration of the award. This project wouldn’t be possible without the help of Dr. Mousumi Majumder, Sujit Maiti, Brady Nault and the rest of Majumder Lab.”

Riley Feser

“The Research Manitoba New Investigator Operating Grant assisted me by rapidly establishing my research program of Solar Inverter Technologies. It provided me enough funding to conduct that high cost and practical research. And we could find the advanced solution and generated new knowledge from the funded project. Consequently, we could publish the results in top-tier international academic journals, e.g., the IEEE Trans. on Power Electronics, to obtain international reputations. Furthermore, we could attract Manitoba industry to collaborate with us and received a NSERC CRD Grant for developing micro-grid systems using solar energy which was based on the outcomes of the RM project. And the results of the project also strengthened my Canada Research Chair renewal application in 2019 which was successfully awarded with a new 5-year term to continuously research on green power systems.”

Ngai Man [Carl] Ho



NGAI MAN [CARL] HO

Program and Year: 2018 New Investigator Operating Grant

Project Title: Advanced Galvanic Isolated Solar Micro-Inverter

Department of Electrical and Mechanical Engineering, Price Faculty of Engineering, University of Manitoba

Solar energy represents a clean and renewable energy source for providing electric power to support our daily life, including lighting and transportation. However, the manufacturing cost of a Photovoltaic (PV) inverter, which is an energy converting interface between solar panels and power grids, is high due to complex circuit design. In this work, a comprehensive investigation into the methodology of PV energy conversion associated with modern semiconductors has been carried out and the completed system was experimentally verified. The research will benefit power apparatus manufacturers, will provide optimised PV products, and presents the Manitoba local Research Centre and energy provider with the potential to develop new business, which will greatly strengthen the power electronics industry in Manitoba. Newly trained Highly Qualified Personnel (HQP) will be skilled in the development and application of advanced techniques for design and implementation of power electronic systems. All technologies and concepts arising from this work will enable this research team to further develop advanced technologies for Power Electronics, Control Systems and Renewable Energy, and will help to solidify Canada’s leadership position in the fields of Power Electronics and Power Systems. The outcomes of this research will help to drive ongoing innovation and provide intellectual insight to Canadian industries as they continue to develop and enhance the performance of their products. This will provide these companies with a technological competitive edge that will help to invigorate the Canadian Power industry. At the end of the project, an efficient and cost-effective PV inverter for North America and residential use will be produced. The resultant system of this research project will assist engineers in PV inverter manufacturers to evaluate the efficiency and power density of their PV micro-inverter products. Research students, PhD, MSc, and BSc, will be trained in the project. These Highly Qualified Personnel (HQP) will learn cutting-edge technologies and will be able to contribute to the Canadian Power and Energy industry in the future.

Research Today

STORIES OF INNOVATION AND EXCELLENCE

At Research Manitoba, we ensure that researchers and innovators can excel and follow their passion here in Manitoba, advancing and improving all aspects of our society.

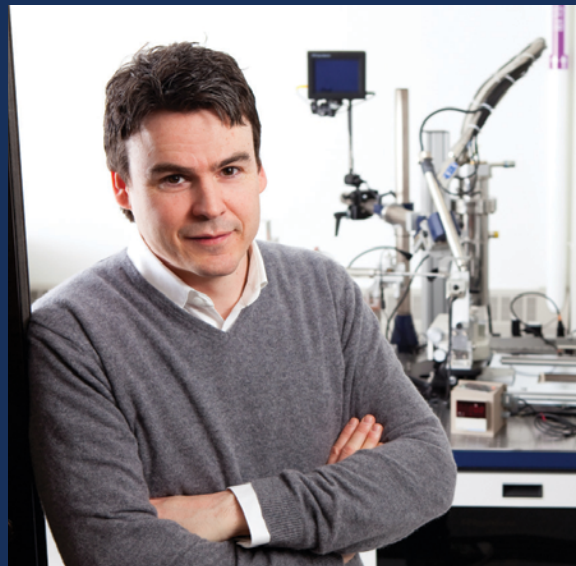
Research Today is a newsletter that highlights Manitoba's research enterprise, features local talent working to advance research in the province, and illustrates Research Manitoba's investments and partnerships in action.

The Research Today platform provides an opportunity for us to champion Manitoba's research community, and promote the world-class research being done right here at home.

Please visit our website to read the stories in full at:
researchmanitoba.ca/impacts/research-today/

In 2020-21, we published nine stories and featured COVID-19 research, vaccine development, clinical trials, telepresence robots, Manitoba's first Research Chair in Indigenous Nursing, an award-winning scientist, local companies with pioneering products, and our inaugural Strategic Partnership.

THE FOLLOWING ARE EXCEPTS FROM STORIES WRITTEN BY BRIAN COLE.



Dr. Brian Mark

RE-ENGINEERING SARS-COV-2: HOW DECONSTRUCTING THE VIRUS THAT CAUSES COVID-19 COULD LEAD TO A NEW VACCINE

Published – Summer 2020

Dr. Brian Mark is a structural biologist at the University of Manitoba. Mark and his eight-member team work with Drs. Marjolein Kikkert and Eric Snijder at Leiden University Medical Center in the Netherlands to develop a vaccine for severe acute respiratory syndrome coronavirus 2 [SARS-CoV-2], which is the virus that causes COVID-19.

The federal government provided just under \$500,000 for the project, which is just one of several COVID-19 related research initiatives underway in Manitoba.

Dr. Brian Mark and his colleagues were the first to show that the virus protease could be re-engineered to allow for the host cell to keep its immune response system functioning.

"This approach is now the premise for a potential attenuated viral vaccine for the coronavirus that causes COVID-19," says Mark.

Read the Full Story
researchmanitoba.ca/re-engineering-sars-cov-2-how-deconstructing-the-virus-that-causes-covid-19-could-lead-to-a-new-vaccine/

STEPPING UP: MANITOBA RESEARCH TEAM FOCUSES ON TESTING POTENTIAL THERAPIES FOR COVID-19

Published – June 2020

In March 2020, "When COVID came around, it was apparent very quickly that there were no proven therapies [to treat patients]," says Dr. Ryan Zarychanski. "All we could offer patients was supportive care – a hospital bed, supplemental oxygen, symptom control, organ support should they become critically ill, and managing complications caused by the virus."

