



UNIVERSITY OF CALGARY
O'Brien Institute for Public Health

UNIVERSITY OF CALGARY | O'Brien Institute for Public Health

RESEARCH IMPACT ASSESSMENT

JUNE 2019

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INTRODUCTION

In 2020, the O’Brien Institute for Public Health will celebrate its ten-year anniversary, having launched in 2010 as the Calgary Institute for Population and Public Health. The Institute’s progress over that time has been [documented every other year](#), and this 2019 Research Impact Assessment (RIA) builds upon the [2017 RIA](#).

Significant achievements of the Institute and its members are presented throughout the RIA – in infographic sidebars, figures, stories of success, and detailed appendices – and organized according to the RIA framework introduced in 2017, seen below in Figure 1.

Note that hyperlinks are used throughout, and can be accessed from an electronic version of the RIA posted at: <https://obrieniph.ucalgary.ca/International-Scientific-Advisory-Group-2019>

Vision:
Better health and health care

Mission:
To produce evidence that informs health policy and practice

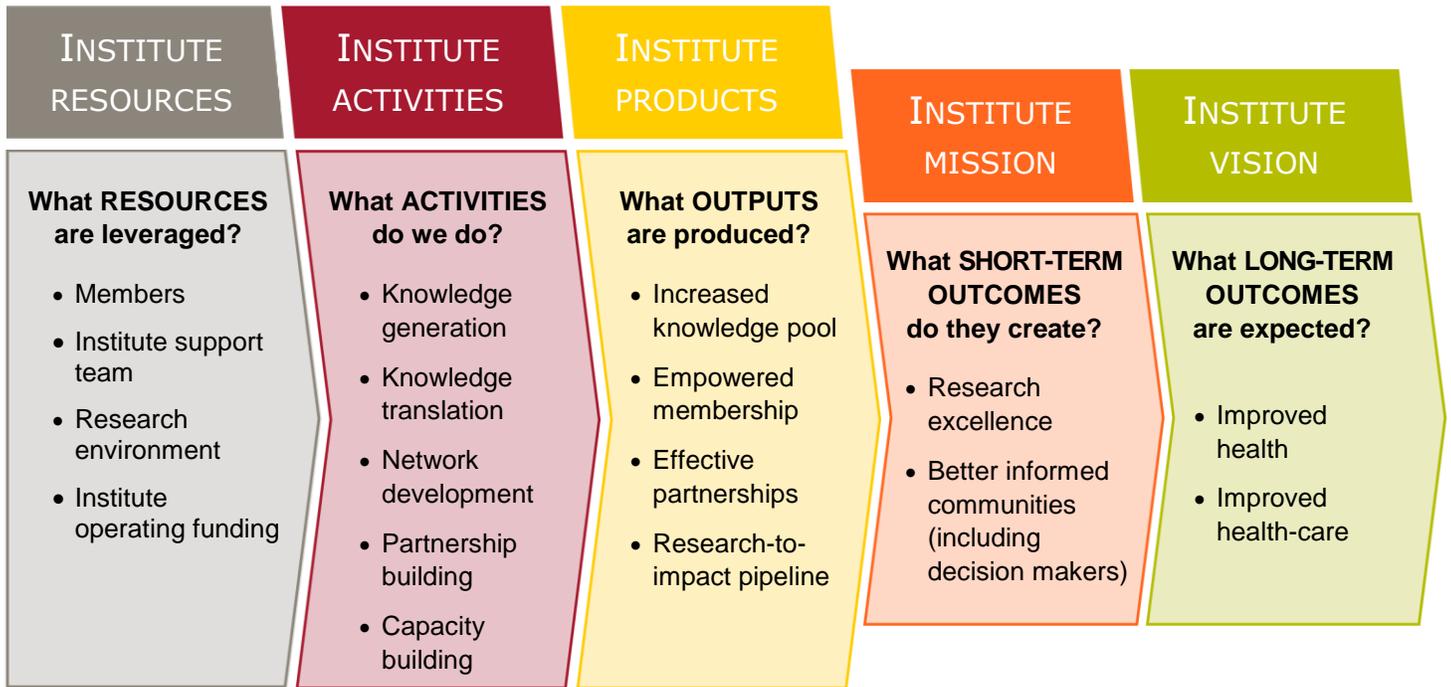


Figure 1 Research Impact Framework for the O'Brien Institute for Public Health

A significant accomplishment of the Institute since 2017 is the framing of its themes, priorities, and approaches, in an effort to make its broad mandate more comprehensible, and these priorities and approaches are also exemplified throughout the RIA. A key element of this exercise was making a distinction between the Institute’s three *themes* (which are fairly typical for public health entities) and its *priorities* within themes (which required introspection to identify true areas of distinction). As indicated, the Institute defines public health to include both health systems and population health research, and acknowledges the critical importance of dedicated methodological tools and well-theorized, systematic approaches to achieve the desired societal benefits of public health research.

Themes	Enhanced Health System Performance	Improved Population Health	Innovative Tools and Methods for Public Health
Research priorities	<ul style="list-style-type: none"> • e-health • System optimization 	<ul style="list-style-type: none"> • Vulnerable populations • Healthy cities 	<ul style="list-style-type: none"> • Data science • Mixed methods
Examples	<ul style="list-style-type: none"> • EMR • Transitions in care • Community based healthcare 	<ul style="list-style-type: none"> • Housing and health • Aging well • Opioid harm reduction • Cannabis legalization • makeCalgary 	<ul style="list-style-type: none"> • Applying big data • Artificial intelligence • ICD-11 development • Defining patient experience
Strategic approaches	Enabling and promoting impactful public health research		
	Establishing the Institute as an impartial knowledge broker and thought leader		
	Supporting the University’s public health training mandate		
	Pursuing policy impact		
	International partnerships & collaborations		

Figure 2 Scientific priorities and strategic approaches

RESOURCES

Membership

The Institute is a ‘virtual’ entity, wherein a small core team of Institute employees serve a large number of voluntary members, who retain their original employment affiliation (mostly University of Calgary and Alberta Health Services). Voluntary leadership roles include the Scientific and Associate Scientific Directors, Portfolio Leads from the Executive Committee, and Leads of the Institute’s various subgroupings. Affiliates (mostly trainees) benefit from the Institute’s activities, without full membership responsibilities

The Institute’s members and affiliates represent numerous disciplines and sectors relevant to health, and this “Workforce” (see grey gear in Figure 3) is the most valuable resource fueling Calgary’s public health research enterprise (more details available in [Appendix 1](#)).

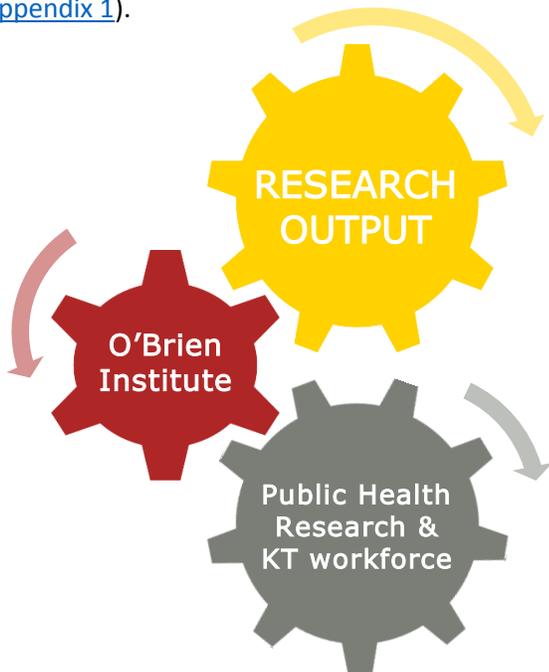


Figure 3 O'Brien Institute leverages members' research outputs

Institute Support Team

The Institute’s cadre of employees has increased to support the Institute’s rapid evolution, is organized to maximize efficiencies, and is guided by supportive [values](#).

MEMBERS & AFFILIATES

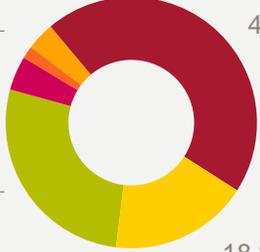


505

members

↑ 10 % increase from March 2017

Over 50 % of members have primary affiliations outside CSM



37% of members represent 37 different organizations, including AHS

45 % CSM

18 % Other UofC faculties



30% of members hold dual Institute membership

550

affiliates



including trainees & staff

INSTITUTE TEAM


→


increased from 9.0 FTE in March 2017 to

11.8 FTE

The Institute also benefits from two groups of strategic advisors: i) a Strategic Advisory Board of community leaders and leaders of health sector stakeholder groups; and ii) an International Scientific Advisory Group of experts in relevant research areas, with significant experience in comparable scientific initiatives. The above-mentioned people (the human resources element of the red gear, above) are organized as depicted in Figure 4, and individuals currently serving in these positions are listed in the embedded links.)

