





Biennial report - 2020 and 2021

# Message from the directors

On March 6, 2020, just before the World Health Organization declared COVID-19 a worldwide pandemic, the O'Brien Institute for Public Health celebrated its first 10 years. At that time, we released a report highlighting successes since the Institute was established in 2010. We are now pleased to report on achievements over the intervening two years, 2020 and 2021.

There have been many changes during the past two years. Our inaugural Scientific Director, Dr. William Ghali, moved to a new position to become the University of Calgary's Vice President Research in March 2020. A rigorous search process led to the recruitment of Dr. Thomas Stelfox, who took over as Scientific Director in November 2020. Tom was delayed in taking up this role with the Institute because his previous role as Department Head, Critical Care Medicine, Cumming School of Medicine, and Calgary Zone Medical Director required most of his time and attention at the onset of the pandemic. Dr. Christine Friedenreich stepped in as Interim Scientific Director for the intervening eight months and subsequently returned to her role as Associate Scientific Director.

During these leadership changes, Dr. Jamie Day continued to provide steady guidance to the directors and core staff as the Administrative Director. Meanwhile, we also welcomed two new Associate Scientific Directors, Dr. Kirsten Feist and Dr. Katrina Milaney, who begin their roles in the areas of Health Systems, and Population Health Research respectively, in 2022. Christine's term as Associate Scientific Director ended March 31, 2022, after eight years of contributions to the Institute in various roles.

The O'Brien Institute was deeply involved in many public health issues and topics in 2020 and 2021.

Our researchers responded quickly to the need for scientific expertise and input on the COVID-19 pandemic, conducting innovative research, providing guidance to decision and policy makers, and identifying important gaps that need to be addressed in our healthcare and public health systems. They continued to excel, despite the pandemic-related challenges disrupting their research activities, and this report provides highlights of their achievements.

We used this transition period as a time to reflect and refocus strategic priorities for the Institute's next five years. Our strategic planning process began in November 2020 and involved multiple consultations with Institute members, stakeholders, and Strategic Advisory Board members, culminating in our 2022-2027 Strategic Plan. The plan outlines clear directions for our future, as we pursue our vision of advancing public health (both population health and health-care system delivery) through research excellence.

We are proud to serve the Institute's dedicated members: their contributions of passion, energy, and creativity, and their individual and collaborative research endeavours, are the life force of the O'Brien Institute.

Finally, the excellence that we strive for and achieve as an Institute is possible thanks to the efforts and dedication of our Operations and Communications teams. We appreciate all they do and acknowledge that this report would not have been possible without them. We are excited to be part of an incredible community of scholars, citizens, health practitioners and governmental, non-governmental and business leaders working together to solve the greatest public health challenges.

This report summarizes a sample of the impacts our members have had addressing those challenges. Thank you for your interest. For more details about the Institute, please go to our website (obrieniph.ucalgary.ca) or join us on Twitter (@OBrien\_IPH).



**Tom Stelfox, MD, PhD, FRCPC, FCAHS** Scientific Director O'Brien Institute for Public Health



Christine Friedenreich, PhD, FCAHS, FRSC Past-Associate Scientific Director O'Brien Institute for Public Health



Jamie Day, PhD Administrative Director O'Brien Institute for Public Health

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# 2020 & 2021: Strength and focus

### "To advance public health through research excellence"

Marked by new leadership, new economic challenges reshaping post-secondary and health institutions, and a global pandemic, the Institute's last two years can be characterized as a time of renewal, refocus and fresh purpose.

Never in recent memory has the importance of public health expertise and high-quality public health research been more apparent and necessary. The onset of the COVID-19 pandemic in early 2020 saw the O'Brien Institute community become heavily involved in the response to this emergency at the local, national and international levels. Institute members contributed to the global response by conducting research into all facets of the pandemic, as well as by serving as leaders in local, national and international task forces and working groups.

With funding realities changing around us, and the demand for the Institute's expertise at a historical peak, a new institutional strategic vision was needed. As such, in 2021 the Institute set out to engage the entire membership and Strategic Advisory Board, through open discussion, solicited feedback, and working groups, as a way to define this new vision.

The result is a new vision that focuses the Institute's resources on catalyzing research excellence that advances public health. Through sharper focus, the Institute will concentrate its efforts on thought leadership at the intersection of science and society, so to support scholars as they tackle public health challenges, bringing them together with health practitioners, citizens, governments, businesses, and non-governmental organizations, when collective action is required.

This new focus positions the Institute to address health equity and the conditions that determine health. We will enhance research that examines the underlying and upstream causes of illness and disease, to help identify and accelerate the use of prevention strategies to improve population health. This approach also positions the Institute to improve the quality of healthcare available to Canadians by supporting strategies to embed research knowledge into healthcare delivery, and to implement digital health technologies. Our goal is to foster continuous innovation so that sustainable, high-quality healthcare is available to all people.

With a vibrant research community encompassing more than 1,000 members and affiliates, a revised organizational structure with new directors taking on leadership roles, and scientists dedicated to making a difference with their research, the Institute is already making its second decade as ground-breaking and impactful as its first.



**Knowledge exchange in action:** Researchers, policy makers and people with lived experience discuss the health challenges facing Calgary's homeless population, during a screening and talk at the Central Library.

# A new strategic plan

#### New vision and focus

The planning, stakeholder engagement, creation, and adoption of the O'Brien Institute's first strategic plan were a central focus of the Institute in 2021. This process led us to a new mission statement: advancing public health through research excellence. The resulting strategic plan aims to strike a balance between sharpening its focus, while sustaining the values and organizational enablers that have been key to the Institute's first 10 years of success. As such, Healthier Populations and Better Healthcare are identified within the plan as the Institute's research goals, with learning health systems, digital health, equity, and prevention identified as focus areas.

Furthermore, a cross-cutting goal of **Thought Leadership** focuses on *knowledge exchange, innovation,* and *evidence-informed policy* as the means by which to ensure that our research goals benefit society. A final goal of the plan, **Operational Excellence**, aims to ensure the Institute provides value for its members by *increasing the capacity for research excellence and public health impact, enhancing the value of membership,* and undertaking *strategic investment*.

### Process and development

Broad consultation and data interpretation were key to defining this plan and the mission that underpins it. A consulting firm led the situational assessment and strategy definition phase, gathering input from Institute members, staff, and internal/external advisors and stakeholders. In the first half of 2021, the consultants conducted a member survey, in-depth interviews with key stakeholders, and methodical planning sessions with a Strategic Working Group, made up of members of the Institute community. To complement and inform this process, Institute staff conducted an environmental scan of comparator organizations and funding agencies. In the second half of 2021, this information was translated into a strategic plan that was shared with the membership and key stakeholders, and iteratively revised. An Operational Plan to guide the execution and evaluation of the Strategic Plan is being developed.

# Stories of impact – Leadership in the time of COVID-19

In March 2020, as the most significant pandemic since the Spanish influenza infected a third of the world's population, then Calgary Mayor Naheed Nenshi contacted the University of Calgary requesting support as the City considered public health measures to slow the spread of the virus.