He also knew there was only one way to solve that problem: clinician-scientists in Manitoba would have to join the world-wide effort to test the effectiveness of experimental therapies in scientifically rigorous clinical trials.

Fortunately, Zarychanski's team had the knowledge and experience to do just that. "Exceptionally long days have been required to action and organize these trials" says Zarychanski. "All members of the team have been working flat-out so that Manitobans can have access to treatments in the context of high-quality and appropriately monitored clinical trials."

None of it would have been possible without \$1.6 million in start-up support from the provincial government and Research Manitoba. The Manitoba Medical Services Foundation also provided funding to complete the first hydroxychloroquine trial. More recently, Zarychanski's team has received \$3.6 million and \$2.2 million from the Canadian Institutes of Health Research to fund the heparin and convalescent plasma trials, respectively.

Read the Full Story
researchmanitoba.ca/stepping-up-manitoba-research-team-focuses-on-testing-potential-therapies-for-covid-19/



Dr. Ryan Zarychanski, a hematologist, critical care physician, and clinician scientist at CancerCare Manitoba and the University of Manitoba.

RESEARCH TODAY

STORIES OF INNOVATION AND EXCELLENCE



Dr. Lauren MacKenzie
and Dr. Sylvain Lother

YOUNG SCIENTISTS GET VALUABLE EXPERIENCE WORKING ON COVID-19 CLINICAL TRIALS

Published – Summer 2020

In addition to providing patients with access to experimental therapies, the COVID-19 clinical trials now underway in Manitoba are also helping to enhance this province's research capacity.

Dr. Ryan Zarychanski, a hematologist, critical care physician, and clinician scientist at CancerCare Manitoba and the University of Manitoba, is supervising eight clinical trials involving six therapies for patients who have or are at risk of getting COVID-19.

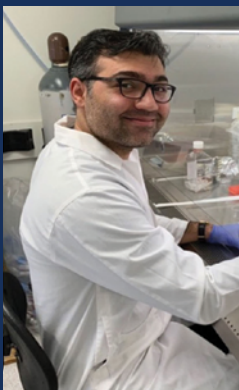
The disease, which is caused by severe acute respiratory syndrome coronavirus 2, or SARS-CoV-2, has killed more

than 400,000 people around the world since emerging in China in March 2020. It is considered to be the deadliest pandemic since the Spanish Flu in 1918, which killed an estimated 50 million people around the globe.

As a result, researchers and physicians around the world are working to develop treatments and a vaccine against the virus. In Manitoba, Research Manitoba and the provincial government provided approximately \$1.6 million in start-up funding for clinical trials to test various treatments for the disease. More recently, Zarychanski's team received about \$5.8 million in funding from the Canadian Institutes of Health Research to help carry out the clinical trials.

Read the Full Story

researchmanitoba.ca/young-scientists-get-valuable-experience-working-on-covid-19-clinical-trials/



Javad Alizadeh

BRIGHT FUTURE: AN IRANIAN STUDENT WHO CAME TO CANADA FIVE YEARS AGO TO FURTHER HIS EDUCATION HAS EVOLVED INTO ONE OF THIS COUNTRY'S MOST PROMISING YOUNG SCIENTISTS

Published – Summer 2020

Alizadeh's doctoral research project, which received a 2019 Research Manitoba/Rady Faculty of Health Sciences Graduate Entrance Scholarship, will build on the findings of a previous study he did as part of his Master's degree in 2017. His Master's research was supported by an award from Research Manitoba in 2015.

Today, Alizadeh is one of Canada's most promising young scientists; he recently won a 2020 Vanier Canada Graduate Scholarship, one of five at the University of Manitoba and about 160 across the country to do so.

Read the Full Story: researchmanitoba.ca/bright-future-young-scientists/

EXCERPT FROM Q & A WITH WANDA PHILLIPS-BECK, MANITOBA'S FIRST INDIGENOUS CHAIR IN NURSING

Published – Summer 2020

Research Today: As Research Chair in Nursing, what are your goals?

Phillips-Beck: I really have two goals. One is to develop and mentor nursing leaders, and the second is to encourage more Indigenous students to become researchers in Indigenous health.

The five-year appointment, announced June 25, 2020, provides nearly \$1 million to support research that will promote better health care through a project entitled Mentoring Nurse Leaders and Researchers in Indigenous Health Grounded in Culturally and Equity Informed Approaches to Research and Education. The initiative is supported by Research Manitoba [\$258,500], the Canadian Institutes of Health Research [CIHR] [\$699,500], and the Canadian Nurses Foundation [CNF] [\$27,000].

Read the Full Story

researchmanitoba.ca/q-a-with-wanda-phillips-beck-manitobas-first-indigenous-research-chair-in-nursing/



Dr. Wanda Phillips-Beck

"My research is looking at cultural safety in an integrated model where you have Indigenous world views, ways of knowing, knowledge and practices that are informing the education."

Dr. Wanda Phillips-Beck

RESEARCH TODAY

STORIES OF INNOVATION AND EXCELLENCE



Dr. Ryan Zarychanski

STERIODS SHOWN TO REDUCE MORTALITY AMONG COVID-19 PATIENTS BY 12 PER CENT CLINICAL TRIALS IN MB UPDATE

Published – Fall 2020

“The trial we started in Manitoba has grown beyond our wildest expectations,” Dr. Zarychanski said of the collaborative effort.

The Manitoba corticosteroid clinical trial is one of six studies involving eight therapies that Zarychanski and his team — which includes more than 30 physicians, nurses, research coordinators, investigators, and medical students — launched in 2020.

The team’s work has been supported by about \$1.4 million in start-up support from the provincial government and Research Manitoba, as well as additional funding from the Manitoba Medical Services Foundation. This initial investment was leveraged by Zarychanski’s team to attract a further \$8 million from the Canadian Institutes of Health Research and other national or international funders to lead several trials locally and internationally.