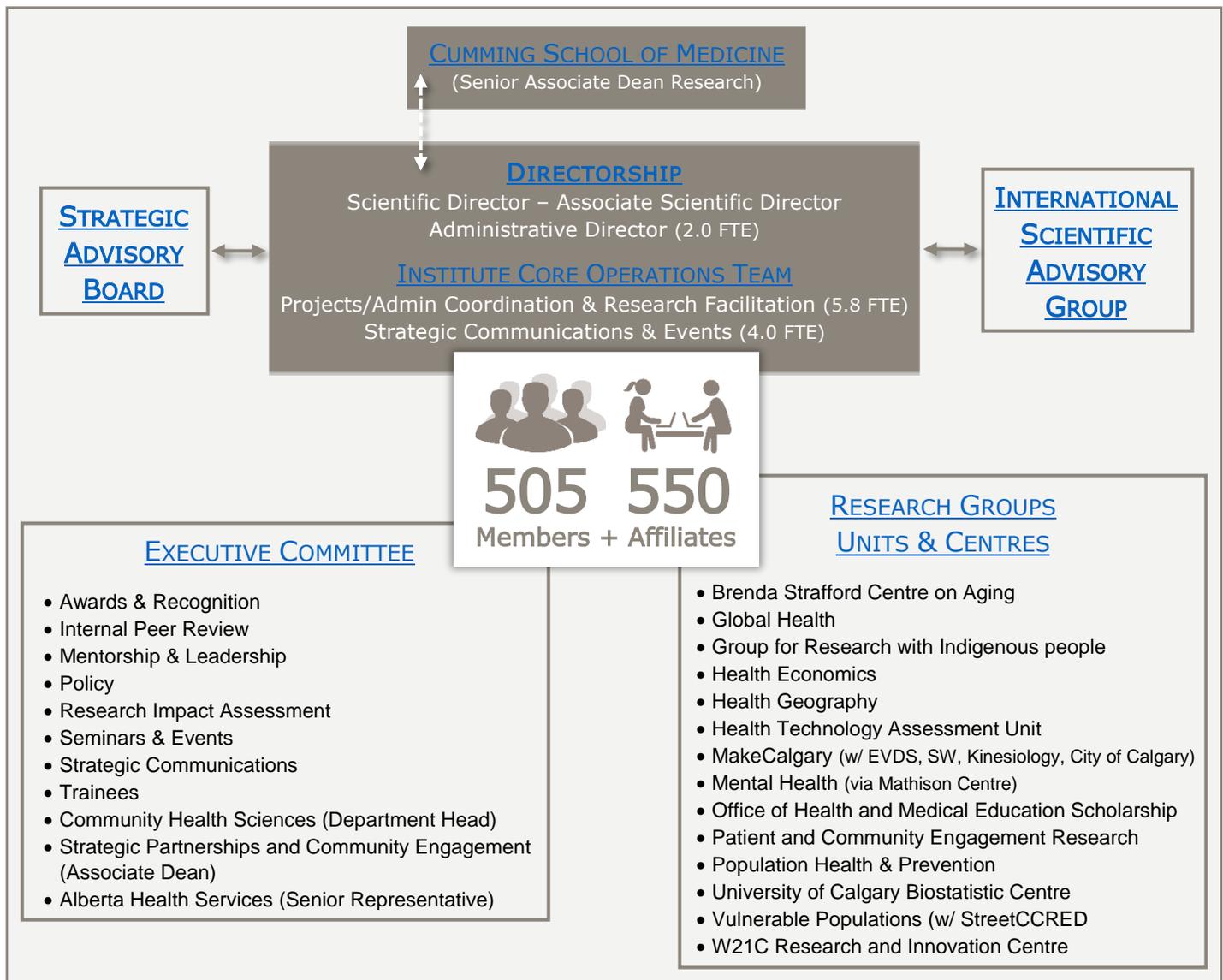


Figure 4 O'Brien Institute Governance Structure

Research Environment

The Institute benefits from a rich environment of research support. As detailed in the [2017 RIA](#), elements of this environment include:

- the **University of Calgary** (UofC) and its effective [Eyes High](#) strategic plan;
- the UofC's [Cumming School of Medicine](#) (CSM), which hosts the institute and through which the Institute and its CSM members can access valuable shared resources (including internal funding opportunities, research facilitation, analytics, *etc*);
- UofC's [Department of Community Health Sciences](#), which provides the physical footprint of the core team, recruits/employs a significant portion of the Institute membership, and manages UofC's public health training programs;
- the provincial ministry of health, **Alberta Health**, which has acknowledged the need to complement its limited in-house research capacity with University research, in order to optimally inform health policy decisions;
- **Alberta Health Services** (AHS), which is Canada's first and largest province-wide, fully integrated health delivery system, and thus an important partner in the Institute's health innovations;
- AHS' [Strategic Clinical Networks](#) (SCNs), an organizational structure facilitating the interface between university and health system research;
- the **Canadian Institutes of Health Research** (CIHR), the national health funding agency and research authority, which comprises the Institute of Population and Public Health, the Institute of Health Services and Policy Research, and 11 others;
- CIHR's [Strategy for Patient-Oriented Research](#) and its regional network of "[SUPPORT](#)" platforms, the Alberta Unit of which provides valuable resources to the Institute's health services researchers;
- Canada's **Social Sciences and Humanities Research Council** (SSHRC), which offers funding opportunities and thought leadership relevant for the Institute's social sciences researchers;
- Canada's **Natural Sciences and Engineering Research Council** (NSERC), which offers funding opportunities and thought leadership relevant for the Institute's data sciences and systems operations researchers, for example; and
- [Alberta Innovates](#), which evolved from the Alberta Heritage Foundation for Medical Research to a provincially-funded corporation focusing on research and technology development.

Complementing the mandate of Alberta Innovates – to "...deliver 21st-century solutions...in the core sectors of health, environment, energy, food and fibre, and platforms such as artificial intelligence, nanotechnology and omics' " – the UofC has been advancing its capacity to support entrepreneurship, and the transfer of research outputs toward commercialization and economic diversification. [Innovate Calgary](#) is the innovation transfer and business incubator centre for the UofC. Through an \$8.5 million award from the Opportunity Calgary Investment Fund, it is creating specialized programming for the [Life Science Innovation Hub \(LSIH\)](#), a newly developed physical space in the University Research Park. More centrally on campus, UofC's [Hunter Hub for Entrepreneurial Thinking](#) is "a new initiative to engage students, faculty, staff and the community with entrepreneurial thinking and entrepreneurship"; it offers programming, events, a physical "collision" space, along with funding and networking opportunities. The Institute will take advantage of these new resources, including supports for social innovations, and its W21C Research and Innovation Centre is anticipated to have close connections with the LSIH.

Institute Operating Funding

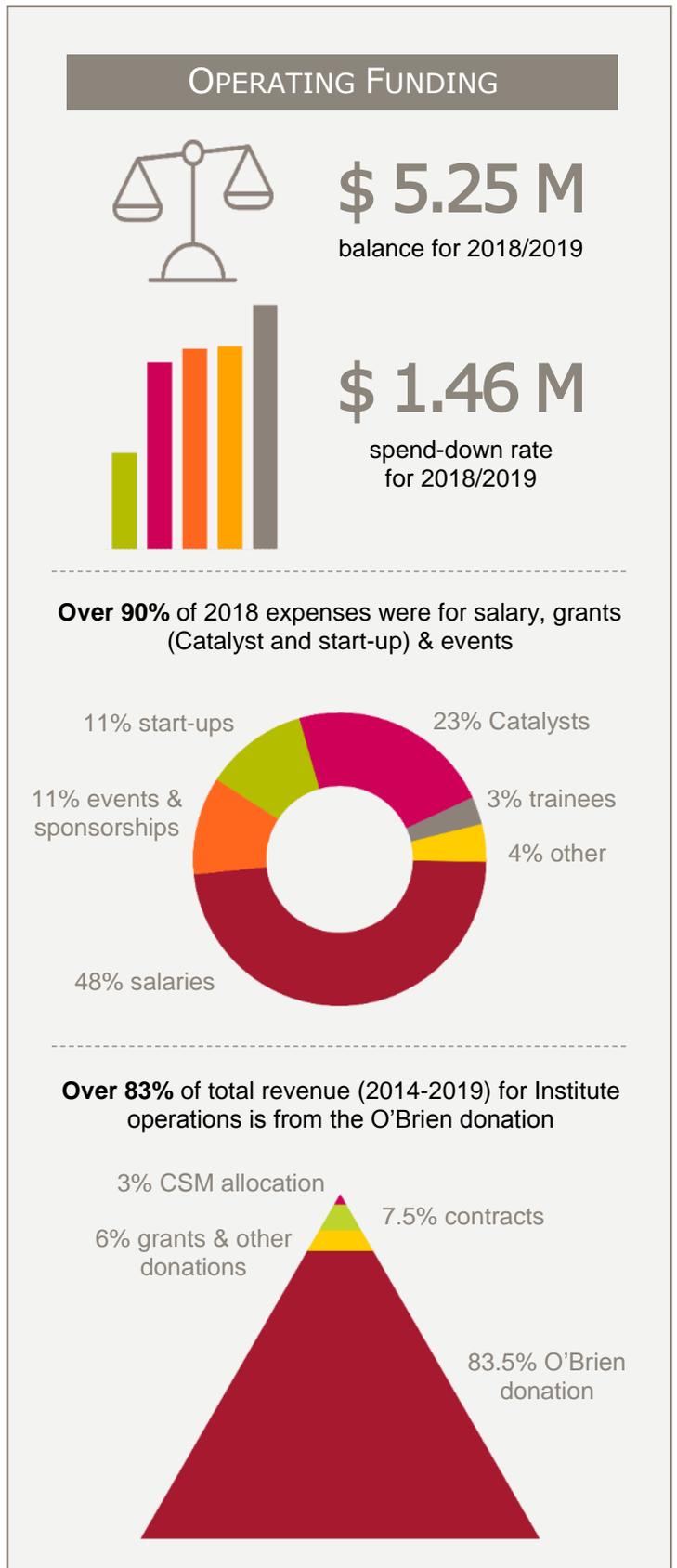
The Institute’s annual operating budget reached almost \$1.5 million in 2018/19. This rate aligns well with the planned 10-15 year spend-down of the O’Brien donation, leaving three to four years to secure additional, sustainable funding.

Salaries for the growing number of paid employees in the core team account for the majority of the annual expenses, with various types of seed funding awards (to leverage members’ success in securing external funding) being the next most significant category.

The O’Brien donation remains the Institute’s main source of revenue. Institute (vs member)-led contracts, grants, and sponsorships fuel projects and events in priority areas, but are not conducive to supporting the Institute’s overall budget, beyond the relatively specific, incremental deliverables of each such funding agreement. “Social innovation investment” may be a funding option more aligned with the Institute’s operations; a small portion of a recent such donation – made toward more programmatic deliverables – is being justifiably allocated to Institute operating costs.

Although partnership contracts and social innovation investments are very meaningful in demonstrating academic excellence and relevance, it is inevitable that the Institute will have to secure additional philanthropy to maintain its core operations. This has been the successful model of UofC’s six other health research institutes, and the O’Brien Institute has been progressing in this area.

A “Thought Leaders Series” has been launched recently, to engage community stakeholders and potential philanthropists with relevant issues and Institute experts. The first two such breakfast meetings (*Health System Transformation*, September, 2018; and *Big Data: Health in the New Digital Era*, February 2019) were well received, and others will be hosted biannually.



In addition, a gala luncheon is being planned for October, 2019, with the goal of raising both the Institute's local profile and its operating revenue, through the conversion of potential donors into sponsors of the gala event, and possibly into eventual direct donors to the Institute. Again, following the model of the University's six other health institutes, such gala events may be repeated in future years.

Another potential revenue source is profits from an international health consulting initiative, which is being pursued in partnership with the University's International Office. This initiative will make use of members' existing expertise; offer them travel, training, and research opportunities; align with Institute values; and help build the Institute's international profile. All of these benefits are considered ancillary, however, to the main goal of developing sustainable funding for the Institute.

As a critical element of the resources supporting the Institute's research impact (Figure 1), it is important to recognize that the institute's \$1.5 million operating budget directly funds only the intermediary red gear in the diagram to the right. It leverages a 65-fold larger investment in the public health research workforce, to help secure 30-fold higher external funding, and thus is arguably a very impactful investment.