As public health leaders within the Institute coalesced around this urgent need, past O'Brien Institute Scientific Director Dr. William Ghali became chair of the University of Calgary COVID-19 Advisory and Analytics group, and Dr. Christine Friedenreich, O'Brien Institute Interim Scientific Director at the time, was named co-chair. Throughout the pandemic, the group, comprised almost entirely of O'Brien Institute members and affiliates, met with City councillors and the Calgary Emergency Management Agency to inform what type of population-wide interventions could be implemented to control the spread of COVID-19.

This group of Institute researchers also joined COVID-END, a nationally funded initiative constituting hundreds of researchers from across Canada working to inform the Public Health Agency of Canada and the Federal Minister of Health on the pandemic and its impact on Canadians.

In late 2020, Dr. Katrina Milaney, O'Brien Institute Associate Scientific Director – Population Health, was named one of the five research leads of CanCOVID, a national network working tirelessly to inform the Canadian government's COVID-19 response. CanCOVID members collaborate across critical COVID-19 research and development areas – from clinical trials and testing, to diagnostics and treatment – providing Ottawa a line of sight on COVID-19 science and research taking place across the country.

In this role, Milaney leads efforts to address disparities brought to light by COVID-19, including the disproportionate effects of the pandemic on vulnerable populations, such as poor and racialized groups, while also defining how the pandemic has forced more people into vulnerable, low-income positions. In another example of the leadership displayed by Institute members during the pandemic, Dr. Kirsten Fiest, O'Brien Institute Associate Scientific Director – Health Systems, published national guidelines on how hospitals should manage family visitation during emergencies involving contagious illness such as COVID-19.

### Exemplary leadership during the pandemic

- O'Brien Institute members assessed how Alberta's pandemic preparedness and response policies are transmitted to, and implemented in, hospitals and family doctors' offices across Alberta.
- In 2020 and 2021, the Institute partnered with Children First Canada to report on the impact of the pandemic on children, and to present that report to the Government of Canada.
- Dr. Jim Kellner was named to the leadership group of the federal COVID-19 Immunity Taskforce, which catalyzes, supports, funds and harmonizes knowledge on COVID-19 immunity for federal, provincial, and territorial decision-makers.

# Two years of achievement and success

The Institute's major achievements in 2020 and 2021 hinged on rapid adaptations made to maintain research support for members during the COVID-19 pandemic.

- Institute members successfully shifted their research programs and priorities to meet the need
  posed by the global pandemic, by conducting research, taking on knowledge exchange activities
  and providing leadership at the Institute and national levels
- Over this reporting period, a second significant philanthropic donation was made to the Institute by Gail and David O'Brien
- Research productivity of the membership, as measured by peer-reviewed research publications and external research funding, continued to increase over the previous two years
- The public health impact of members' activities continued to grow as summarized in our stories
  of impact in this report
- O'Brien Institute members were recognized nationally and internationally for advancing public health through research excellence. A few notable awards from 2020 and 2021 include:

### **Order of Canada**



Judy Birdsell Co-founder of Imagine Citizens Network (Order of Canada 2020)



**Lynn McIntyre**Former Associate Scientific Director of the O'Brien Institute (Order of Canada 2020)

## **Royal Society of Canada Fellow**



Michael Hill (2021)

**Canadian Academy of Health Sciences Fellows** 



Gil Kaplan (2021)



Scott Patten (2020)



Deborah Marshall (2020)



Tom Stelfox (2020)



Luanne Metz (2020)



Suzanne Tough (2021)

#### Medical and scientific awards - 2020

Sofia Ahmed Distinguished Mentor Award, American Society of Nephrology

Karen Kopciuk Distinguished Services Award, Statistical Society of Canada

Lindsay Crowshoe Dr. Thomas Dignan Indigenous Health Award, Royal College of Physicians

and Surgeons of Canada

Claire Barber Emerging Investigator Award, Canadian Rheumatology Association

Norman Campbell Senior Investigator Award, Hypertension Canada

Michael Hill and the Calgary Stroke Team Scientific Breakthrough Award, American Academy of Neurology

#### Medical and scientific awards - 2021

Andrew Johnson Award for Exceptional Contribution to HIV/AIDS Nursing,

Canadian Association of Nurses in HIV/AIDS Care

S. Monty Ghosh Award for Young Leaders (Early Career), Canadian Medical Association

Aliya Kassam Certificate of Merit, Canadian Association of Medical Education

**Tom Stelfox** Distinguished Lecturer in Critical Care Sciences, Canadian Institute of

Health Research and Canadian Critical Care Society

Andrew McRae Editorial Fellowship, Canadian Medical Association Journal

Brent Friesen Honourary Life Membership, Canadian Public Health Association

**David Hogan** Honourary Membership, Canadian Medical Association

Frank Stahnisch Jason A. Hannah Medal, Royal Society of Canada

**Sofia Ahmed** May Cohen Award for Women Mentors, Canadian Medical Association

Rachel Ellaway President's Award for Exemplary National Leadership in Academic Medicine,

The Association of Faculties of Medicine of Canada

#### Service awards

Jayna Holroyd-Leduc 100 Most Powerful Women, Women's Executive Network (2021)

Fiona Clement Top 100 Women - Mercedes Benz Emerging Leader,

Women's Executive Network (2020)

### **Highly cited researchers, Clarivate Analytics**

Michael Hill Gilaad Kaplan Marcello Tonelli

# Stories of impact – *Innovation in times of crisis*

#### Strengthening COVID-19 response in long-term care facilities and hospitals

While all eyes were on the pandemic's impact on patients and on the health system, researchers led by Bonnie Lashewicz, PhD, identified the disproportionate stress COVID-19 placed on care providers. The researchers worked with five facilities in Calgary, Edmonton and Okotoks to create and disseminate a mental health support toolkit tailored to long-term care workers in pandemic conditions.

Meanwhile, a team led by Zahra Goodarzi, MD, and Jayna Holroyd-Leduc, MD, set out to improve palliative care for vulnerable older adults by developing a clinical care pathway for frail older adults living in long-term care. The pathway improves the provision of end-of-life care within long-term care facilities and avoids unnecessary transfer to hospital.

By again looking at the pandemic in innovative ways, O'Brien Institute members found a power imbalance where no one was looking. A survey of frontline healthcare workers, conducted by Institute researchers, highlighted an urgent need for a gender-transformative pandemic response strategy. Survey findings revealed that, among other inequities, men were more likely to hold pandemic leadership roles compared to women, and women, who make up a large majority of healthcare workers, were more likely to report increased domestic responsibilities than men.

### **COVID-19** and big data

In the early days of the pandemic, Tyler Williamson, PhD, along with colleagues at the Centre for Health Informatics (CHI), created the data-integrated **CHI COVID-19 Tracker** using Calgary and Alberta data to inform the municipal response to COVID-19. Additionally, Williamson and his team, using a multi-organizational and multi-disciplinary approach, worked with colleagues at Alberta Health and Alberta Health Services to predict how many COVID-19 cases to expect at the provincial and municipal levels, and what the demand would be on the healthcare system.

To further bolster this critical information, Nishan Sharma, EdD, collected data from around the world on the effectiveness of various public health interventions, such as physical distancing, closing schools and daycares, and limiting travel.