Read the Full Story

researchmanitoba.ca/steroids-shown-to-reduce-mortality-among-covid-19-patients-by-12-per-cent/

ROBOTS, RESEARCH, AND A NEW STRATEGIC PARTNERSHIP

Published – Spring 2021

Robots allow family members to ‘drop in’ on loved ones living with dementia

In September 2020, a Strategic Partnership between the Victoria General Hospital Foundation and Research Manitoba was designed to support research in several key areas, including mental health and aging in place.

One of the first projects in line for funding under the new partnership studies the use of telepresence robots to support people living at home with dementia.

The \$360,000 project, which is led by Reg Urbanowski, Dean of the College of Rehabilitation Sciences in the Rady Faculty of Health Sciences at the University of Manitoba, is underway and will be completed in 2021.

Dr. Urbanowski believes that caregivers and family members can use a specific type of robot, known as a telepresence robot, to “look in” on people with dementia who are living alone.

To test his theory, Urbanowski and his research team — which includes co-investigator Amine Choukou as well as members from the Faculties of Business Administration and Computer Science — launched a study that involves embedding three different models of telepresence robots with about 15 Manitoba families. The objective is two-fold: to determine whether telepresence robots can assist in caring for people living with dementia; and to identify whether there is an opportunity to develop and build such robots here in Manitoba.

The team hopes to find that telepresence robots provide an effective solution for minimizing caregiver burden and will be useful for caregivers who have career or other out-of-home activities.

We look forward to learning about the impacts of this study and will share results with our stakeholders in 2021-22.

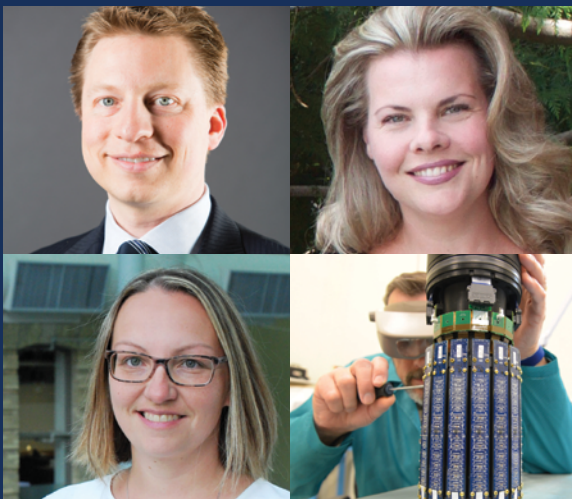
Read the Full Stories:

researchmanitoba.ca/strategic-partnership-kicks-off-new-research-program/

researchmanitoba.ca/robots-allow-family-members-to-drop-in-on-loved-ones-living-with-dementia/



Reg Urbanowski ,
Charlene Rocke,
Amine Choukou ,and
Judi Bahl



John Pacak , Lisa Bako,
Jennifer Cleary, and
Bob Schellenberg

WINNIPEG MED-TECH COMPANIES TACKLE COVID-19

Published – Winter 2021

Adva Diagnostics Inc. and Cubresa Inc. received funding from Research Manitoba’s COVID-19 Innovation Proof of Concept (IPoC) program. The initiative is supported through a \$5 million research fund launched in April 2020 as part of the province’s overall response to the global public health threat.

Adva Diagnostics Inc.’s grant will support the development of a revolutionary rapid spot test that can detect infectious viruses in humans and animals.

“The Adva system will be a very useful tool for microbiology research leading to new discoveries world-wide,” said John Pacak, who specializes in bio-medical engineering. “We’re very proud of what we are doing here. It is very exciting.”

“The financial support from Research Manitoba was important because developing new products, particularly during a pandemic, always carries certain risks,” said Lisa Bako from Cubresa Diagnostics Inc. “This support was integral and allowed us to proceed with the prototype version of the new system” which was designed and built in Winnipeg.

Read the Full Story – <https://researchmanitoba.ca/winnipeg-med-tech-companies-tackle-covid-19/>

Strategic Partnerships

THE STRATEGIC PARTNERSHIPS INITIATIVE ESTABLISHES PARTNERSHIPS WITH INDUSTRY, THE PUBLIC SECTOR, AND PHILANTHROPIC ORGANIZATIONS TO ADVANCE AND TRANSLATE MANITOBA'S INNOVATIONS INTO SOLUTIONS THAT IMPACT THE HEALTH AND WELL-BEING OF MANITOBANS AND ENHANCE THE ECONOMY OF THE PROVINCE.

OUR STRATEGIC PARTNERSHIP INVESTMENTS ALIGN WITH PROVINCIAL PRIORITY RESEARCH AREAS AND THREE OF THE PROVINCE'S DRIVERS OF GROWTH: STRATEGIC SECTOR GROWTH; ACCESS TO CAPITAL; AND RESEARCH, INNOVATION AND TECHNOLOGICAL ADVANCEMENT.

Research Manitoba is uniquely positioned as a collaborator and a connector in the province's research enterprise; we work with organizations, institutions, companies, and people and together we:

- ◆ Increase the cumulative impact of investment and research;
- ◆ Advance translational research;
- ◆ Provide measured return on investment;
- ◆ Act as a conduit for opportunities;
- ◆ Connect key leaders and stakeholders to the research community and beyond; and
- ◆ Accelerate new ideas.

MILESTONES

SIGNED STRATEGIC PARTNERSHIP AGREEMENTS WITH:

VICTORIA GENERAL HOSPITAL FOUNDATION (VGHF)

This \$670,000 partnership supports three important research programs: a health research competition [\$110,000], funding to support COVID-19 clinical trials [\$200,000], and a research study, which uses telepresence robots to remotely interact between persons with dementia and their caregivers to extend stay at home care opportunities [\$360,000]. This partnership was announced by Economic Development and Jobs Minister Ralph Eichler on September 24th, 2020.