Taken together, the Resources identified in the Institute's Research Impact Framework (Members, Support Team, Research Environment, and Institute Operating Funding) are extremely effective in leveraging the Framework's downstream elements.

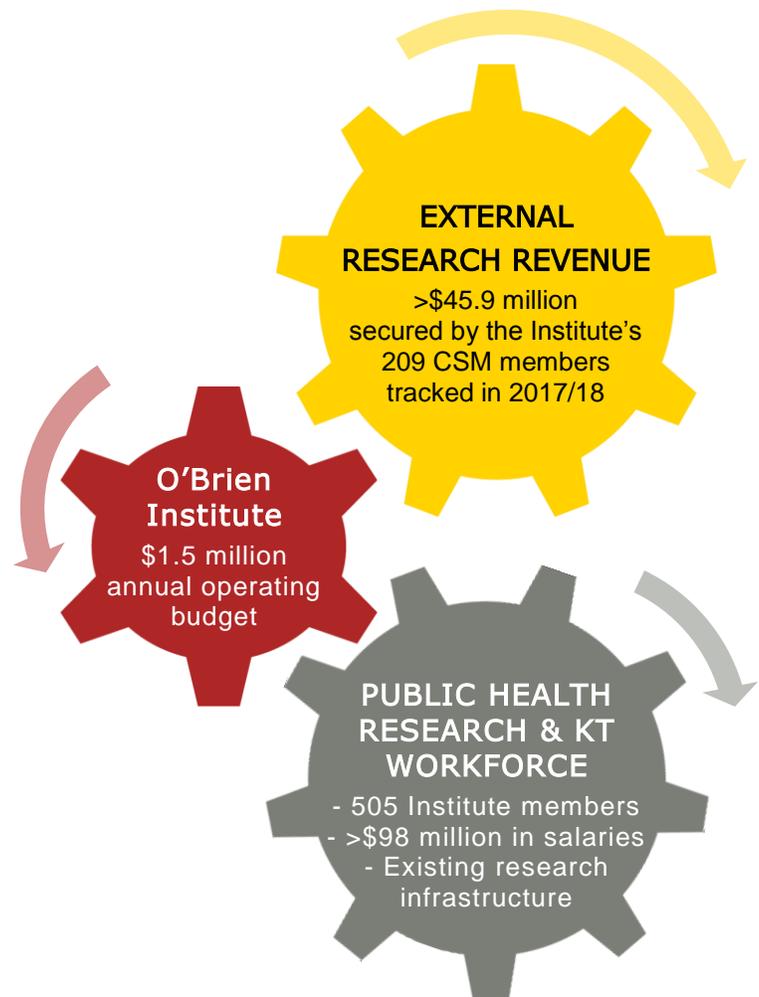


Figure 5 O'Brien Institute leverages members' research outputs

ACTIVITIES

Knowledge Generation

Creating new knowledge is the research mandate of the Institute's members, and many Institute activities are targeted to supporting this endeavour. An active research program in the University setting requires successful competition for external research funding, so the Institute's most developed activities/support programs include:

- **Internal Peer Review**, in which member expertise is organized to yield value-added feedback on colleagues' draft applications, to improve the chance of success for the external funding submission;
- **Strategic Granting Advice** from the Institute's experienced Review Leads, offered as group seminars or one-on-one sessions to help members align/interpret/respond to granting agency mandates, guidelines, review processes, and external reviews;
- **Allocation of external funding brokered by the Institute**, in which the Institute negotiates a funding agreement in one of its priority areas with a governmental, NGO, or philanthropic stakeholder, leveraging the expertise of particular members who are then sub-granted the requisite funding from the Institute-managed project; and

2018 INTERNAL PEER REVIEW

72
applications



14
opportunities



143
reviews



119
reviewers



STRATEGIC GRANT ADVICE

Since 2014, the Institute presented **14 seminars** on grant strategy



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The O'Brien Institute for Public Health &
the Department of Community Health Sciences present:

Try, try, try, try, try....try again: Stories of perseverance in submitting funding applications

Grant Strategy Panellists: William Ghali, Christine Friedenreich, Gilaad G. Kaplan, Deborah Marshall, Rebecca Saah, & Mary Brindle

Friday, June 7, 2019 - 12:00 to 1:30 p.m.
Theatre Four, Health Sciences Centre, 3330 Hospital Dr NW

O'BRIEN-BROKERED EXTERNAL FUNDING

Since 2017 the Institute brokered **6 government contracts** and **5 social impact investment donations**

>\$3,542,000
in contracts

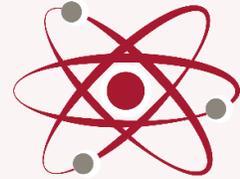
>\$1,200,000
in donations



- **Institute Catalyst and Bridge Funding**, awarded to members planning to leverage a relatively small pilot project into a successful application for peer-reviewed external funding; in the case of Bridge Funding, the member's project has already been reviewed favourably by agency reviewers, has fallen just short of securing the external funding, and has the potential to be successful upon revision/resubmission.

The set of programs described here as the O'Brien Institute's Knowledge Generation Activities has proven effective in supporting members' significant outputs, including academic publishing, and these are presented below in the Outputs Section, and [Appendix 4](#)).

O'BRIEN FUNDING: CATALYST GRANTS



\$390,000

O'Brien funds invested since 2014

30 projects supported, including:

- *Theatre as youth-led suicide prevention approach for young indigenous men*
- *Discharging Complex ED Patients for Management in the Community*
- *Governance in Canada for children's oral health*
- *A home-based physical activity intervention and RCT for breast cancer survivors*
- *WellDoc Alberta: a provincial physical wellness forum*

O'BRIEN FUNDING: BRIDGE GRANTS

Since 2017: CSM gave bridge awards to **11 members (total \$325,000)**



O'Brien offered bridge funding to **10 additional member:**



4
members
qualified



\$40
K

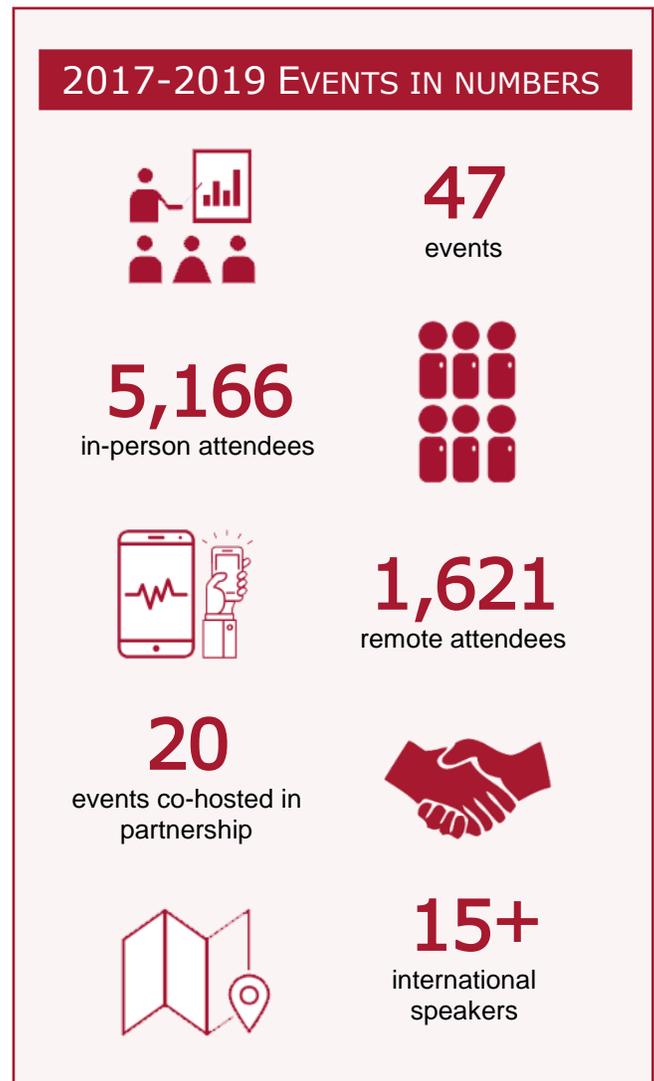
Knowledge Translation

The Institute is dedicated to ensuring that the knowledge generated by O'Brien members serves its desired foundational role in the Research Impact Framework ([Figure 1](#)), through effective knowledge translation. A large proportion of the resources outlined above – notably the human resources – is therefore dedicated to **external communications with research stakeholders**: conducting events, employing community and public outreach tools, and deploying social media campaigns to disseminate members' research, knowledge, and expertise.

Since the [2017 RIA](#), the Institute has hosted several large-scale events, often in partnership with influential organizations, to inform the public and policy-makers, and bring a strong public health perspective to critical issues at a local and global level. For example, the Institute and UofC's School of Public Policy convened a [panel of experts](#) to reframe a divisive conversation about the City of Calgary's potential bid to host the 2026 Olympic Winter Games. With media coverage by CBC, CTV, Global News and City TV, the event helped the public explore the social costs and benefits associated with hosting an Olympics, in advance of Calgary's November 2018 plebiscite on its potential bid for the games.

The 2019 provincial election provided another important knowledge translation opportunity, to shape public dialogue about health policy in Alberta. The Institute partnered with the Alberta Public Health Association to host an [all-party candidates forum](#), providing best evidence on public health issues including immunization, safe consumption sites, and food insecurity, and questioning candidates on their relevant views and party platforms. The event drew nearly 200 attendees, almost 1,000 Facebook livestream views and media coverage from multiple outlets including CBC Calgary, Global Television, and CTV Calgary.

News that the Federal government was going to update Canada's food guide for the first time in 12 years caused much debate and conversation. Taking advantage of this opportunity, the Institute partnered with the Libin Cardiovascular Institute of Alberta to host a [two-day conference](#) for the public, health professionals, and policy-makers, challenging them to think about nutrition and associated health crises differently, focusing not on the individual but on socio-economic systems. Olympic icon and former senator Nancy Greene Raine, Kim Kessler (Assistant Commissioner for the Bureau of Chronic Disease Prevention and Tobacco Control at the New York City Department of Health and Mental Hygiene), and Hasan Hutchinson (Director General of the Office of Nutrition Policy and Promotion at Health Canada) were among the world-renowned experts that presented to hundreds of event attendees.