Williamson is also part of the team behind SeroTracker, an online tool that tracks and visualizes global COVID-19 serology testing data — testing that examines blood samples for antibodies which indicate whether a person has been exposed to the novel coronavirus.

SeroTracker, which provides valuable information to Canada's COVID-19 Immunity Task Force, was developed by a group of students from six different universities in three different countries, including Rhodes Scholar Rahul Arora, who is mentored by Williamson.

### Drone delivery of medical supplies to remote communities



O'Brien Institute researchers use innovative approaches to respond to COVID-19 and to ensure that sustainable high-quality health care is available to all Canadians in times of crisis.

Many remote communities in Canada do not have easy access to medical testing centres and supplies, making them especially vulnerable during a pandemic. To respond to this need, researchers at the W21C (a centre within the O'Brien Institute), the Southern Alberta Institute of Technology, Alberta Health Services, and Alberta Precision Laboratories partnered with the Stoney Nakoda Nation to deliver medical equipment and coronavirus test kits to remote areas quickly through the use of remotely piloted aircraft – drones.

#### Wastewater COVID-19 surveillance

O'Brien Institute scientists are part of a team – made up of researchers from the Cumming School of Medicine, Faculty of Science, the Schulich School of Engineering, as well as Advancing Canadian Wastewater Assets (ACWA), the City of Calgary, and Alberta Health Services (AHS) – that tests Calgary wastewater for early signs of the novel coronavirus and gauges the overall prevalence of the virus in the community. This provides a simple public health early warning system. Additional wastewater monitoring projects are also underway in Calgary hospitals, and in targeted Treaty 7 First Nations in Central and Southern Alberta.

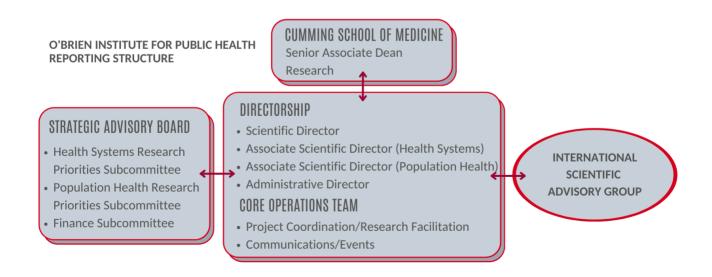


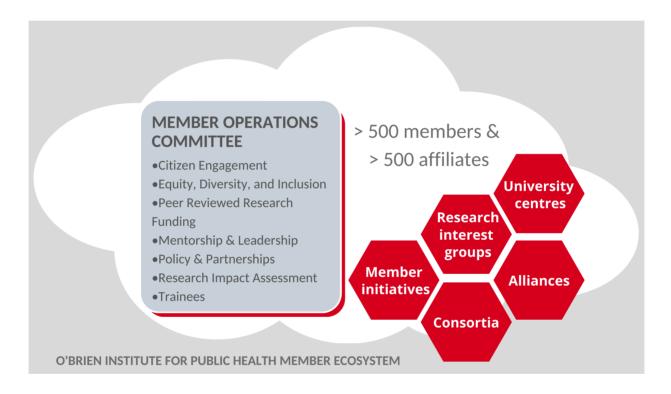
Networking in action: Internationally renowned human rights advocate, HIV activist, and author of the best-selling *Witness to AIDS*, Justice Edwin Cameron, of South Africa's highest court, meets members and affiliates during a visit to the Institute.

# **Organizational snapshot**

To support the Institute's goals of **Thought Leadership** and **Operational Excellence**, several adaptations to its organizational structure were undertaken over the last two years. The current structure is outlined below.

- The **Strategic Advisory Board** (SAB) has been renewed, with three new SAB subcommittees participating in the creation and operationalization of the new strategic plan
- The Directorship has been expanded to include two associate scientific directors, one each for the Institute's two main research themes, to align the Institute's leadership structure with the strategic plan
- A condensed Core Operations Team provides research facilitation and communications expertise
- A visit from the International Scientific Advisory Group (ISAG) is planned for 2023
- The committee of portfolio leads for membership support programs has been renamed the Member
   Operations Committee, and now includes a Citizen Engagement portfolio
- The variety of research-enabling relationships in which the Institute and its members participate have been conceptualized. These relationships, entities and collaborations are now classified as University Centres, Institute Research Interest Groups, Alliances, Consortia, and Member Initiatives





The Institute is proud to be associated with each of the entities and collaborations that make up its redefined organizational framework and their many successes, which are too numerous to report.

#### **Institute Centres**



The Brenda Strafford Centre on Aging promotes and supports interdisciplinary aging research and education undertaken by faculties across the University of Calgary, including Medicine, Kinesiology, Nursing, and Social Work. The Centre's goal is to enhance the health and wellness of older adults and to better inform public policy on issues pertaining to this population. Centre activities developed in response to the COVID-19 pandemic included hosting public events focused on opportunities and challenges within facility-based continuing care. The Centre also supported interdisciplinary, faculty-led research projects developed to address challenges arising both within continuing care facilities and experienced by community-dwelling older adults, and their care partners, during the pandemic.



The W21C Research and Innovation Centre is a hub for health systems innovation in the Institute. With strong University of Calgary and Alberta Health Services partnerships, W21C conducts research to support innovations that have the potential to improve patient safety and quality of care. Their interdisciplinary research team provides evidence, feedback, and validation services to help innovative ideas and solutions succeed to make care better for our communities. During the reporting period, W21C launched SPARK Calgary, a one-year program supporting evidence-based digital health innovations from local academic institutions to improve the health and wellness of patients and community. To date, the program has supported 11 digital health projects with 50 team members from across nine university faculties.



Currently in development, the **Centre for Health Policy** will leverage significant policy expertise and experience among Institute members. An anonymous 2021 donation to develop evidence-informed policy options that improve the sustainability of Canada's health systems is building support capacity and fostering national research partnerships. The Centre has already contributed to a collaborative project with UCalgary's School of Public Policy, producing a series of 12 policy briefs outlining important issues and recommendations. The series, "Health Horizons: Key Policy Issues in Alberta and Beyond" is being disseminated in early 2022, and has seen early success, yielding an invitation to present to the House of Commons' Standing Committee on Health. A naming donor is being sought for this centre, the aim of which is to inform and influence health systems and population health policies at municipal, provincial, and federal levels of government.

## Our research ecosystem

**University Centres** 

Brenda Strafford Centre on Aging

Centre for Health Policy

W21C

**Research Interest Groups** 

• Group for Research with Indigenous Peoples (GRIP)

Health EconomicsHealth Geography

Population Health & Prevention

Structural and Social Vulnerabilities
 University of Calgary Biostatistics Centre

Alliances (sample)

AbSPORU (Alberta Strategy for Patient Oriented Research SUPPORT Unit)

Centre for Health Informatics

Health Technology Assessment Unit

Imagine Citizens for Health

Indigenous, Local and Global Health Office

Mathison Centre

One Health

Office of Health & Medical Education Scholarship

**Consortia** 

Campus Alberta HOPH

makeCalgaryStreet CCRED

• Street C

Member Initiatives (sample)

Refugee Health YYC

All our Families

• Interdisciplinary Chronic Disease Collaboration (ICDC)

• Person to Population Research Collaborative Group (P2)

"I came from the streets, an EMS paramedic, and I always thought that we did a lot of the work...
What I learned as I matured, especially being involved with the O'Brien Institute, is that public
health policies are critically important to improving well-being and addressing health challenges.
It's the longer-term policy decisions – which way we go as a community, how we treat one another,
how we look after our people that matter in a pandemic, or in an opioid crisis."