VGHF and Research Manitoba Announcement
September 2020

STRATEGIC PARTNERSHIPS

UNIVERSITY OF MANITOBA AND THE HEART & STROKE FOUNDATION OF CANADA

A Heart & Stroke and Research Manitoba Chair in Clinical Stroke Research will be created. This Chair position is an investment in the provincial stroke system, championing advancement in stroke care rooted in Canadian Stroke Best Practices while working collaboratively with Heart & Stroke Foundation Canada and other key stakeholders. Our partners, the University of Manitoba and the Heart & Stroke Foundation of Canada, contributed \$700,000.

CONCORDIA FOUNDATION

This \$500,000 partnership supports an Arthroplasty Research Chair at Concordia’s Hip and Knee Institute. This five-year position will allow the Research Chair and researchers at Concordia’s Hip and Knee Institute to take a step forward in delivering world-class treatment, improving operating room efficiencies, and accelerating innovative approaches to healing the growing number of Manitobans living with hip and knee pain and disability.

“Thanks to the incredible partnership that we are privileged to have with Research Manitoba and the team of professionals, the Concordia Hip and Knee Institute will be able to build its team, accelerate the pace of research, publish findings faster, and connect sooner with partners worldwide who can help us bring innovative care to Manitobans when they need us most.”

Sue Barkman
Executive Director
The Concordia Foundation

STRATEGIC PARTNERSHIPS

BOEHRINGER INGELHEIM (CANADA) LTD.

This \$300,000 Boehringer Ingelheim-Research Manitoba (BI-RM) Partnership Fund supports community-based research and innovation projects focused on improving diabetes health outcomes within Indigenous communities in Manitoba. This partnership aligns with the Province of Manitoba’s Shared Health Clinical and Preventative Services Plan, and Boehringer Ingelheim Canada’s Indigenous Health Policy Framework called PATHWAYS, which is a partnership established with Bimaadzwini that is intended to to empower and enhance collaborations with Indigenous communities, industry, and interested groups to support solutions for improving community health and wellness. This partnership was announced November 30, 2020, with participation from the Minister of Health, Seniors and Active Living and the Minister of Indigenous and Northern Relations.

“Boehringer Ingelheim, Canada is proud to work with Research Manitoba to create a partnership aimed at improving health outcomes in Indigenous Communities. Research Manitoba has provided expertise, collaboration, and support to build a strong working relationship with all the key ecosystem partners to identify areas that will impact patients and clinical needs. Building trust with an industry partner can be difficult and this has been managed with respect, care, and thoughtful consideration. We are excited to see the positive impact our partnership will mean to patients.”

Lana Solberg
Health Care Solutions & Partnerships Western Canada
Boehringer Ingelheim (Canada) Ltd.

CONNECTIONS WITH POTENTIAL PARTNERS

76

Meetings with potential partners

28

First time meetings with potential partners

48

Ongoing discussions with multiple stakeholders

RITHIM

EXCELLENT RESEARCH THRIVES HERE



Visit RITHIM's website
www.rithim.ca

Research Improvements Through Harmonization in Manitoba (RITHIM) is a provincial initiative led by Research Manitoba to enhance, coordinate, and harmonize the systems for ethics, privacy, and impact reviews related to health research.

RITHIM will position Manitoba as one of the most attractive places to conduct research in Canada. This new system includes the creation of a robust application and management software for research review processes that combines a myriad of diverse systems across the province. This will make it easier for researchers to apply for necessary approvals and experienced experts to review and approve the submissions, while maintaining the highest levels of ethics and privacy protection.

Through this pioneering harmonization initiative, Manitoba can increase its presence in the national and international research community by attracting more innovative trials as a result of reduced time to conduct, which over time, will increase industry investment and partnership potential. It is anticipated that RITHIM will become operational by January 2022.

98

Meetings to support the development of the electronic system and stakeholder engagement

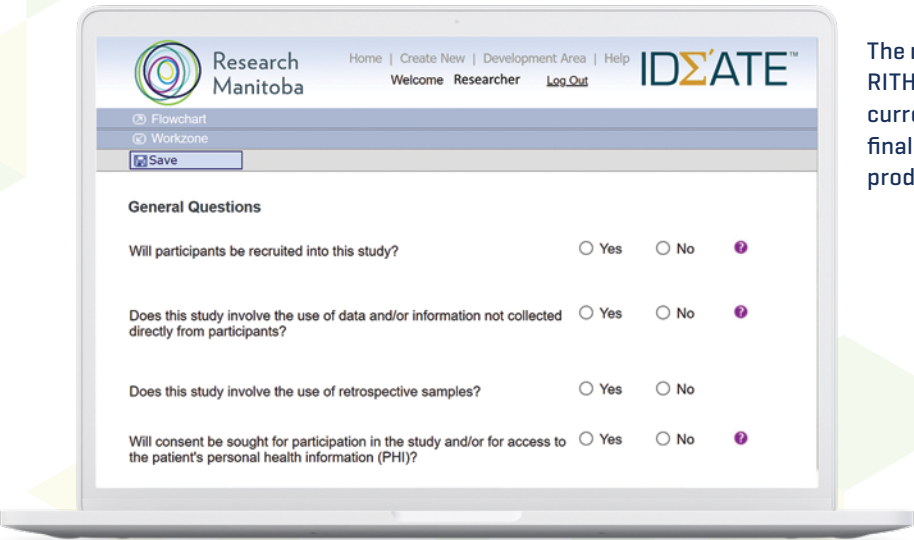
25+

Electronic and paper-based review systems harmonized into one new system

MILESTONES ACHIEVED IN THE FISCAL YEAR 2020-21:

In 2020-21, the RITHIM team made significant progress on the software and application system development while fostering strong relationships with all project stakeholders. 2021-22 will see the phased rollout of RITHIM.

- Launched RITHIM's website in May 2020;
- Finalized the harmonized application and review software specifications;
- Held extensive stakeholder consultations across Manitoba's health research community;
- Hired CHIPER Coordinator, Dr. Elaine Burland, in October 2020;
- Created Standard Operating Procedures and guidance documents to support RITHIM's processes. This work will continue to evolve and update throughout RITHIM's launch and into operations;
- Created an operating plan, which includes planning for the next two years;
- Hosted webinars including a Data Management Frameworks Webinar featuring Dr. Chandra Kavanaugh in June 2020, a public RITHIM update and Q&A with RITHIM Director, Freyja Arnason in August 2020, and presentation at Early Career Researcher Day in February 2021; and
- Refocused the project plan to better align with key stakeholders and support the development of RITHIM.