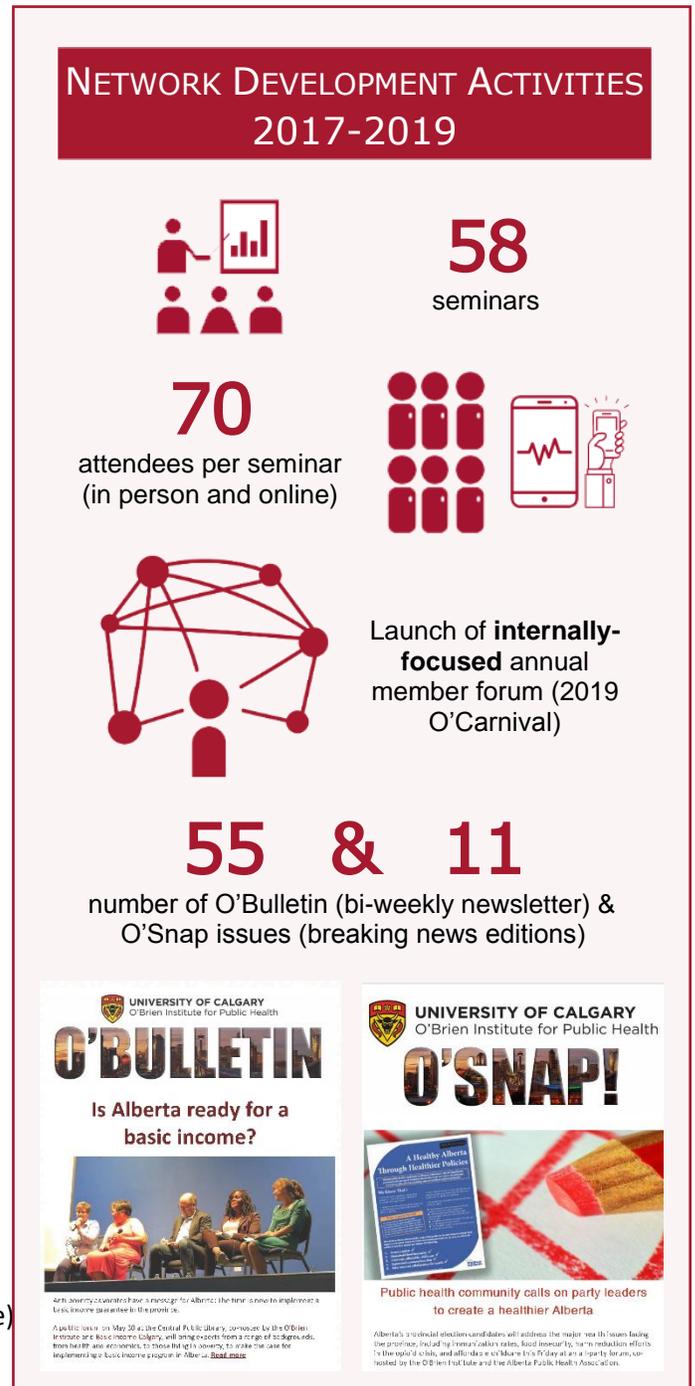


In November 2018, the Institute partnered with the Gairdner Foundation, a non-profit organization that celebrates outstanding achievements in biomedical research around the world, to host the Gairdner International Symposium “[Big Data for Health: Expectation, Opportunity, Impact](#)”. More than 350 attendees heard presentations from Dr. Alan Lopez (Melbourne Laureate professor, Rowden-White Chair of Global Health and Burden of Disease Measurement at the University of Melbourne, and co-creator of the Global Burden of Disease Study), Dr Gina Neff (Oxford University expert on technological disruption and digital transformation), and Dr Eyal Oren (Product Manager at Google AI, a division within the multinational organization focused entirely on artificial intelligence).

Augmenting the outreach power of events such as those described above, the Institute has been extremely effective in deploying both traditional and social media channels to disseminate members’ research, knowledge, and expertise. Examples and indicators of these communication initiatives are presented in the following two pages.

Network Development

Network development is arguably the main reason for the Institute structure, and familiarity – or even just awareness – of the full scope of the Institute’s research environment is a significant challenge for the O’Brien Institute’s large and disparate membership. It is this breadth of disciplinary expertise, chosen health topics, methodological approaches, sectors (academic, public, private, government), and roles in the [research-to-impact pipeline](#) that enables the combined membership to generate new and meaningful knowledge that results in improved health and health care. Because some of the most effective collaborations arise from relatively serendipitous exposure to new colleagues or concepts, the Institute’s Communications and Events team has the dual challenge of optimizing not only external communications (as summarized above) but **internal communications**, or networking, as well. Optimizing the internal communications plan has been an emerging priority for the team, and several useful tools were added to the plan in 2018, to augment the existing weekly seminar series and alternating-week O’Bulletin: the “O’Snap” platform compiles ‘breaking news’ (funding opportunities, and significant events, for example) that are announced in the interim between O’Bulletin issues; and an annual members forum was relaunched, which focuses entirely on intra-Institute updates, awards, and networking.



KNOWLEDGE TRANSLATION & NETWORK DEVELOPMENT

Through the bold use of multiple, concurrent and coordinated communications initiatives, the O'Brien Institute strives to support members, grow awareness of their expertise, and disseminate knowledge to practitioners, policy makers and citizens.

NEWS MEDIA MAY 2017 to MAY 2019



2056

media mentions of members

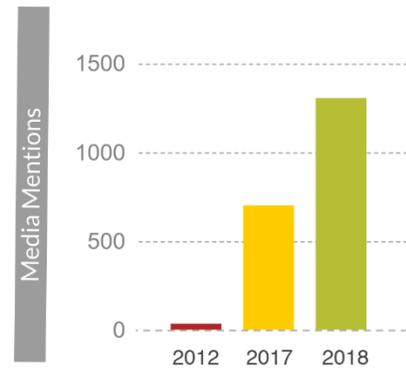
376

media mentions of the O'Brien Institute



318 Institute stories covered by news outlets

media requests came directly to the Institute **36**



RAISING CANADA REPORT

Designed and financed by the O'Brien Institute and developed for Children First Canada, the Raising Canada report painted a high-level picture of the health status of children across Canada, both mental and physical, using readily available and reputable sources of data.

The report was released in August, 2019 and garnered significant media attention.

360

media mentions

207

outlets

11

provinces and territories

KNOWLEDGE TRANSLATION & NETWORK DEVELOPMENT

The O'Brien Institute social media channels have become an essential tool for the Institute - providing opportunities to engage directly with local, national, and international communities to create conversations around public health issues.

SOCIAL MEDIA MAY 2017 to MAY 2019



890
up from
289



3034
up from
1817

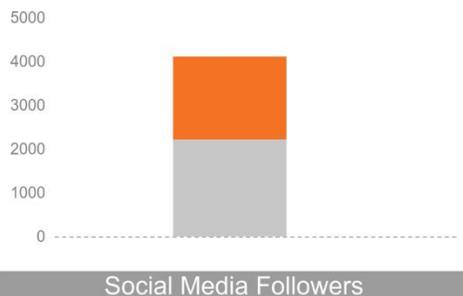


127
up from
0



177
up from
106

91% Growth



HIGH PERFORMING POSTS

O'Brien Institute for Public Health
Published by Michael Wood (?) · April 8 ·

Just eat healthy foods. Sounds simple enough, right? Well, not quite. Institute member Dr. Dana Olstad, PhD, discusses the health intervention that could save millions of lives, and the barriers standing in the way.

CBC CA
A drug to prevent 1 in 5 deaths? It's called 'food' | CBC News
A new study in The Lancet suggests one in every five deaths globally cou...

Get More Likes, Comments and Shares
Boost this post for \$500 to reach up to 75,000 people.

1,448 People Reached **205** Engagements [Boost Post](#)

Michael John Mackenzie, Kim McNeil and 15 others 3 Comments 19 Shares

Top Tweet earned 4,457 impressions

A drug crisis is killing the people we love. Today with @UAlbertaSPH, @UBCNursing, @momstoptheharm and @mumsdu we present #SeeTheLives. We need to see beyond the statistics if we're going to stop the harm. Learn what you can do: goo.gl/YGyYT #yeg #yyc #opioidcrisis pic.twitter.com/DCewEOXUh0



1 10 13

Top Tweet earned 6,861 impressions

Khan: We're 100% committed to a guaranteed basic income. It reduces ER visits, boosts grades, reduces stress on social spending. Have pledged a pilot program for Alberta in their first year. [#ABVotePublicHealth](#)

18 59

Partnership Building

New partnership building opportunities can arise through any of the Institute's other activities, and several such opportunities have developed into meaningful partnerships since the [2017 RIA](#):

- [Children First Canada](#) was introduced to the Institute by one of its Board member; a review/report/commentary on available demographic data concerning children's health in Canada yielded the impressive public response noted below; and additional collaborations are being planned;
- Shared priorities and previous activities with the [Alberta Public Health Association](#) yielded a well-received discussion of opportunities and threats for public health in Alberta, during the [2018 Annual Campus Alberta Conference](#), and more recently to the 2019 provincial election [primer](#) and [all-candidates forum](#);
- Negotiation of a significant philanthropic gift for a *Research and Training Program for Health in Vulnerable Populations* allowed the Institute to greatly enhance the academic research component of the [Street CCRED](#) community-focused program described in the [2017 RIA](#), and to offer Institute-managed coordination support. Authentic engagement with some of the large number of community agencies currently within the Street CCRED consortium, and with similar agencies not yet consolidated within that group, is providing a rich environment for researchers supporting the Institute's Vulnerable Populations priority ([Figure 2](#))

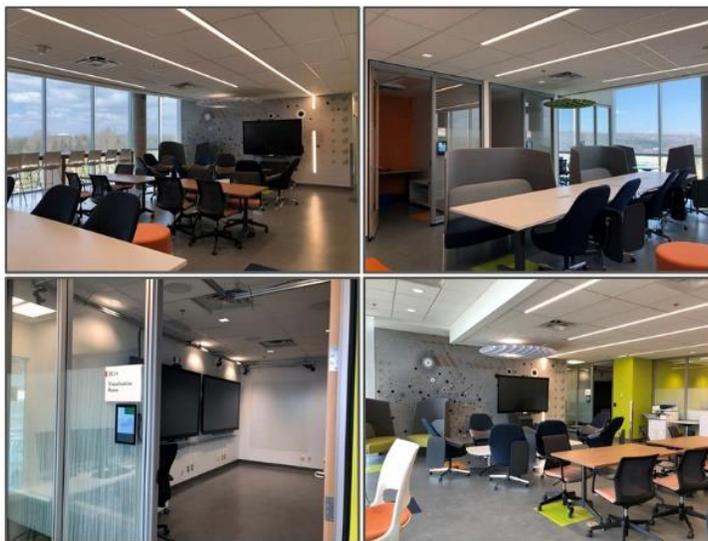


Partnership and Capacity Building: data science success stories

The Institute continues to position itself as a leader in the ever-expanding field of data science. In 2018, the Institute was re-designated a World Health Organization (WHO) Collaborating Centre for Classification, Terminology and Standards — in large part due to the central role its researchers have played in the development, testing and transition from ICD-10 to ICD-11.