—Former Calgary Emergency Management Agency chief, and Honorary Member,
O'Brien Institute, Tom Sampson

## The challenges and opportunities that shaped two years

### Challenges

One of the major challenges for the Institute over the past two years has been the COVID-19 pandemic. Members struggled with many of the same issues and stresses experienced by the public. Many also faced the rigours of being a front-line health provider and/or an instructor, supervisor, or mentor to trainees during a very taxing time. Because this emergency was and is directly related to our members' public health expertise, societal expectations of them rose and they experienced increasingly competing demands. Researchers and support staff rapidly found 'COVID-safe' ways to adapt their methods, conduct their work, and participate in knowledge engagement activities to ensure their time-sensitive findings and professional expertise could be optimally deployed.

### **Opportunities**

The pandemic also created some opportunities from which the Institute and its members were able to benefit. The significance of public health, learning health systems, digital health, equity and prevention has never been more widely appreciated, and the demand for evidence-informed decisions has never been higher. The members' strength in responding to requests for expertise further enhanced the Institute's relationships with external partners, including government, and community policy and practice leaders. Similarly, public exhortation to "build back better" continues to provide a unique opportunity for Institute members to innovate and recommend significant reforms to healthcare and social systems.

Relevant provincial and federal agencies also recognized the importance of public health and public health research during the pandemic by offering a variety of targeted funding programs.

Along with the pandemic and financial threats, global attention to racial and sexual injustices provided another important opportunity to the Institute. Equity, diversity, and inclusion have been priorities of the Institute since its inception, within its membership and as applied to members' research topics and methodologies. This global shift has resulted in new research chairs being announced, and new and robust funding opportunities from which Institute researchers in this field can benefit.



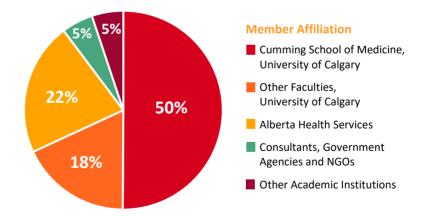
Our next 10 years of IMPACT - O'Brien Institute Town Hall, Nov. 3, 2022.

# **Our Membership**

Membership numbers have reached a plateau since 2016 and the Institute welcomed a relatively small number of new public health knowledge generators and knowledge users during the reporting period, most of whom were recently recruited to Calgary.



Illustrating the Institute's value of transdisciplinary collaboration, members represent numerous affiliations and sectors, including health-related faculties and schools at the University of Calgary; the Institute's key healthcare delivery partner, Alberta Health Services; other universities, and various community stakeholder groups.



# Stories of impact – The opioid crisis

It's been called the epidemic in the shadow of a pandemic. Since the onset of the COVID-19 pandemic in early 2020, the number of opioid-related deaths in Alberta has risen to an average of more than 100 per month. In response, clinician and social scientists at the O'Brien Institute have tackled this public health emergency from many fronts, such as through real-time research, through public awareness and by supporting frontline healthcare workers.

As COVID-19 raged, stealing the focus and resources required to stem the human cost exacted by the opioid crisis, the Institute's Street CCRED (Community Capacity in Research, Education and Development) initiative mobilized its networks – and the expertise within them – to facilitate the training of dozens of community and frontline care providers on the use of naloxone kits, an effective intervention in preventing opioid poisoning deaths. Street CCRED, and other Institute members, have also tried to address the societal impact of the crisis by becoming keen, public spokespeople for the epidemic, and for those affected by it.

Members, such as Bonnie Larson, MD, have become fixtures in provincial and national media coverage, where they have raised awareness of this epidemic's extent, and the critical need for a holistic approach to this challenge.

Knowledge exchange around the opioid crisis on the part of Institute members has gone beyond participation in media discourse. It has also involved community engagement in the form of virtual events, such as the collaboration between Street CCRED and community partners, to host a virtual screening of a locally produced documentary titled "Harm: Alberta's Preventable Overdose Crisis." A panel made up of members from across the country, and attendees from Europe, the United States and Australia, gathered virtually following the film to explore prevention, harm reduction, treatment, and recovery.

Meanwhile, Jennifer Jackson, PhD, studied the efficacy of Alberta's Injectable Opioid Agonist Treatment (iOAT) program, just as the program was about to be defunded in early 2021. Her work showed that the program was not only effective in saving lives, but in how patients have been able to move past their dependency and into a more normal life. Although renamed, the services provided by the iOAT are now funded through to 2023.

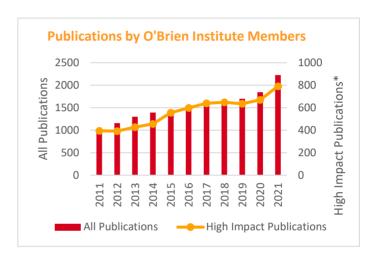
Institute researchers continue to work to gather the insights necessary to effectively face this epidemic head on, investigating everything from how to address needle waste and supply safety, to the unique challenges besieging First Nations and the use of social media to eradicate the stigma that exists around this crisis.

# Science is our currency – A research report

### Research productivity

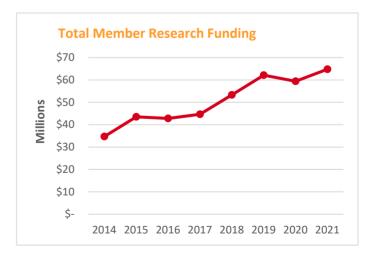
The productivity of the membership over the reporting period, as measured by peer-reviewed research publications, continued to increase. Of note, four out of every 10 publications by Institute members were published in the top 10% of the most impactful journals.

\*High impact publications are published in the top 10% of journals, according to Elsevier's SciVal



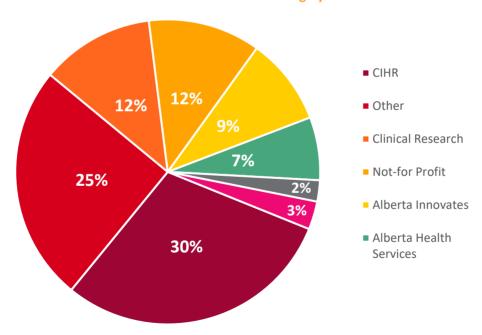
### **External research funding**

External, peer-reviewed funding secured by members illustrates the dedication, ingenuity and excellent standing of our researchers, as well as the effectiveness of the Institute's Internal Peer Review (IPR) process. IPR supports members to develop research programs, plan projects, and prepare funding applications. Research revenue secured by Institute members has increased over the past two years, to a total of \$64.8M in 2021.