The new, tested, RITHIM software currently entering final stages of production.

Community Engagement

BUILDING A ROBUST RESEARCH ENTERPRISE IN OUR PROVINCE IS A TOP PRIORITY FOR RESEARCH MANITOBA.

Throughout the pandemic it was inevitable that our in-person activities and events were impacted, but looking back on 2020/21 it is evident that ties within the research community are strong. We stayed connected in so many ways – even though we were so far apart.

We connected online, we worked together with our community partners to sponsor publications and to contribute to newsletters, we hosted webinars and workshops, and we created videos – all to champion Manitoba’s research community.

These connections made all the difference to our team; we were so happy to be able to continue to celebrate innovation and engage with our local, provincial, and national partners and stakeholders.

COMMUNITY ENGAGEMENT ACTIVITIES

ANNOUNCEMENTS / NEWS RELEASES		EVENTS	
News Releases Circulated _____	10	RMB Webinars/Information Sessions____	6
RMB Announcements _____	2	RMB Events _____	8
RMB Active Participant in Releases ____	4	RMB Active Participant in Events ____	48
NEWSLETTERS / MEDIA FEATURES		KNOWLEDGE TRANSFER	
Newsletters Published _____	14	Publications _____	39
News Articles with RMB Featured ____	41	Conference Presentations _____	10

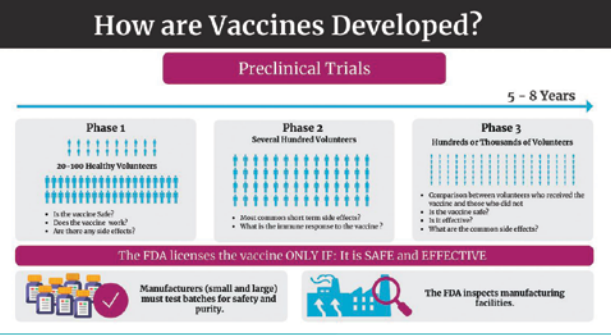
COMMUNITY ENGAGEMENT ACTIVITIES

COVID-19



Research Manitoba sponsored the publication of “No Mercy for the Coronas” a new e-magazine and a GREAT resource for parents and teachers. Content created specifically for children so they could learn about COVID-19 from local scientists & experts! Available in English and French.

[Spring 2020]



Research Manitoba contributed to the Bioscience Association Manitoba’s COVID-19 Newsletter series and helped to develop infographics.

[Summer 2020]

WEBINARS



RITHIM hosted an Ethical Data Management Plans (DMPs) and Health Research webinar featuring Dr. Chandra Kavanagh from the Newfoundland and Labrador Health Research Ethics Authority.

[June 25, 2020]



Freyja Arnason, RITHIM Director, hosted an online Q&A for Manitoba’s research community to inform all stakeholders on developments in the RITHIM initiative.

[August 19, 2020]

COMMUNITY ENGAGEMENT ACTIVITIES

VIDEOS



We created an FAQ video for Trainees to help them prepare strong applications: youtu.be/sSSPuZD-V-c
[October 23, 2020]



The premiere of our new video “Building Our Future Through Investments in Research.”
We’d like to thank everyone involved with this project!
youtu.be/BcZGU0G7UDo
[December 21, 2020]

IN THE COMMUNITY



The Research Manitoba team took part in the Annual Bell Let’s Talk event.
[January 28, 2021]



Early Career Researcher Day
We volunteered on the planning committee and participated in the event, which was hosted by The University of Winnipeg. We presented on our funding programs and the RITHIM initiative.
[February 26, 2021]



Bioscience Association Manitoba’s Annual Gala.
We attended the online event and had a great time networking, getting to know our guests, and learning about new ways we can work together.
[March 4, 2021]

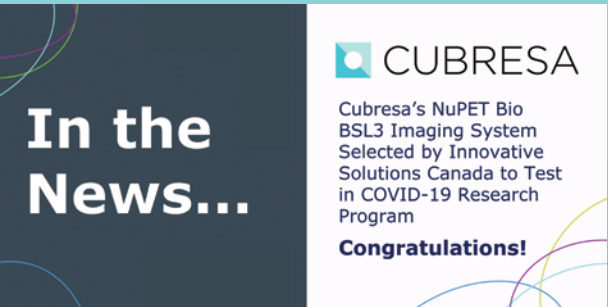
IN THE NEWS



Manitoba’s first Indigenous Research Chair in Nursing was announced. The project is also supported in partnership with the Canadian Institutes of Health Research and the Canadian Nurses Foundation and associated with the First Nations Health and Social Secretariat Manitoba.
[June 25, 2020]



Research Manitoba announced Interim Chief Executive Officer, Mr. Sean McKay.
[August 19, 2020]



One of our COVID-19 Innovation Proof-of-Concept (IPoC) Grant recipients received a contract and funding from the Government of Canada’s Department of Innovation, Science and Economic Development for their NuPET Bio Imaging System. Congratulations Cubresa!
[November 2, 2020]



Research Manitoba announced the appointment of Andrea Legary as the new Board Chair.
[December 21, 2020]



Research Manitoba welcomed our New Chief Executive Officer – Ms. Karen Dunlop. Karen will guide RMB to advance research in the province and work with stakeholders to make Manitoba the most improved province in research.
[February 9, 2021]

Financial Statements

FOR THE YEAR ENDED MARCH 31, 2021

MANAGEMENT'S RESPONSIBILITY LETTER

The accompanying financial statements are the responsibility of the management of **RESEARCH MANITOBA** and have been prepared in accordance with Canadian public sector accounting standards. In management's opinion, the financial statements have been properly prepared within reasonable limits of materiality, incorporating management's best judgment regarding all necessary estimates and all other data available to the audit report date.