One of those researchers is Dr Catherine Eastwood, who is the primary investigator on the largest ICD-11 trial to date — using full hospital records to test the new coding system – with a specific focus to improve quality and safety codes. Additionally, Eastwood and her colleagues are tracking the economic impact of transitioning to ICD-11, and developing a framework for Health Canada to help guide the change, which is expected to happen in Canada in 2023.

The Institute also continues to expand its data science portfolio closer to home. The Centre for Health Informatics (CHI) is the newest University of Calgary research and innovation centre, with its leadership being comprised entirely of senior Institute members, including Director Hude Quan, Associate Director Tyler Williamson, and Operations Manager Catherine Eastwood. CHI will house a Statistics Canada Research Data Centre, affiliated with the Prairie Regional Data Centre on UCalgary main campus. The Centre will facilitate access to Statistics Canada data for CSM researchers – offering necessary insights into the social determinants that impact health to advance precision public health in Alberta.



The Centre for Health Informatics was established in 2018 to advance the mandate of the Cumming School of Medicine's focus on precision medicine and precision public health

Collecting, sifting through, and analyzing health data can inform health systems on how to improve performance and efficiency, shine a light on what public policies are hindering or improving the health of populations, and better identify which, and where, the next epidemic will be. This is the work the University of Calgary Biostatistics Centre (UCBC), a multi-faculty initiative housed in the O'Brien Institute. UCBC fosters a national big data in health network by hosting periodic, large-scale seminars that draw national and international level attendees. They are also pioneering big data in health applications at the masters and doctoral level through a formal collaboration with the University of British Columbia in the form of the Rocky Mountain Data Science Training Centre, officially designated a Canadian Statistical Sciences Institute (CANSSI) Collaborating Centre.

Hundreds of data scientists, scholars, and health professionals from all over the world descended on Banff, Alberta for the largest conference of its kind, co-hosted by the O'Brien Institute in September 2018. The International Population Data Linkage Network (IPDLN) welcomed nearly 600 delegates from 16 countries and five continents, with an aim to facilitate communication between centres specializing in data linkage and users of linked data to produce benefit in the population and health-related domains. As IPDLN secretariats for a two-year term, the O'Brien Institute, along with its co-hosts ICES, a community of research, data and clinical experts out of Toronto, established an endowment to fund students to attend future IPDLN conferences, and added student representation to the scientific committee in order to further the capacity building for training in data linkage.

Capacity Building

The capacity of the Institute has been expanded greatly by the Cumming School of Medicine's (CSM) recent major recruitment campaign in the area of precision medicine and precision public health, as predicted in the [2017 RIA](#). Eight of the planned "Precision 25" (P25) recruitments were directly related to the Institute, and five of these have now been completed, bringing the Institute: a precision public health expert, a big data scientist, a health policy researcher, a models of care scientist, and a cancer molecular epidemiologist. Although the CSM program had to be reduced (to P19), the unfilled precision public health positions were prioritized highly by the Institute's stakeholders, and alternate funding sources were secured. Two recruitments were made in the originally planned area of quality improvement, and another in implementation science. Moreover, the Institute lobbied successfully to receive two of the University's highly coveted [Canada Research Chair](#) allocations, which are being used to recruit two external experts in data science.

The Institute partnered with CSM, the host academic Department, and possibly other relevant Institute(s) to provide a **start-up funding package** for each of its five P19 recruitments, thereby launching his/her individual research capacity. Several other relevant new researchers have joined CSM in the last two years, including the three 'precision' positions outlined above, notably clinician scientists with very important partial time commitments to various areas of health services research. Almost all these new faculty also receive partnered start-up funding packages. As shown to the right, the 25 start-up awards funded by the O'Brien Institute since 2014 are considered an investment in new capacity; returns on investment are already evident, as demonstrated below in the *Institute Products* section.

The Institute's growing reputation helps additional knowledge generators and knowledge users learn the benefits of membership, after they have been recruited to other UofC Faculties/Schools and to AHS.

O'BRIEN FUNDING: START-UP PACKAGES

25

awards to newly-recruited faculty since 2014



\$555,000

O'Brien funds invested



\$1.4 M

additional matching funding invested by partners



MENTORSHIP & LEADERSHIP

12

active, documented mentor/mentee pairs



26

members attended leadership workshops



PROPEL



30

members coached in the last 2.5 years

TRAINEES



14

postdoctoral fellows supported since 2014



Although all new members do not receive start-up funding, the Institute provides significant **non-financial capacity-building activities**, the returns on investment of which are more difficult to quantify, but possibly just as important.

- Various activities are undertaken to support [mentorship](#) (eg. mentor/mentee pairing including *via* ‘speed-dating’, information sessions, on-line resources) and leadership (workshops, book-club, *etc*).
- The Institute has several mechanism through which it supports the University’s education mandate, in recognition of trainees as a critical resource for members, and an effective way to build capacity. The Institute currently: offers matching funding awards for [postdoctoral scholars](#) and manages a contract for health economics fellowships and internships; indirectly supports trainee stipends through its catalyst and start-up awards; manages its weekly seminar series in collaboration with the Department of Community Health Sciences to serve as part of its curriculum; makes its networking and information events freely available to the many trainees amongst its growing list of Affiliates; and manages the shared space in which many trainees are hosted. A Trainee portfolio has recently been added to the Executive Committee, with plans of becoming more proactive, especially in the area of trainee funding challenges and opportunities.
- The Institute advertises external award opportunities, helps members be nominated for such opportunities, tracks members who receive awards (see [Appendix 5](#)), and offers [internal awards](#) meant to leverage external counterparts, acknowledging that awards and recognition are important assets in faculty productivity and satisfaction.
- The individual research capacity of members is also augmented by the Program Planning Panel (“ProPel”) in which the Institute’s Review Leads meet individually with members at critical stages in their professional development.
- The Institute’s [subgroups](#), listed on the right-hand side of [Figure 4](#), are an important element of the Institute’s capacity. These groups are thematically aligned with the Institute (with topics important to public health), comprise a critical mass of dedicated members, represent an existing or emerging local research strength, and conduct targeted capacity building activities of their own.

INSTITUTE PRODUCTS

Increased Knowledge Pool

The primary output of Institute members is new knowledge, and bibliometrics is a traditional way to quantify dissemination of academic knowledge. [Appendix 4](#) illustrates increasing numbers of peer-reviewed publications and increasing publications per member, demonstrating that the Institute is successfully supporting productivity. More complex bibliometric analyses can suggest more nuanced information about the new knowledge created. For example, the number of publications with multiple Institute co-authors is also increasing, which could be an indication that the Institute's environment is nurturing networking and multidisciplinary research. The H-index is a well-known bibliometrics measure of a given researcher, based on the number of times each of his/her publications is cited by other researchers. Although interpretation of the H-index is contentious, it may be an indicator of the relevance/quality of a researcher's publications, and it is auspicious that the H-index profile of O'Brien members is increasing over time.

2018 BIBLIOMETRICS



1267
publications

13% increase
since 2015



6.0
average

publications by
publishing member



320
co-publications*

12.5% increase
since 2015
* >2 O'Brien members



from **12**
members
(2016) to **15**



from **6**
members
(2016) to **16**

Institute Knowledge Products: Informing cannabis policy

From informing provincial and federal policy, to educating Canadians about the health, social and legal implications of legalization, the O'Brien Institute has been at the fore of the cannabis debate.

The Cannabis Evidence Series, produced by the O'Brien Institute's Health Technology Assessment (HTA) Unit¹ for the Government of Alberta, is an exhaustive synthesis of cannabis data – from health effects and harms to lessons learned from other jurisdictions – and remains Canada's most comprehensive examination of cannabis evidence to date.



From top left: keynote speaker Dr. Beau Kilmer, PhD, and conference organizer Dr. Rebecca Haines-Saah, PhD; Medical Officer of Health, Alberta Health Services, Dr. Brent Friesen, MD; Dr. Lori Montgomery, MD, speaks with the media; and Dr. William Ghali, MD, at [Cannabis legalization in Alberta, a public forum on May 5, 2017](https://www.youtube.com/watch?v=dM-tmlNal_U&list=PLfkI5k2LiKBGj9hGMZYdFASF7xsmOsSgG)².

and thoughtful, evidence-informed commentary are frequently sought by news media, as well as civic, provincial and federal authorities.

Haines-Saah recently worked with fellow Institute members Drs Fiona Clement and Scott Patten to conduct a scoping review of cannabis and mental health literature for the Mental Health Commission of Canada. The review will be used by the commission to set the stage for future research funding calls addressing cannabis use and mental health.

Together, Institute members helped cement Alberta's position of leadership on cannabis policy and establish the Institute as a leading knowledge broker in one of the greatest public health experiments in Canada.

The document helped inform the federal Task Force on Cannabis Legalization as well as Alberta's own policy framework, and served as the basis for discussion during a series of engagement sessions with dozens of stakeholders, from RCMP detachments to Indigenous groups and school boards.

At the Canadian Institutes for Health Research (CIHR), one of Canada's primary research funding bodies, the document was used to identify knowledge gaps and inform priority areas for cannabis research investment.

Through various community and policy engagement initiatives, including hosting the largest cannabis policy forum in Alberta, Institute members have established themselves as leading and trusted authorities on the effects of cannabis on the individual, and on Canada's social fabric.

Best known among them is Dr. Rebecca Haines-Saah, whose expertise on youth substance use and public health policy have cemented her reputation as Alberta's leading voice in cannabis and public health, and one of the few youth-centred cannabis researchers in Canada. Her work was cited by Senators during debate of *The Cannabis Act*, and both her research

¹ The HTA Unit is a research unit within the O'Brien Institute led by Institute member Dr. Fiona Clement, PhD.

² The URL to watch videos from Cannabis Legalization in Canada: Implications for Public Health in Alberta – a public forum: https://www.youtube.com/watch?v=dM-tmlNal_U&list=PLfkI5k2LiKBGj9hGMZYdFASF7xsmOsSgG

Empowered Membership

Empowerment of members is subjective, but is substantiated by anecdotal feedback on support programs; the large number of Institute members agreeing to take on leadership roles within and external to the Institute; and the considerable number of members maintaining application pressure (over the last four CIHR Project Scheme competitions, an average of 17 members revised/resubmitted previously unsuccessful applications) despite low agency success rates (15% average for the same four competitions).