Sources of this funding (see pie chart below) included the prestigious federal Tri-Council Agencies (Canadian Institutes of Health Research (CIHR), Social Sciences and Humanities Research Council (SSHRC), and Natural Science and Engineering Research Council (NSERC)); the provincial research funding agency (Alberta Innovates) and Alberta Health Services; national and provincial not-for-profit agencies (e.g., Diabetes Canada); and industry partners for clinical research. Others include a variety of smaller sources, such as the City of Calgary and other local partners. The excellence of Institute members is evident in their notable success rates in these highly competitive competitions. For example, in the fall 2021 competition, O'Brien Institute members had a 31% success rate, compared to the national average of 21%.

#### 2020-2021 Research Funding by source



### Research chairs

Research chairs represent the pinnacle of Canadian research excellence. In 2020 and 2021, the number of Canada Research Chairs in the O'Brien Institute quadrupled with six Institute members joining those ranks. The O'Brien Institute also secured two additional Canada Research Chair allocations, one in Indigenous Health Systems Safety (a successful nominee will be announced in 2022), and another in Anti-racism and Health Equity, for which an international search is underway. Once in place, these Chairs will contribute to the Institute's Equity research focus area and support its value of Plurality. Another prestigious Chair – an Izaak Walton Killam Memorial Chair - was awarded to Jeanna Parsons Leigh in 2021.

### Institute members named Canada Research Chairs in 2020, 2021



Carolyn Emery, CRC Tier I in Concussion



Deinera Exner-Cortens. CRC Tier II in Childhood **Health Promotion** 



Susan Kutz. CRC Tier I in Arctic One Health: Healthy Animals and Healthy Communities in a Changing Arctic



Susan Samuel. CRC Tier I in Precision Medicine and Data Science in Child Health



Kathleen Sitter. CRC Tier II in Multi-Sensory Storytelling in Research and **Knowledge Translation** 



Jennifer Zwicker. CRC Tier II in Disability Policy for Children and Youth

## Research project highlights



A sample of researchers mentioned in the research highlights.

To complement the overall research success described previously, some examples of individual research projects supported by the Institute in 2020 and 2021 are listed on the following pages. These projects are representative, but far from inclusive, of the broad spectrum of work conducted by the Institute's more than 500 members. It is the mission of the Institute to leverage the academic success demonstrated by these exemplary research projects toward public health advancements and societal impact.

### **Learning health systems**

- Health System Impact Fellowship National Cohort Training Program UCalgary-led national program to train future generations of applied health system researchers Deborah Marshall, Tracy Wasylak, Tom Noseworthy
- The Canadian Collaboration for Complex Care: Innovations for optimal and appropriate care for all How do we best provide care for people living with multiple and complex medical problems Doreen Rabi, Turin Chowdhury, PG Forest, Maria Santana, Hude Quan, Allison Brown, David Campbell, Zahra Goodarzi, Kerry McBrien, Pamela Roach, Paul Ronksley, Tyler Williamson
- Vaccine Hesitancy Guide Helping healthcare providers navigate vaccine hesitancy Myles Leslie



### **Equity**

- Enhancing Indigenous Health as a result of the COVID-19 Pandemic: Developing Indigenous Patient Experience Indicators of High-Quality Virtual Primary Care – Finding out what parts of primary care really matter to Indigenous patients Cheryl Barnabe, Lindsay Crowshoe, Rita Henderson, Pam Roach
- Guiding Interdisciplinary Research on Women's and Girls' Health and Wellbeing (GROW) UCalgary-led national program to train future generations of women's and girl's health scientists Amy Metcalfe, Erin Brennand, Sofia Ahmed, Fiona Clement, Ariel Ducey, Kara Nerenberg, Alan Santinele Martino, Cynthia Seow
- Creating a More Sustainable and Just Food System
   Marit Rosol



### **Digital Health**

- EMR-Based Algorithms to Identify Hospital Adverse Events Using electronic health records to improve the safety of care Yuan (Sean) Xu
- Unsupervised Learning Methods to Improve Patient-Reported Outcome Measures – Improving care through machine learning Tolulope Sajobi
- Data, Touch, Technology and Medical Care Federally funded sociological investigation of health care settings
   Ariel Ducey, Martina Kelly



#### **Prevention**

- Sport Injury Prevention Research Centre, SHRed Concussions Mobile Unit – National initiative to prevent concussions Carolyn Emery
- Impact of the COVID-19 Pandemic on Physical Activity and Sedentary Behaviour – How do we keep people physically active during outbreaks of contagious illnesses Gavin McCormack, Patricia Doyle-Baker, Jason Cabaj
- e-Platform for Early Identification and Intervention of Youth Addictions and Mental Health Issues – Partnership with Alberta Health Services to improve youth mental health David Johnson, Gina Dimitropoulos, Scott Patten

"I will never forget the early days of chalk talks with (Associate Scientific Director)
Christine Friedenreich, (past Scientific Director) Bill Ghali and (past Associate Scientific
Director) Lynn McIntyre. They were instrumental in my success. I am grateful of the
O'Brien Institute in particular and will credit the group for my grant success."

-Institute member Susan Samuel

### **Research collaborations**

The Institute recognizes that transdisciplinary collaboration is key to solving public health challenges. The following are some collaborative platforms the Institute supports.

#### makeCalgary

makeCalgary is a partnership between the University and City of Calgary, with a goal of influencing evidence-informed, positive change in urban planning, design, and programming. Researchers, including cross-campus members of the O'Brien Institute, integrate their expertise to make Calgary healthy, equitable, vibrant, active, and resilient. Based on world events, the theme developed for 2021 was makeCalgary Equitable, with focus areas of anti-racism, healthy aging, and advancing active living capacity for citizens experiencing disabilities.

#### Street CCRED

The Community Capacity in Research, Education and Development (Street CCRED) initiative is an Institute-supported platform that fosters community-based research. It promotes health equity by partnering and amplifying the work of community initiatives that respond to the needs of people who experience social and structural vulnerabilities. Street CCRED has supported several community-engaged projects related to the COVID-19 pandemic and the continuing opioid crisis.

#### CHI

The Centre for Health Informatics (CHI) is a pan-Cumming School of Medicine centre which traces its origins to the Institute's Methods Hub and the Institute's WHO Collaborating Centre for Classification, Terminology and Standards. It provides computing/visualization infrastructure for Institute members striving to shape the future of digital health. Over the past two years CHI – in partnership with the province of Alberta, City of Calgary and the University of Calgary's COVID-19 Task Force – has supported COVID-19 research initiatives to improve local and regional pandemic responses.

#### **Imagine Citizens Network (ICN)**

The ICN is an independent, province-wide citizen-led society working to enable and mobilize citizens' ability to influence and become valued partners in the health care system. Recently, ICN launched a province-wide network of partnering organizations and engaged community connectors who will work with people and communities to identify health navigation and advocacy challenges, share information, and listen to what Albertans are saying about the issues they're facing.

# Stories of impact - Supporting the most vulnerable

Improving the health of racialized groups, children, older adults, and those who live in poverty, are important areas of focus for O'Brien Institute researchers.