Management maintains internal controls to properly safeguard the assets and to provide reasonable assurance that the books and records from which the financial statements are derived accurately reflect all transactions and that established policies and procedures are followed.

The responsibility of the external audit is to express an independent opinion on whether the financial statements of **RESEARCH MANITOBA** are fairly represented in accordance with Canadian public sector accounting standards. The Independent Auditor's Report outlines the scope of the audit examination and provides the audit opinion.

On behalf of Management of **RESEARCH MANITOBA**:



Karen Dunlop,
Chief Executive Officer



Nicole Barry,
CPA, CGA,
Director of Finance and Administration

June 2, 2021

INDEPENDENT AUDITOR’S REPORT

To the Board of Directors of [RESEARCH MANITOBA](#)

OPINION

We have audited the financial statements of Research Manitoba [the “Organization”] which comprise the statement of financial position as at March 31, 2021, and the statement of operations and accumulated surplus, changes in net financial assets, and statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

In our opinion, the financial statements present fairly, in all material respects, the financial position of the Organization as at March 31, 2021 and the results of its operations, its changes in net financial assets, and its cash flows for the year then ended in accordance with Canadian public sector accounting standards.

BASIS FOR OPINION

We conducted our audit in accordance with Canadian generally accepted auditing standards. Our responsibilities under those standards are further described in the Auditor’s Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Organization in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

RESPONSIBILITIES OF MANAGEMENT AND THOSE CHARGED WITH GOVERNANCE FOR THE FINANCIAL STATEMENTS

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian public sector accounting standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Organization’s ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Organization or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Organization’s financial reporting process.

AUDITOR’S RESPONSIBILITIES FOR THE AUDIT OF THE FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor’s report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with

INDEPENDENT AUDITOR’S REPORT

Canadian generally accepted auditing standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian generally accepted auditing standards, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Organization’s internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management’s use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Organization’s ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor’s report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor’s report. However, future events or conditions may cause the Organization to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

BDO Canada LLP


Chartered Professional Accountants

Winnipeg, Manitoba
June 2, 2021

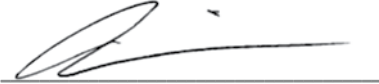
STATEMENT OF FINANCIAL POSITION

March 31	2021	2020
FINANCIAL ASSETS		
Cash and bank	\$ 455,422	\$ 216,828
Portfolio investment [Note 3]	1,435,927	1,420,198
Accounts receivable [Note 4]	28,239	104,582
Accrued interest receivable	5,336	8,105
	1,924,924	1,749,713
LIABILITIES		
Accounts payable and accrued liabilities	114,584	142,160
Deferred revenue	190,770	-
	305,354	142,160
NET FINANCIAL ASSETS	1,619,570	1,607,553
NON-FINANCIAL ASSETS		
Tangible capital assets [Note 5]	10,728	13,865
Prepaid expenses	17,807	17,650
	28,535	31,515
ACCUMULATED SURPLUS	\$ 1,648,105	\$ 1,639,068

Approved on behalf of the Board:



Director



Director

The accompanying notes are an integral part of these financial statements.

STATEMENT OF OPERATIONS AND ACCUMULATED SURPLUS

For the year ended March 31	2021	2021	2020
	BUDGET	TOTAL	TOTAL
REVENUE			
Province of Manitoba			
Growth, Enterprise and Trade [Note 8]	\$ 12,043,548	\$ 12,043,548	\$ 12,113,000
Externally restricted revenue	400,000	444,230	-
Grants returned/rescinded	24,000	138,018	456,106
Investment income	25,000	14,279	38,584
	12,492,548	12,640,075	12,607,690
EXPENDITURES			
Administration [Page 15]	886,088	998,394	942,904
Infrastructure grants - matching	2,325,958	2,729,168	2,421,960
Infrastructure grants	619,105	395,360	411,141
MS grants & awards	-	-	85,094
Operating grants - matching	1,924,831	1,905,341	5,004,322
Operating grants	846,866	796,309	1,582,386
Personnel awards	388,000	335,661	325,326
Personnel awards - matching	1,001,700	1,001,700	1,025,850
Covid-19 projects	4,500,000	4,469,105	800,000
	12,492,548	12,631,038	12,598,983
ANNUAL SURPLUS	\$ -	9,037	8,707
ACCUMULATED SURPLUS, beginning of year		1,639,068	1,630,361
ACCUMULATED SURPLUS, end of year		\$ 1,648,105	\$ 1,639,068

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CHANGES IN NET FINANCIAL ASSETS

For the year ended March 31	2021		2020
	BUDGET	TOTAL	TOTAL
ANNUAL SURPLUS	\$ -	\$ 9,037	\$ 8,707
AMORTIZATION OF TANGIBLE CAPITAL ASSETS	-	3,137	4,146
INCREASE IN PREPAID EXPENSE	-	[157]	[14,582]
CHANGES IN NET FINANCIAL ASSETS	\$ -	12,017	[1,729]
NET FINANCIAL ASSETS, beginning of year		1,607,553	1,609,282
NET FINANCIAL ASSETS, end of year		\$ 1,619,570	\$ 1,607,553

The accompanying notes are an integral part of these financial statements.

STATEMENT OF CASH FLOWS

For the year ended March 31	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIES		
Annual surplus for the year	\$ 9,037	\$ 8,707
Adjustments for		
Amortization of capital assets	3,137	4,146
	12,174	12,853
Changes in non-cash working capital balances		
Accounts receivable	76,343	[71,287]
Accrued interest receivable	2,769	5,933
Prepaid expenses	[157]	[14,584]
Accounts payable and accrued liabilities	[27,576]	24,460
Deferred revenue	190,770	-
Research grants payable	-	[61,684]
	254,323	[104,309]
CASH FLOWS FROM CAPITAL TRANSACTIONS	-	-
CASH FLOWS FROM INVESTING ACTIVITIES	-	-
CASH FLOWS FROM FINANCING ACTIVITIES	-	-
INCREASE [DECREASE] IN CASH AND CASH EQUIVALENTS DURING THE YEAR	254,323	[104,309]
CASH AND CASH EQUIVALENTS, beginning of year	1,637,026	1,741,335
CASH AND CASH EQUIVALENTS, end of year	\$ 1,891,349	\$ 1,637,026
REPRESENTED BY		
Cash and bank	\$ 455,422	\$ 216,828
Portfolio investment	1,435,927	1,420,198
	\$ 1,891,349	\$ 1,637,026

The accompanying notes are an integral part of these financial statements.