FEEDBACK ON REVIEW PROCESSES

Member's feedback on specialized review process:

"At the Institute's practice session to emulate the agency's upcoming 'face-to-face' expert review panel, our team was surprised by the questions and expectations of the cross-sectoral reviewers. We were convinced to shift the focus of our presentation and preparation, almost 180° away from the traditional research focus with which we were more comfortable and familiar. We ended up being extremely well-prepared for the actual panel, and were recently notified of funding!"

Member's feedback to PROPeL review leads:

"It is a privilege to have the undivided attention of such a prolific group of researchers and I am very excited to incorporate your thoughts and suggestions."

The outputs leveraged from some of the Institute funding programs, outlined in the *Institute Activities* section, also suggest that members are being empowered, given that they are leveraging significant returns on the internal investments.

RETURN ON INVESTMENT

Outcomes (to date) from **25 start-up packages**:

 **>\$12 M** generated in research revenue

 **>368** publications published

 **168** trainees supervised

 **83** partnerships established

Outcomes from **8 Catalyst grants** (of 30 awarded) for which outcomes have been assessed to date:

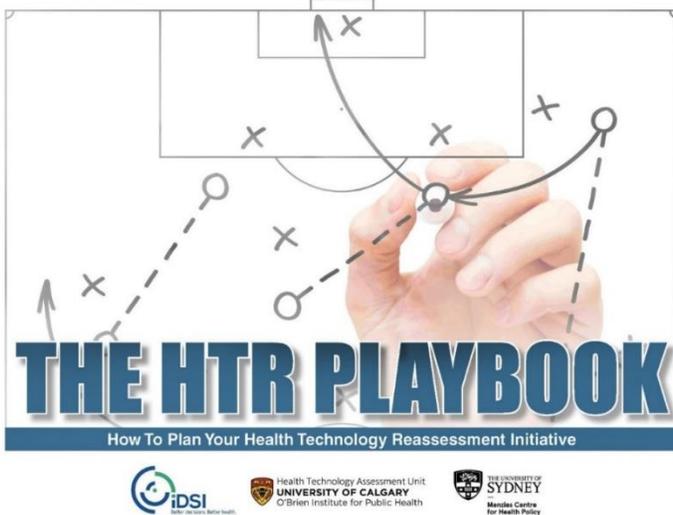
 **13** funding awards & **>\$500K** leveraged

11 partnerships established  **32** trainees supervised 

 **>267** stakeholders engaged in **22 activities**

Institute knowledge products: HTA Unit finds health-system savings

Health-care systems around the world are under constant pressure to reduce costs, and many are turning to big data to re-evaluate their old ways. The Health Technology Assessment (HTA) Unit, at the O'Brien Institute for Public Health, is leading this trend in Canada.



Comprised of experts in knowledge synthesis, health economics, patient engagement, qualitative methods and policy development, the HTA Unit conducts evidence reviews, evaluations and health technology assessments and reassessments to inform policy and practice, and reduce system costs.

Commissioned by the Government of British Columbia, the Institute's HTA unit worked with partners at the University of British Columbia, and in the clinical community, to develop a process to identify services, treatments and procedures whose benefits are not proportional to their costs.

The team, led by Dr Fiona Clement, used the province's own administrative data to identify nine

low-value candidates with annual budgetary impacts of more than \$1 million. Of those, the clinical community have moved to phase out or reduce the use of five.

The unit conducted similar work for the Government of Alberta and identified 37 high-cost, low-value items.

The Institut National d'Excellence en Santé et en Services Sociaux has since invited Dr Clement and her team to help launch their own re-assessment initiative in Quebec.

Now the team is sharing their knowledge with the world. Working with the Menzies Centre for Health Policy and the International Decision Support Initiative, the HTA Unit has developed The HTR Playbook, a step-by-step guide for systems and administrators to develop their own health technology assessment initiatives. The document was presented to the international HTA community at the 2019 HTA Conference and continues to gain traction.

Effective Partnerships

The Institute's partnerships with the many stakeholders in its [Research Environment](#) (including AH, AHS, SCNs, SPOR, Campus Alberta, City of Calgary, IMAGINE Citizens, STREET CCRED *etc*) remain vibrant and are explained in more detail in the [2017 RIA](#). Updates on those partnerships include that the IMAGINE Citizens group has now been granted the status of an incorporated society in Alberta, acknowledging its significant progress; the Institute completed two important projects with Alberta Health (on eHealth and community based healthcare); and interactions with the City of Calgary have been reenergized through a project to provide best evidence in the area of [community water fluoridation](#).

Effective partnerships are also evident in all the Stories of Success presented throughout the 2019 RIA, and in the co-publishing of O'Brien Institute members. Figure 6 demonstrates individual academic partnerships at an international level: the few uncoloured (grey) countries are those with no articles co-published with O'Brien members; the 'heat-map' scale demonstrates numerous countries with single paper co-publication, and significant co-publications in the United States and Canada.

GLOBAL COLLABORATIONS

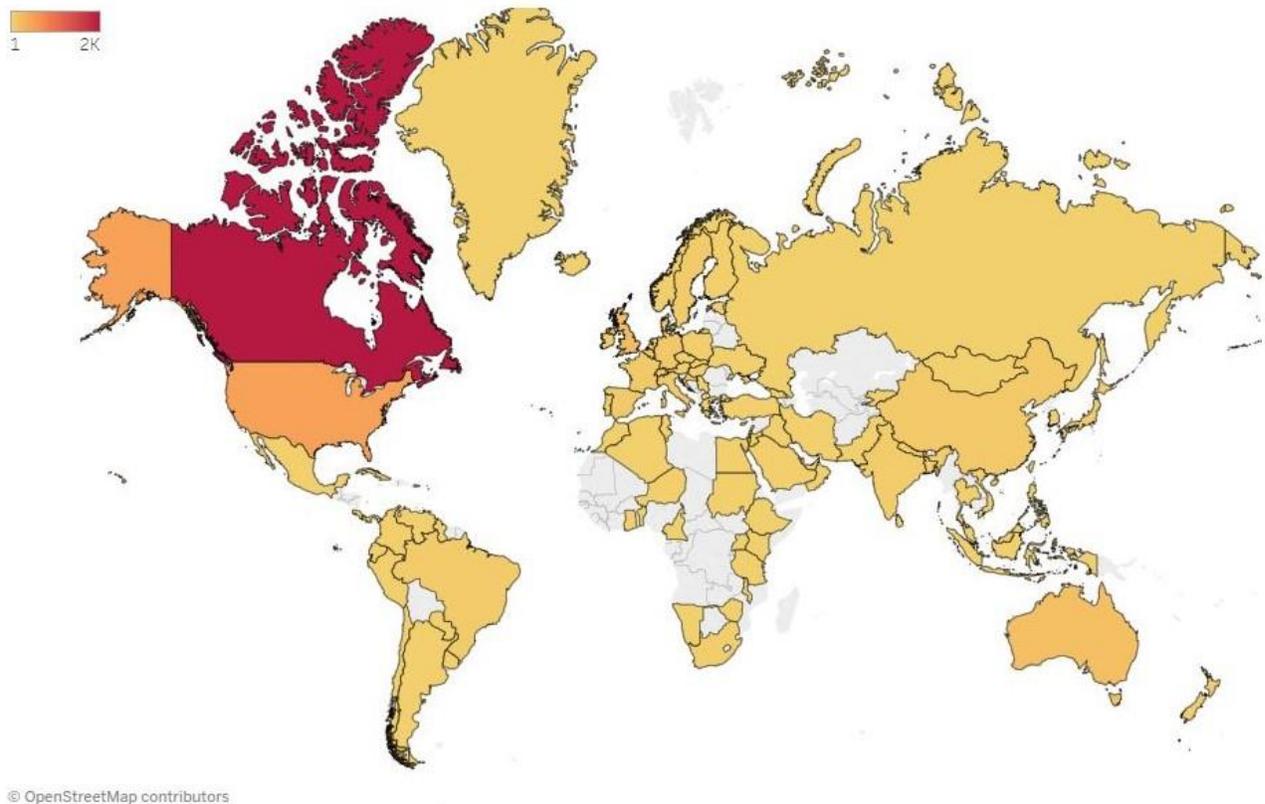


Figure 6 Academic publications in 2017/18 with international co-authors, from a Web of Science search of the Institute's cohort of University of Calgary faculty (376 of the total 505).

Partnerships expanding care for Calgary's most vulnerable

Researchers have known for decades that physical and mental health problems are prevalent among people experiencing homelessness or poverty. They have unequal access to resources such as hospice care and specialist clinics, and barriers that prevent them from fully benefiting from the health care system.

STREETCCRED

\$160 K Calgary Foundation grant

O'Brien Institute funding **\$150 K**



400
volunteers

10+
partnerships



5+
community support initiatives

5
public events related to health, equity, addiction & homelessness



Mitigating these barriers requires a coordination of front-line service providers, academics, and agencies. Street CCRED (Community Capacity in Research, Education, and Development) brings expertise and resources from multiple groups together to devise innovative solutions to the health challenges facing Calgary's marginalized populations.

The Street CCRED initiative was seeded in 2015 and launched through a partnership between the Cumming School of Medicine and the O'Brien Institute, under the leadership of Dr. Bonnie Larson, MD, and Dr. Jennifer Hatfield, PhD. Street CCRED operates within the Institute, which partially funds the initiative's support staff while also providing community relations, strategic and logistical support. Apart from working to maximize the capacity of inner city service providers, Street CCRED fills critical service gaps by supporting initiatives such as Calgary's Allied Mobile Palliative Program (CAMPP). Delivering end-of-life palliative care to some of Calgary's most vulnerable people, CAMPP's small team of physicians and nurses help homeless people manage pain and navigate the health care system – allowing them to have a voice in what their end of life looks like. Street CCRED also runs the Street CCRED Community Elective, helping medical students meet their required clinical hours with outreach at various sites across Calgary including the Calgary Urban Project Society (CUPS), Alpha House Outreach Clinic, and home visits at Permanent Supportive Housing Harm Reduction buildings. Students also work closely with the City Centre Paramedics team and CAMPP to deliver on-the-go care to patients in crisis.

As a means to address the dramatic increase in opiate overdoses in Calgary, Street CCRED is currently engaged with the Calgary Coalition on Supervised Consumption, supporting an evidence informed response to the opioid crisis. Researchers within the Institute were also key in

providing a framework for establishing safe consumption sites throughout the province, in response to the opioid crisis in Alberta. For more on the Institute's influence on supervised consumption sites see: [A harm reduction approach to the opioid crisis](#).