#### Addressing health disparities aggravated by the COVID-19 pandemic

Team members at the O'Brien Institute research platform Refugee Health YYC analysed the impact of one of North America's largest COVID-19 outbreak sites – at the Cargill meat-processing plant near High River, Alta. – after more than 1,500 mostly immigrants and racialized people were infected. Researchers then expanded their scope to the second and third largest Alberta meat packing plants, helping public health officials prevent future outbreaks.

This same member initiative delivered more than 12,000 vaccinations across 13 urban and rural clinics in and around Calgary. Vaccination efforts resulted in more than 85% of employees at four large meat-processing facilities being vaccinated and 100% of Calgary's northeast population receiving a first vaccine dose. These successes were built using innovative research approaches.

#### **Advancing anti-racism**

O'Brien Institute researchers are addressing anti-Black racism and promoting health equity in government and healthcare. Institute member Doreen Ezeife, MD, is using advocacy, and her own practice, to dismantle the barriers to cancer screening that Black Canadians currently face. Meanwhile, work by Régine Uwibereyeho King, PhD, is aiding the development of the City of Calgary's Anti-Racism Strategic Plan.

#### Stable housing for adults with complex health needs

The Institute's Social and Structural Vulnerabilities (SSV) team, led by Katrina Milaney, PhD, worked with Calgary's Drop-In Centre and the Alex Community Health Centre to develop a stabilization housing model for adults with complex health needs and living in chronic homelessness. This new model will be shared with the Ministry of Community and Social Services and Alberta Health.

#### Managed alcohol program for Indigenous adults

The SSV team also worked with the Calgary Aboriginal Standing Committee on Housing and Homelessness, and the West Coast Aboriginal Coalition to End Homelessness to implement a harm reduction housing program for Indigenous adults with troubled alcohol use and homelessness histories. Together with community partners and an Elder Advisory Circle they co-created a managed alcohol program to support Indigenous peoples with long histories of homelessness in Calgary and Victoria.

#### **COVID-19** vaccination policy

Members developed and implemented a vaccination policy for not-for-profit agencies. To date, 67 Alberta agencies have implemented the policy.

#### Research informed policy development

An SSV project, encompassing 30 community organizations, focused on how to optimize work with COVID-19 survivors with disabilities. The results are evidence-informed policies that are helping survivors get their lives back.



"Evidence and leading with science... One of the very first calls I made March the 8th was to (past O'Brien Institute scientific director) Dr. Ghali... saying, I'm going to need some help. He put together a group of incredibly skilled scientists, economists and others that I pose questions to."

—Former Calgary Mayor Naheed Nenshi, on the role and impact of the O'Brien Institute as the City responded to the COVID-19 pandemic

# Outreach and knowledge exchange

### Community engagement in a time of crisis

The Institute's engagement strategy enables collaboration, cooperation and networking among researchers and leaders at the Institutional, national and international levels, by widely disseminating members' research, and by providing platforms and opportunities for robust knowledge exchange.

Due to the unprecedented nature of the last two years, the Institute's main communication efforts during this reporting period shifted focus from large public events, and the creation and distribution of physical communication products and documents, to media relations, social media, and virtual events.

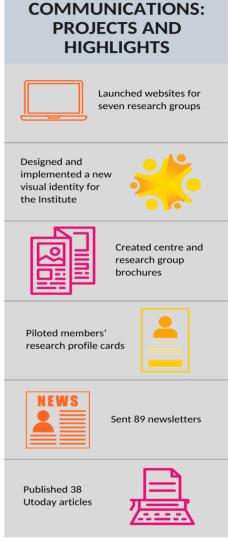
The Institute has enjoyed an enviable reputation for impactful events, and it seized opportunities presented by the COVID-19 restrictions to innovate and reach a significantly larger and broader audience than possible with in-person events. As a result, 11,959 people attended Institute events during this two-year period.

The continuing polarization of public opinion – made worse by pandemic, racial tensions and the discourse around federal elections in the U.S. and Canada, among other causes – often found the Institute in its crosshairs. The Institute has been bold in sharing its members' evidence-informed positions in many of these topics.

Communications efforts also turned inward to support the Institute community after health restrictions sent members home to continue their work in isolation. The Institute launched a COVID Community of Practice, bringing researchers together virtually to discuss opportunities, share insights, and maintain personal connections.

In early 2020, the O'Brien Institute launched a new website. Housed in the university's new online platform, it is a 300-page-plus website that is more attractive and easier to navigate.

Then, in 2021, the O'Brien Institute became the first University of Calgary entity to test and adopt a new visual identity, one that speaks to our mission, membership and focus.



# **Events: Bringing people together**

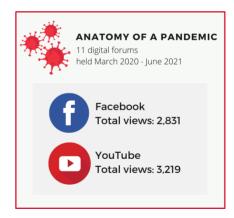
Throughout the pandemic, O'Brien Institute members addressed pressing public health issues. The Institute supported this endeavour by hosting internal events aimed at our research community and designed to enable networking, collaboration and professional development among our researchers, as well as through public events, which endeavoured to inform the public, policy makers and the media about health challenges and solutions.

Some of these events included "Calgary's Mental Health and Addiction Strategy: A Community of Connections Town Hall", where the Institute facilitated the engagement of University of Calgary researchers in the implementation, monitoring and evaluation of Calgary's Mental Health and Addiction Strategy 2021–2023, and the "Anatomy of a Pandemic" series, in which members tackled different aspects of the COVID-19 crisis, such as its effects on the mental health of children, its impact on the economy, and how it was perceived in public and policy spheres.

During the pandemic, the Institute set out to bring a public health perspective to critical issues at a local and global level through forums, seminars and conferences.

#### 2020 - Notable events

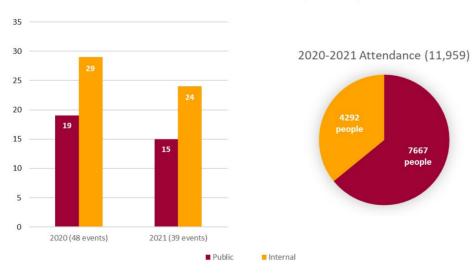
- Beyond Housing A public event and collaboration between Street CCRED, the Brenda Strafford Centre on Aging, the Faculty of Social Work, and the ThirdAction Film Festival to raise awareness of the rapidly rising numbers of older adults experiencing homelessness.
- Supporting Refugees in Canada Through COVID-19 and Beyond –
  Hosted in collaboration with Refugee Health YYC, this forum
  discussed current work in support of health and healthcare for
  recently resettled persons fleeing war, persecution and conflict.
- Anatomy of a Pandemic series In 2020, the Institute hosted a series of seven virtual public forums aimed at the public, researchers and policy makers, to highlight research by UCalgary scientists to inform COVID-19 crisis responses. (Attendance: 3,139)
- Rapid Solutions for COVID-19 in Continuing Care: Virtual reverse trade show – In collaboration with the Brenda Strafford Centre on Aging, this unique opportunity connected healthcare providers with industry leaders and entrepreneurs to foster conversations to address real-life issues.
- O'Brien Institute and Department of Community Health Sciences Seminar Series – 21 seminars and webinars aimed at Institute members and affiliates, highlighting ongoing research and emerging research topics. (Attendance: 1,272)



#### 2021 - Notable events

- Harm: Alberta's Preventable Overdose Crisis This film screening was followed by a panel discussion on
  what needs to be but hasn't yet been done to tackle the overdose epidemic in Alberta. The panel was
  made up of experts from various provinces, with attendees from across Canada, Europe, the United States
  and Australia.
- Thinking Small for Facility-Based Continuing Care in Alberta This event explored alternative approaches
  to seniors' care that promise to be more flexible, affordable, and effective than those shown by the
  pandemic to be flawed. Attendees encompassed researchers, community service providers, professional
  associations and Alberta Health Services.
- A Conversation with Former Prime Minister Brian Mulroney The former PM spoke to an audience
  composed of business leaders, policy makers, academics and the general public, about how the country can
  seize the opportunity presented by the pandemic to address inequalities and challenges inherent in Canadian
  society and build back a stronger Canada. (Online attendance: 589, in-person attendance: 54)







Institute Scientific Director Tom Stelfox leads a virtual discussion with former Prime Minister Brian Mulroney in downtown Calgary.