NOTES TO FINANCIAL STATEMENTS

For the year ended March 31, 2021

1. Nature of the Organization

Research Manitoba [the “Organization”] was originally established by The Manitoba Health Research Council Act to promote and assist basic, clinical and applied research in the health sciences in Manitoba. It was continued under The Research Manitoba Act in 2014 to promote, support and coordinate funding of, research in the health, natural and social sciences, engineering and the humanities in Manitoba. Research Manitoba is a registered charity and is exempt from tax under the Income Tax Act.

2. Summary of Significant Accounting Policies

BASIS OF ACCOUNTING

The financial statements have been prepared using the Canadian public sector accounting standards as established by the Public Sector Accounting Board.

REVENUE RECOGNITION

The Organization is primarily funded by the Province of Manitoba and operates per the mandates set out in the Research Manitoba Act. These financial statements reflect agreed funding arrangements with respect to the year ended March 31, 2021.

Provincial government transfers for operating purposes are recognized as revenue in the period in which all eligibility criteria and/or stipulations have been met and the amounts are authorized. Any funding received prior to satisfying these conditions are considered unearned until conditions have been met. When revenue is received without eligibility criteria or stipulations, it is recognized when the transfer from the Province of Manitoba is authorized, except when and to the extent the transfer gives rise to an obligation that meets the definition of a liability for the Organization.

Externally restricted revenue consists of revenues from strategic partnership agreements recognized in the period in which the resources are used for the purposes specified. If the funds are not disbursed for the specified purposes, it is recognized as deferred revenue.

The General Research Funds - General research grants are charged to expenditures in the year the funding is committed for, by the Board. Research grants returned to or rescinded by the organization is recorded as revenue when received or rescinded.

Investment income is recognized as revenue in the year in which it is earned.

FINANCIAL ASSETS

Portfolio investments are investments that are capable of reasonably prompt liquidation and are recognized at cost.

NOTES TO FINANCIAL STATEMENTS

For the year ended March 31, 2021

2. Summary of Significant Accounting Policies [continued]

LIABILITIES

Liabilities are present obligations as a result of transactions and events occurring prior to the end of the fiscal year. The settlement of the liabilities will result in the future transfer or use of assets or other form of settlement. Liabilities are recorded at the estimated amount ultimately payable.

NON-FINANCIAL ASSETS

- [a] Prepaid expenses are payments for goods or services that will provide economic benefit in future periods. The prepaid amount is recognized as an expense in the year the goods or services are consumed.
- [b] Tangible capital assets are stated at cost less accumulated amortization. Amortization, based on the estimated useful life of the asset. Any changes to this policy will be Board approved. The amortization for purchases prior to this fiscal year will continue to be calculated as follows:

Office and computer equipment	20% diminishing balance basis
Computer equipment for review committees	33.3% diminishing balance basis

FINANCIAL INSTRUMENTS

Financial instruments are recorded at fair value when acquired or issued. Cash has been designated to be in the fair value category. All other financial instruments are reported at cost or amortized cost less impairment, if applicable. Financial assets are tested for impairment when changes in circumstances indicate the asset could be impaired. Transaction costs on the acquisition, sale or issue of financial instruments are expensed for those items remeasured at fair value at each balance sheet date and charged to the financial instrument for those measured at amortized cost. Due to the nature of the financial instruments held by the Organization, there are no unrealized gains or losses, and therefore a statement of remeasurement gains and losses is not required for these financial statements.

CASH AND CASH EQUIVALENTS

For the purpose of the statement of cash flows, cash includes cash and bank, a short-term investment in a cash savings account that can be redeemed at the organization’s request.

NOTES TO FINANCIAL STATEMENTS

For the year ended March 31, 2021

2. Summary of Significant Accounting Policies (continued)

GRANTS AND AWARDS

All grants and awards and their renewals are recorded as an expenditure in the year they are committed for.

MEASUREMENT UNCERTAINTY

The preparation of financial statements in accordance with Canadian public sector accounting standards requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from management’s best estimates as additional information becomes available in the future.

3. Portfolio Investment

Steinbach Credit Union, charity regular savings account, 1.40% [1.55% in 2020], no maturity date and is reduced by the deficit in the chequing account.

2021	2020
\$ 1,435,927	\$ 1,420,198

4. Accounts Receivable

University of Manitoba
Goods and Services Tax receivable
MITACS Inc.
Province of Manitoba
Institute of Health

2021	2020
\$ 21,285	\$ 59,129
6,954	28,616
-	15,600
-	1,000
-	237
\$ 28,239	\$ 104,582

NOTES TO FINANCIAL STATEMENTS

For the year ended March 31, 2021

5. Tangible Capital Assets

	2021			
	Opening Balance	Additions	Disposals	Closing Balance
Cost				
Office equipment	\$ 34,151	\$ -	\$ -	\$ 34,151
Computer equipment	62,913	-	-	62,913
	97,064	-	-	97,064
Accumulated Amortization				
Office equipment	26,003	1,241	-	27,244
Computer equipment	57,196	1,896	-	59,092
	83,199	3,137	-	86,336
Net book value	\$ 13,865	\$ [3,137]	\$ -	\$ 10,728
	2020			
	Opening Balance	Additions	Disposals	Closing Balance
Cost				
Office equipment	\$ 34,151	\$ -	\$ -	\$ 34,151
Computer equipment	62,913	-	-	62,913
	97,064	-	-	97,064
Accumulated Amortization				
Office equipment	24,451	1,552	-	26,003
Computer equipment	54,602	2,594	-	57,196
	79,053	4,146	-	83,199
Net book value	\$ 18,011	\$ [4,146]	\$ -	\$ 13,865

NOTES TO FINANCIAL STATEMENTS

For the year ended March 31, 2021

6. Pension Benefits

Employees of Research Manitoba are eligible for pension benefits in accordance with the provisions of the Civil Service Superannuation Act [CSSA], administered by the Civil Service Superannuation Board [CSSB]. The CSSA established a defined benefit plan to provide benefits to employees of the Manitoba Civil Service and to participating agencies of the Government, including Research Manitoba, through the Civil Service Superannuation Fund [CSSF]. Effective April 1, 2012, pursuant to an agreement with the Province of Manitoba, Research Manitoba transferred to the Province the pension liability for its employees.