The Connect to Care (C2C) program is another group of impassioned health care workers bridging the gap between research, hospital, community, and patients. In 2016, researchers in the O'Brien Institute's W21C Research and Innovation Centre collaborated with two community groups – Calgary Urban Project Society (CUPS) and Alpha House – to evaluate and expand C2C. A mobile community outreach team comprised of nurses and trained health system navigators, C2C connects patients who are in hospital and helps support them with social and health care needs, during their hospital stay and once they have been discharged. C2C is nearing the end of its three-year, \$1.8 million funding period through an Alberta Innovates PRIHS grant, and during that time has seen upwards of 250 patients, through 557 patient referrals. This initiative has seen average emergency room visits for C2C clients cut in half.

Powerful Partnership: The kids are not okay

When it comes to growing up in Canada, Canadians have bought into a timeless narrative, a narrative that is being challenged following a collaboration between the O'Brien Institute and Children First Canada.

That narrative states that children in Canada are healthier, safer, happier, and better supported and cared for compared to children growing up in other parts of the developed world. Those notions are being challenged after Children First – a national non-profit advocating for the physical, social, economic and mental wellbeing of children in Canada – asked the Institute to conduct a scan and synthesize an up-to-date picture of the health and wellbeing of Canadian children. The result was the Raising Canada report, which challenged our notions and our understanding of what growing up in Canada today is really like.

The report found that Canada did not fare well compared to some other developed nations in several areas, such as child poverty, mental health, abuse, chronic disease, injury, and suicide. It also found that Canada-wide, data are being collected differently and to different degrees in different provinces and regions, and that there are not a lot of data being mined with which to paint a more accurate picture of the status of children in Canada.

The findings from this report were covered by more than 300 news outlets world-wide, and the message resonates with several other developed nations sharing Canada's challenge. It helped fuel a conversation that has been simmering in the background between child advocacy groups and different levels of government. Raising Canada established that more research is needed in order to better understand the status of children in Canada and where that research should be conducted. It also led to a longitudinal partnership between Children First and the Institute, and a burgeoning collaboration with Statistics Canada.

Raising Canada also had a policy impact in that it resulted in Institute member and lead investigator, Dr Amy Metcalfe, presenting the report to the Canadian senate and testifying before the Senate's Open Caucus on Child Well-being in Canada on Nov. 7, 2018.



From left: Senator Jane Cordy, Dr Amy Metcalfe, Stephanie Mitton of Children's First Canada, Senator Raymonde Gagné, and Senator Brian Francis on Parliament Hill Nov. 7. Photo courtesy Amy Metcalfe

Effective Partnerships in health - an international edge

From institutional partnerships with leading international research organizations to supporting individual researchers with project-level global collaborations, the O'Brien Institute continues to expand its international reach.

Iberoamericana Ciudad de Mexico

Identifying barriers to the management of Type 2 diabetes – one of the most challenging health dilemmas of the 21st century – is the nexus of an international collaboration between O'Brien Institute researchers and Universidad Iberoamericana Ciudad de Mexico.

Data scientists and patient engagement experts from the O'Brien Institute's Methods Hub are working with clinicians and chronic disease specialists on a study that will marry big data with the patient perspective to see where both countries are falling short. The team, led by the O'Brien Institute's Dr Maria Santana and Dr. Odette Lobato Calleros, a professor from Universidad Iberoamericana Ciudad de Mexico, are conducting a review to see how health-care systems and individuals in both countries are currently managing Type 2 diabetes.



World Health Organization (WHO) infographic, 2017

almost instant condemnation in the U.S. But while it may have ruffled feathers among some trade groups and the Donald Trump administration, the guidelines and the science behind them have garnered unprecedented support from The Elders, an elite cadre of global change-makers founded by Nelson Mandela.

The group, at the time chaired by former UN Secretary-General Kofi Annan, submitted a letter of support to the Food and Agriculture Organization of the United Nations (FAO) in Rome, the World Organization for Animal Health (OIE) in Paris and the WHO itself, for the new guidelines.

In its capacity as a World Health Organization (WHO) Collaborating Centre, the O'Brien Institute will host the annual meeting of the WHO Family of International Classifications Network (WHO-FIC) in fall 2019. The mandate of the network is the continued development of reliable statistical systems at local, national and international levels, with the aim of improving health status and health care – work the O'Brien Institute plays a direct role in through its pioneering work in data science, and its application to the International Classification of Disease (ICD).

World Health Organization

Institute research is also behind new WHO guidelines calling on food animal producers to cease using antibiotics as a means to prevent infection or boost growth.

The O'Brien team was one of two selected by the WHO through a global competition to inform a global strategy to combat anti-microbial resistance (AMR).

As part of their winning bid, the O'Brien Institute team, comprised of researchers from the Institute's W21C, the Faculty of Veterinary Medicine and the Cumming School of Medicine (CSM), conducted a meta-analysis of 175 studies on the topic of antibiotic resistance in animals. Twenty-one of those looked at antibiotic resistance in humans. The analysis was published in The Lancet.

Based on the analysis, the WHO released new guidelines calling on food animal producers to cease using antibiotics as a means to prevent infection or boost growth, sparking

Qatar Ministry of Public Health

Qatar is currently in the midst of laying out an ambitious set of public health strategies and health improvement targets for the country. As part of this process, the O'Brien Institute has been tapped by Qatar's Ministry of Public Health to collaborate and provide expertise in several areas including: a health in all policies strategy on advancing health; approaches to achieving healthy cities; a multi-pronged national policy-based approach to nutrition; and, including vulnerable populations in national health strategies.

Led by O'Brien Institute Scientific Director Dr. William Ghali, the Qatari partnership will also guide the Middle East country in its potential early implementation of ICD-11, making it one of the world's earliest adopters of the platform. Over the last several months a series of meetings have taken place between Ghali, Dr Roberto Bertollini, advisor to the Minister of Public Health, Qatar, and Dr Deborah White and CEO, University of Calgary in Qatar, to solidify this partnership. Qatari partners from the Ministry of Public Health will make their inaugural visit to the O'Brien Institute to attend the WHO FIC (Family of International Classifications) international network meeting in October 2019.



From left, Gregory Mack, International Relations, University of Calgary; Dr Deborah White, Dean and CEO, University of Calgary in Qatar; Dr Sheik Mohammed Al-Tahini, Director of Public Health, Ministry of Public Health, Qatar; Dr William Ghali, Scientific Director, O'Brien Institute for Public Health; April 2019, Qatar.

Research-to-impact pipeline

A pipeline through which public health research can inform decision makers and guide interventions will facilitate flow of knowledge in both directions, with research users informing researchers at all stages of production; research knowledge will also ideally flow both by push from the researchers and pull from the research users. The O'Brien Institute's pipeline development has been more auspicious than Alberta's more traditional oil and gas pipeline development over the past two years, and the functionality of this pipeline is evident in the 2019 RIA' Stories of Impact.

A research-to-impact pipeline: the Institute's subgroups in action

While the whole of the O'Brien Institute may be greater than the sum of its parts, the Institute's numerous centres and research groups are key to its success. The 14 research groups and centres that live under the O'Brien Institute umbrella enable collaborative research, knowledge translation and impact in the community.

With a mandate to enhance the lives of older adults through aging-focused research, interdisciplinary collaboration, community outreach, and policy impact, the Brenda Strafford Centre on Aging is the latest addition to the Institute, moving under its umbrella in 2016.

Functioning as a hub that supports the work of UCalgary research in the area of aging, the centre was integral in securing an Age-Friendly University designation for the University of Calgary from the Age-Friendly University (AFU) Global Network in early 2019. By joining the Age-Friendly University Network, UCalgary has committed to follow a set of core principles, including encouraging older adults' participation in all aspects of university life, ensuring that the university's research agenda is informed by the needs of an aging society, and enhancing older adults' access to a university's range of health, wellness, and arts programs. UCalgary is the 6th Canadian University to join the Network.

Institute researchers also work on various Global Health initiatives, including a number of projects through Healthy Child Uganda, a program directed by Institute member Dr Jennifer Brenner. Healthy Child Uganda has developed, implemented and evaluated a series of programs in southwest Uganda with support from international and domestic funders. A main emphasis has been the training of Community Health Workers and strengthening of related health centres to provide quality antenatal and postnatal care, safe deliveries and well-child facility and outreach services.

Indigenous health is another area where Institute researchers continue to have impact. A network of more than 130 health researchers, Indigenous community members, health systems providers, and government agencies, the Institute's Group for Research with Indigenous Populations (GRIP) works to address the health inequities that currently exist between Indigenous and non-Indigenous peoples in Canada.

The burden of toxic stress, a term increasingly used to describe the kinds of experiences, particularly in childhood, that can affect how the brain works, is an area of focus for GRIP researchers. Over the last 12 months, a series of meetings and public forums have brought together policy-makers, academia, and Indigenous arts, sports and business groups to discuss ways communities can be better supported by institutions in disrupting toxic stress affecting Indigenous youth. This ongoing series will culminate in an Indigenous youth civil society forum in the fall of 2019, but already community members report a better understanding and awareness of toxic stress and its fallout. The term and concept has caught on and is being discussed and disseminated throughout Indigenous communities.

HEALTHY CHILD UGANDA



5,500
community
health workers
trained

52 %
reduction in
deaths under five



27 %
reduction in
prevalence of
underweight children

**“There are many changes that
are good in my community,
like lower child mortality, less
disease, immunization,
good nutrition for our children”**

Community member, Mbarara

*Healthy Child Uganda, the Mama Toto
Experience overview*

The role of the patient in health care and health research continues to evolve, with several Institute members and initiatives at the fore. The Patient and Community Engagement Research (PaCER) unit at the O'Brien Institute is working to transform the role of patients in health and health care delivery in ways that are breaking new ground.

The PaCER program trains and works with patient researchers (citizens with a variety of health conditions trained in qualitative health research) who are creating a new collective research voice by patients, with patients and for patients. Since PaCER was established as a program in 2013, graduates have been in high demand, with many going on to consult and publish on engagement research and health innovation.

IMAGINE Citizens brings together patients, family members, communities, health-care professionals, and individuals from the public and private sectors to tackle the health problems important to Albertans. The O'Brien Institute helped launch the initiative in 2015, and although the project reigns have been handed over to a citizen-led committee, the Institute continues to support through funding, functioning as the initiative's secretariat and providing logistical and technical support to the citizens' efforts. Currently, the Institute is working in partnership with IMAGINE to plan and host a public symposium on the topic of digital health. The intent is of the symposium is to educate, empower and engage Albertans in the discussions about the potential of digital tools (including personal health records).

SHORT TERM OUTCOMES / INSTITUTE MISSION

Research Excellence

As proxy measures of research excellence, many of the Figures and Tables above, as well as the exhibits in the Appendices, demonstrate members' success securing peer reviewed research funding ([Appendix 3](#)), publishing prolifically and in prestigious journals ([Appendix 4](#)), and receiving recognition from peers ([Appendix 5](#)).