"I want to do whatever I can to increase the reach and effectiveness of the O'Brien Institute, and help it achieve its mission during this public health emergency. We need more organizations like the Institute and we should be supporting them more, because they are having the tough conversations and it is through their work and research that we will get through these hard times."

—Former Prime Minister Brian Mulroney



Jia Hu, Eliana Castillo, Lorian Hardcastle, and Kirsten Fiest are among a large subsection of members who actively and consistently interact with the media, disseminating their knowledge, opinions and expertise to the public at large.

# Media: Expanding reach and fostering influence

O'Brien Institute experts were featured in more than 2,770 newspaper stories, magazine articles, television spots and radio interviews during the past two years, an average of almost four times every day.

Media requests have come to the Institute from local and national newspapers, radio and television outlets, as well as international media organizations, such as the New York Times, NPR and Sky News.

Members produced noteworthy op-eds during this time, expressing their thoughts, insights, and expertise on public health topics in a personal and often passionate manner to large segments of the public.





HEALTHCARE, SOCIAL ISSUES

# The Orange Tent

Breaking the law to save lives in Lethbridge

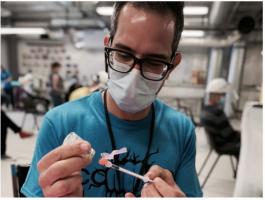
BY DR. BONNIE LARSON MARCH 1, 202

#### CALGARY HERALD

Columnist

# Opinion: How my childhood lessons from southern Alberta can help us defeat COVID-19

Calgary Herald
May 15, 2021 • May 15, 2021 • 4 minute read • □ Join the conversation



Dr. Gabriel Fabreau says he learned how to cope with the stresses of the pandemic while growing up in southern Alberta. PHOTO BY SUBMITTED /Postmedia file

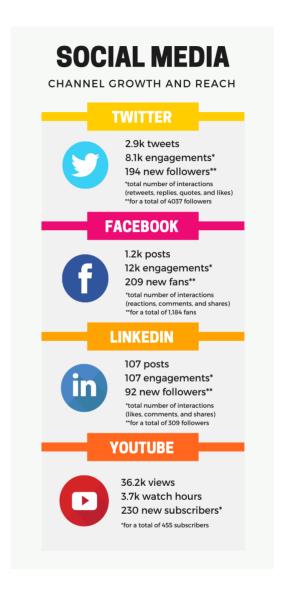
Tom Stelfox, MD, argued for the critical importance of research in the fight against the coronavirus; Bonnie Larson, MD, wrote a passionate plea on behalf of those who make up the Wetaskiwin Encampment; and, Gabriel Fabreau, MD, wrote about the important role that a societal sense of responsibility toward one's neighbours will play in overcoming the pandemic.

This media exposure brings members' research well beyond traditional academia, to the Institute's local community, prospective national and international collaborators, and policy makers at all levels of government.

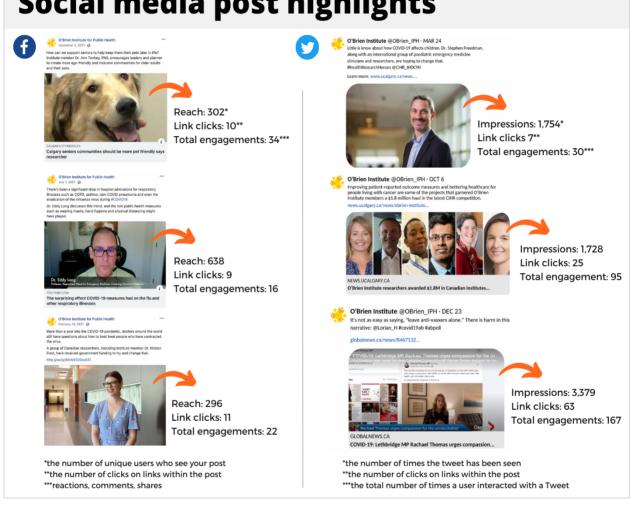
# **Social media:** COVID-19 – the virus that went viral

When the COVID-19 pandemic limited opportunities to interact in-person, people turned to online platforms, such as Facebook and Twitter, to connect with colleagues, friends, and family. For many, social media became the go-to way to get information about the rapidly evolving pandemic.

Recognizing this opportunity, and that the spread of misinformation was being amplified on social media and other digital platforms, the O'Brien Institute sought to act as a trustworthy and reliable source of high-quality information, sharing developments from trusted sources and disseminating pandemic-related research being done by Institute members.







## Institute financials

#### **Operational funding**

As a virtual collaborative of voluntary members, the Institute does not charge membership fees, and relies almost solely on philanthropic contributions for its operational funding. The generous naming donation from David and Gail O'Brien in 2014 was divided into an endowment (\$4 million), that yields annual interest, and an interest-bearing spend-down portion (approximately \$8 million). The non-endowed portion of the donation will be spent down within a few years, as intended, and a major financial goal for these remaining years is to augment endowments to a point where their annual interest could support Institute operation. In the fiscal year 2020/21, the O'Briens provided an incremental contribution to both the endowed (approximately \$1 million) and non-endowed (\$3 million) portions of their original gift.

STATEMENT OF OPERATIONS	April 2020 – March 2021	April 2021 – March 2022
Revenue		
O'Brien donations and interest	\$3,187,257	\$-
Cumming School of Medicine allocation	\$50,905	\$51,000
Giving Day donations	\$18,750	\$24,125
TOTAL REVENUE	\$3,256,912	\$75,125
Expenses		
Research allocations		
Catalyst awards	\$108,780	\$5,000
Start-up awards	\$107,500	\$52,500
Fellowships	\$60,918	\$26,825
Knowledge engagement events and sponsorships	\$38,978	\$2,573
Support team salaries and stipends, general operating expenses	\$787,349	\$697,747
TOTAL EXPENSES	\$1,103,525	\$784,645

Note: The interest allocation of \$214,249 for FY 2021/22 is unspent and recapitalized into the endowed funds.

A summary of the Institute's revenue for the previous two fiscal years, as well as major categories of expenditures.