Commencing April 1, 2012, Research Manitoba was required to pay to the Province the employees’ current pension contributions. The plan is funded by the Organization’s employees at rates of 8.0% to 9.0% of the employees’ salary. The Organization is required to match at rates of 7.1% to 9.0% of the employees’ salary. The amount contributed by Research Manitoba for 2021 was \$60,982 [\$50,590 in calendar year 2020] and the employees’ share was \$67,424 [\$55,010 in calendar year 2020]. Under this agreement, the Organization has no further pension liability.

7. Commitments

GRANTS

Research Manitoba has committed grants and awards under the General Research Fund, Canada Foundation for Innovation [CFI] Fund, Strategy for Patient Oriented Research [SPOR] Fund and Strategic Partnership Fund as follows:

Year	General Research Fund	CFI Fund	SPOR Fund	Matching Grants	Strategic Partnership	Total
2022	\$ 2,244,593	\$ 3,466,330	\$ 505,541	\$ 1,428,571	\$ 440,770	\$ 8,085,805
2023	1,211,700	2,938,546	40,000	1,428,571	-	5,618,817
2024	111,700	-	-	1,428,571		1,540,271
2025	85,850	-	-	1,428,571		1,514,421
2026	60,000	-	-	1,428,571		1,488,571
Total	\$ 3,713,843	\$ 6,404,876	\$ 545,541	\$ 7,142,855	\$ 440,770	\$ 18,247,885

PREMISES

The Organization has entered into an agreement to lease its premises for \$76,920 annually until the agreement expires in August 2030.

NOTES TO FINANCIAL STATEMENTS

For the year ended March 31, 2021

8. Related Party Transactions

Research Manitoba is related to all Province of Manitoba departments and agencies. During the year, Research Manitoba had the following transactions with related organizations:

	2021	2020
Grant revenue	\$ 12,043,548	\$ 12,113,000

These transactions are in the normal course of operations and are measured at the exchange amount, which is the amount of consideration established and agreed to by the related parties.

9. Financial Instrument Risks

GENERAL OBJECTIVES, POLICIES, AND PROCESSES

The Board of Directors has overall responsibility for the determination of the Organization’s risk management objectives and policies and, whilst retaining ultimate responsibility for them, it has delegated the authority for designing and operating processes that ensure effective implementation of the objectives and policies to the Organization’s Chief Executive Officer [CEO]. The Board of Directors receives quarterly reports from the Organization’s CEO through which it reviews the effectiveness of the processes put in place and the appropriateness of the objectives and policies it sets.

The Organization’s financial instruments are exposed to certain financial risks, including credit risk, interest rate risk and liquidity risk.

There have been no significant changes from the previous year in the exposure to risk, policies or procedures used to manage financial instrument risks.

INTEREST RATE RISK

The Organization is exposed to interest rate risk arising from the possibility that changes in interest rates will affect the cash flows related to its investments. The Organization’s objective is to minimize interest rate risk by locking in fixed rates on its investments when possible.

At March 31, 2021, a 1% move in interest rates, with all other variables held constant, could impact the interest revenue of the investments by \$14,359 [\$14,202 in 2020]. These changes would be recognized in the statement of operations.

NOTES TO FINANCIAL STATEMENTS

For the year ended March 31, 2021

9. Financial Instrument Risks [continued]

CREDIT RISK

The Organization is exposed to credit risk through the possibility of non-collection of its accounts receivable. The majority of the Organization’s receivables are from government entities which minimizes the risk of non-collection. The Organization also makes sure it meets all the eligibility criteria for the amounts to ensure they will collect the amounts outstanding.

LIQUIDITY RISK

Liquidity risk is the risk that the Organization will not be able to meet its financial obligations as they fall due. The Organization has a planning and budgeting process in place to help determine the funds required to support the Organization’s normal operating requirements on an ongoing basis. The Organization ensures that there are sufficient funds to meet its short-term requirements, taking into account its anticipated cash flows from operations and its holdings of cash and cash equivalents.

10. Uncertainty Due to COVID-19 Pandemic

The global pandemic has disrupted economic activities and supply chains. This has adverse impacts in Canada and on the global economy. The full impact of the COVID-19 outbreak continues to evolve as at the date of this report. As such it is uncertain as to the full magnitude of the effect that the pandemic will have on the Organization’s financial condition, liquidity and future results of the operations. Given the daily evolution of the COVID-19 outbreak and the global responses to curb its spread, the Organization is not able to fully estimate the effects of the COVID-19 outbreak on its results of operations, financial condition, or liquidity for fiscal 2021-2022.

SCHEDULE OF ADMINISTRATIVE EXPENSES BY OBJECT

For the year ended March 31, 2021	Budget	2021	2020
Amortization of tangible capital assets	\$ 4,000	\$ 3,137	\$ 4,146
Bank fees	400	360	384
Board and committee	750	-	2,831
Communications	23,000	20,955	57,398
Conference and transportation	2,825	748	18,417
Courier and postage	1,500	155	1,809
GST expense	24,500	20,657	-
Insurance	5,900	5,967	4,971
IT/Telecommunications	51,978	49,500	66,910
Office space	77,423	76,923	76,982
Office supplies	5,900	5,554	17,746
Professional development and memberships	2,250	1,992	2,057
Professional fees	24,750	28,385	23,616
Reviewers	750	-	3,725
Salaries and benefits	660,162	784,061	661,912
	\$ 886,088	\$ 998,394	\$ 942,904