# The O'Brien legacy

The Institute's primary financial resources have come as gifts from David and Gail O'Brien, who remain staunch supporters of the Institute's vision. Moreover, the O'Briens give generously of their time, with Gail chairing the Institute's Strategic Advisory Board. The Institute is channelling its strengths of creativity and innovation among its leaders and members, to identify revenue-generating opportunities, as well as operational efficiencies, to ensure the financial stability of the Institute and maximize return on investment.



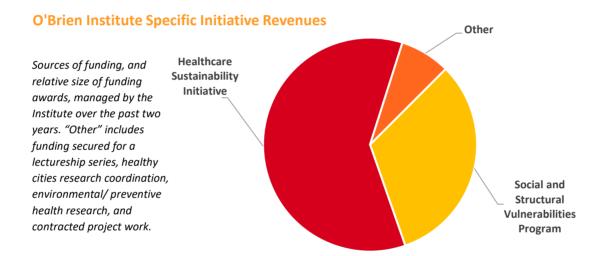
David and Gail O'Brien on a recent visit to the O'Brien Institute.

"I can't say enough about how proud we are of the outstanding work and impact that the Institute has had... we truly believe in, and are inspired by, the work that has been achieved."

-Naming donors Gail and David O'Brien

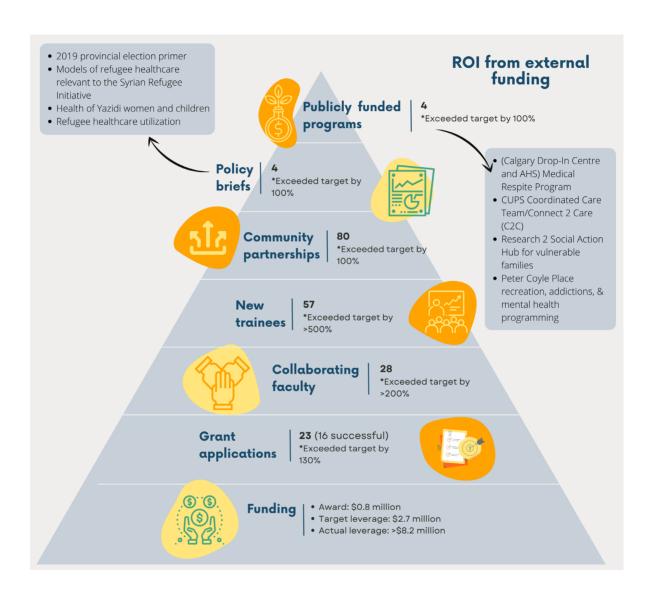
# **Initiative funding**

In addition to the abovementioned operational funding, the Institute has had significant success leveraging specific Initiative Funding from a variety of sources.



# **External funding return on investment (ROI)**

Evaluations of catalytic investments in the O'Brien Institute routinely demonstrate approximately ten-fold returns. For example, an anonymous donor provided \$800,000 over three years, to create a research and training program to support the health of vulnerable populations. Ambitious output and impact targets were set. The results (summarized on the next page) greatly exceeded the donor's expectations.



# **Acknowledgements**

Alice Reimer

#### The O'Brien Institute Strategic Advisory Board

Gail O'Brien (Chair)

Naming donor of the O'Brien Institute for Public Health

David O'Brien

Naming donor of the O'Brien Institute for Public Health

Aleem Bharwani Lead for Public Policy and Strategic Partnerships, O'Brien Institute

**Katie Black** General Manager, Community Services, City of Calgary

Joanne Cox Retired energy executive and lawyer

Lauchlan Currie Co-Chair and Director of ARC Financial Corp

**Sharon DeBoer-Fyie** Director of Development, Cumming School of Medicine

William DeJong Counsel and Partner, Dentons Canada LLP

**Bonnie DuPont** Former Senior Executive, Enbridge

Julie George Board member, Women Moving Millions

**Gary Jacques** Former Partner at Peloton, private foundation manager

Jon Meddings Dean, Cumming School of Medicine

Mary Moran Corporate Director and retired executive

**Kate Murie** Director, Health Evidence and Policy, Government of Alberta

**Penny Pexman** Associate Vice-President (Health Research), University of Calgary

**Ray Robitaille** Sergeant at Arms, Legislative Assembly, British Columbia

Sameera Sereda Managing Partner and Chair In-House Counsel Division of The Counsel Network

Site Lead of Creative Destruction Lab Rockies

**Chris Seasons** Senior Advisor & Director of ARC Financial Corp.

John Sproule Senior Policy Director for the Institute of Health Economics (IHE)

Mary Tidlund International Community Builder, Speaker and Author

Shirley Turnbull The Calgary Immigrant Women's Association

#### O'Brien Institute executive committee - 2020 & 2021

We would like to acknowledge the many contributions of our current and former portfolio leads who have araciously donated their time and expertise to the O'Brien Institute for Public Health over the past two years.

Fariba Aghajafari Awards & Recognition

Aliya Kassam Equity, Diversity & Inclusion

Deborah Marshall Internal Peer Review

Aliya Kassam, Léora Rabatach, Lorelli Nowell Mentorship/Leadership

Aleem Bharwani, Nishan Sharma, Lorian Hardcastle Policy & Partnerships

Diane Lorenzetti Research Impact Assessment

Kerry McBrien, Fabiola Aparicio-Ting Seminars & Events

Nick Falvo Strategic Communications

Elizabeth Oddone-Paolucci, Fabiola Aparicio-Ting Trainees

Jason Cabaj AHS representative

Fiona Clement CHS representative

# Strategic plan working group

Claire Barber Lara Nixon

Karen Benzies Sachin Pendharkar

Jamie Day Marie-Claude Proulx

Pablo Fernández Tom Stelfox

Kirsten Fiest David Strong

Christine Friedenreich Tanvir Turin Chowdhury

Katrina Milaney

## Leads, university centres

David Hogan, Ann Toohey Brenda Strafford Centre on Aging

John Conly, Jill De Grood, Jaime Kauffman W21C

Melanie Columbus Centre for Health Policy

# Leads, research interest groups – 2020 & 2021

Jennifer Hatfield, Jennifer Brenner Global Health

Rita Henderson, Pamela Roach Group for Research with Indigenous Peoples (GRIP)

Deborah Marshall, Braden Manns Health Economics

Fiona Clement Health Technology Assessment Unit

Paul Arnold Mental Health (via Matheson Centre)

Maria Santana Methods Hub

**Rachel Ellaway** Office of Health and Medical Education Scholarship

Nishan Sharma O'Brien International

Jason Cabaj Population Health & Prevention

Bonnie Larson, Katrina Milaney Social and Structural Vulnerabilities (with Street CCRED)

Herman Barkema, Karen Kopciuk

University of Calgary Biostatistics Centre (UCBC)

# O'Brien Institute operations and communications - 2020 & 2021

Ignacio Chua Leslie Campbell Karen Green Marie-Claude Proulx

Katrina Matwichuk Pablo Fernández Brittany DeAngelis Angela Taylor

Liz Lai Jade Markus Sara Mahjor



"I think one's feelings waste themselves in words; they ought all to be distilled into actions which bring results."

—Florence Nightingale