Although it is impossible to attribute members' success directly to Institute programs it can be argued, for example, that the highly active Internal Peer Review program (outlined in the [Institute Activities](#) section) contributes to members' ongoing success in CIHR competitions. Expectations of this indirect causality (strategic support yielding increased outputs, outcomes, and impact) are the main driver of UofC's institutes, and form the basis for the O'Brien Institute's Research Impact Framework ([Figure 1](#)).

It is noteworthy that the O'Brien Institute has now met two of the goals for research excellence goals proposed in its inaugural report (its [2013 Business Plan](#)): "To rank among the leading University of Calgary research institutes in 1 – 2 years" and "To rank among the leading national public health research organizations in 2 – 5 years". As shown in [Appendix 3](#) (Figure 3.2), the O'Brien Institute has been either the top- or second-ranked UofC institute in number of operating grants awarded by the Canadian Institutes of Health Research (CIHR), and in total external funding over the past few years. Furthermore, as shown in [Appendix 3](#) (Figure 3.5) in 2018/19, O'Brien Institute members were awarded the third highest number, nationally, of CIHR operating grants in public health topics, a remarkable ranking given UofC's relatively small size. This upward trajectory bodes well for the Institute's third 2013 goal for research excellence: "To gain international visibility and recognition as a leading public health research organization in 5 – 10 years". Indeed, many of the

EXTERNAL RESEARCH REVENUE

2018 Internal Peer Review successes:



48%

of 2018 CIHR operating grants awarded to CSM were awarded to O'Brien Institute members

Research revenue granted to members¹ from CIHR increased from **\$3.1M** (2012/13) to **\$12.07M** (2017/18)



#1

UCalgary's rank in 2018/19 for number of Public Health operating grants² (normalized for institution size)

AWARDS¹

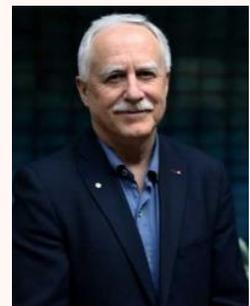


distinction & recognition awards received annually by members since 2016

In 2017 and 2018, 2 members were appointed to the Order of Canada



Dr. Tom Feasby³, 2017



Dr. John Conly⁴, 2018

¹ For O'Brien Institute members with primary affiliations in CSM

² Operating grants awarded by CIHR's IPPH and IHSPR

³ Photo Source: Airdrie City View

⁴ Photo source: Julia MacGregor, W21C



Stories of Success featured in this report demonstrate promising partnerships and pathways toward achieving this goal over the next few years.

Better Informed Communities

Communities taking advantage of the Institute's outputs are the critical intermediaries in the pipeline toward societal impact. Many of the metrics in this document confirm that the Institute's stakeholder communities are being *presented* with messages from the Institute, and there are also indications that the stakeholders are *listening* to and *using* this information:

- Based on an Institute-supported, evidence-informed, and thoroughly evaluated palliative care program for vulnerable populations, Alberta Health Services added operations of this program into their operating budget;
- A national scan on health and social services for Canada's increasing refugee population was received with alacrity by the Ministry of Immigration, Refugees, Citizenship Canada (specifically its Research and Evaluation, and Knowledge Mobilization and Partnerships divisions);
- The [HTA Unit's knowledge products](#) are produced by request of stakeholders, and many of their recommendations are implemented;
- The WHO invited Institute members to have a significant influence on the structure and content of ICD11, including author privileges for the Reference Guide, which provides the rules and standards for users;
- Alberta Health requested creation of a set of indicators and an evaluation framework for their Community Based Healthcare initiatives, and planned to implement the products created by Institute members;
- Alberta Health endorsed a whitepaper created by Institute members in response to joint work in the area of eHealth, and has included the whitepaper's recommendations in their planning;
- The 2017 Physician Services Amending Agreement negotiated between the Alberta Medical Association and Alberta Health was influenced by Institute-brokered discussions of physician remuneration and their accountabilities as stewards of provincial resources;
- Health Canada has increased [regulations related to the use of antimicrobials](#) in agricultural use, based on the WHO-requested systematic review conducted by Institute members; and
- CIHR's Institute of Population and Public Health named the O'Brien Institute's Dr Lindsay McLaren their [2019 Mid-Career Trailblazer](#), for her success in promoting evidence and having policy impact in the area of community water fluoridation.

Several other such examples are found in the Stories of Success, demonstrating that Institute outputs are successfully being taken up by the community, yielding the short-term outcome of influencing stakeholders.

Better informed communities: Institute drives provincial e-health

In health care, information needs to be accurate, accessible, and timely. The vast amount of work the O'Brien Institute for Public Health has done in the e-health sector has moved Alberta closer to this vision.

The Institute's e-health work focuses on developing informed digital health policy and practice, the creation of accessible tools and information, and timely delivery where and when those services are needed.

The philosophy laid out by Scientific Director Dr William Ghali, which guides the Institute's foray into this field, is grounded on the belief that e-health is not just about computers and software, but about human beings working with, improving on, and benefiting from timely and accurate health information.

Impact on policy

The Institute has shaped Alberta's e-health landscape through the development of a policy white paper, wherein health organizations recognize and acknowledge its declarations — accountability to communicate with and inform patients, and buy-in to a system where patients are able to access, receive and share quality health care information, in a digitally-integrated, seamless health care system.

That policy development work was led by Institute member Dr Doreen Rabi in partnership with the provincial government, Alberta Health Services, the Alberta Medical Association, and other associated bodies.

The Institute has also worked with Alberta Health and professional organizations on a number of occasions in recent years to help create Alberta's e-health landscape. The Institute worked with the Ministry of Health and Alberta Health Services (AHS) to convene strategic discussions between groups and to create a common vision of e-health services in Alberta. The Institute also advised Alberta's provincial government following a national and international scan of other jurisdictions to inform the local system.

Impact on practice

As part of an effort to make care transitions safer (i.e., dangerous health care moments, transitions from hospital to home, or from one care provider to another), the Institute, through its W21C Research and Innovation Centre, has led the development and testing of e-health tools that communicate important medical information on medications and clinical conditions.

One such tool, a web-based seamless discharge tool, is now part of routine care for all Calgary Zone hospitals as a nationally- and internationally-leading e-health platform for safe transitions.

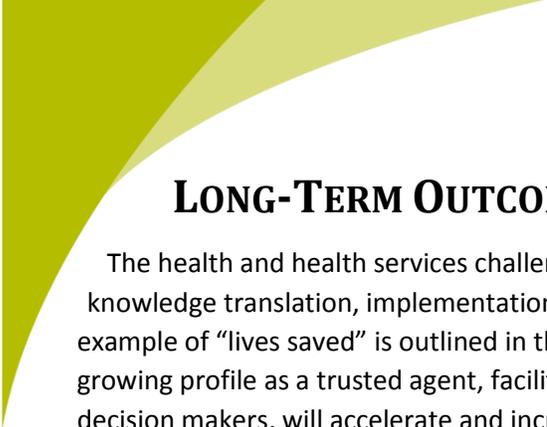
The Institute has also worked in the domain of health care apps and app development.

This includes the development and testing of a powerful smartphone app for chronic disease management in patients with liver disease, and a state-of-the-art app that supports doctors in antibiotic prescribing decisions.

The latter involves global partnerships involving O'Brien Institute members (led by Dr John Conly and the Institute's W21C Research and Innovation Centre) and colleagues working globally in the Netherlands, Sweden, Switzerland, the US, and Australia on the societal challenge of antimicrobial resistance. The Institute's work in this space is in step with the digital era that we are in, and part of an impactful and fast-moving domain that it will continue to actively work in.



Spectrum is a mobile app that can be customized to deliver local antimicrobial stewardship resources in any hospital



LONG-TERM OUTCOMES / INSTITUTE VISION

The health and health services challenges prioritized by the Institute require many years of rigorous research, knowledge translation, implementation, and assessment, before societal improvements can be measured. One example of “lives saved” is outlined in the following Story of Success. It is anticipated that the Institute’s growing profile as a trusted agent, facilitating knowledge exchanged between academics, the public, and decision makers, will accelerate and increase future examples. Streams of work supported by the O’Brien Institute, in which “lives saved” and “lives improved” may be estimable in the future, include:

- the WHO-supported international antibiotics usage guidelines to reduce antimicrobial resistance;
- primary research and knowledge synthesis in the area of community water fluoridation;
- quality/safety analyses of transitions in care, including accelerated discharge direct to home from the intensive care unit, graduation from youth to adult medical care programs, and hospital discharge to primary care;
- knowledge syntheses and program analyses of social vulnerability interventions, in topics including refugee health, substance abuse, poverty, and homelessness;
- evidence generation to inform urban design and policy supportive of youth physical activity and safe active transport; and
- creation of precision medicine-informed guidelines and decision tools, in topics including kidney failure, cancer prevention and survival, critical care-associated delirium, advance care planning/palliative care, *etc.*

Health Impact: A harm reduction approach to the opioid crisis

It's the defining public health crisis of a generation. Every day Canadians are losing their lives to accidental opioid poisoning.

The crisis has shown no signs of abating, but members of the O'Brien Institute are working hard to reduce the harm and save lives.

Dr Katrina Milaney led the research behind the needs assessment for Safeworks, Calgary's first supervised consumption site (SCS), which offers clean supplies and a space for drug users to consume under the supervision of registered nurses or paramedics who provide education on vein care and infection prevention. The site streamlines access to specialized care and is a valuable pathway to social programs.

Milaney has conducted similar needs assessments for other mid-sized Alberta cities hit hard by the crisis and is a member of the provincial advisory committee tasked with evaluating all Alberta sites based on health outcomes and treatment program referrals.

In addition to Milaney's work, Dr Rebecca Haines-Saah has been working in collaboration with the University of Alberta, the University of British Columbia and parent advocacy groups to change the stigma around drug use and to promote a harm reduction approach to the crisis across Canada. She is frequently sought by provincial and national authorities to consult on problematic substance use in the context of Canada's opioid crisis and is working with Milaney on a scoping review of best practices to help vulnerable sub-populations at risk in the opioid crisis.

SAFEWORKS SCS BY THE NUMBERS



11 Canadians die each day due to opioid use



24 hours per day that Safeworks SCS operates



60,533 Client visits to Safeworks SCS*



4,936 On-site drug-consumption sessions**



163 Referrals made by Safeworks staff**



831 Overdoses responded to by Safeworks staff*

*From October 30, 2017 to January 31, 2019
** In January 2019 alone



WHAT'S AHEAD

The next few years promise both celebration and significant change for the O'Brien Institute for Public Health. Opportunities are now being developed to acknowledge and commemorate the Institute during its 10th anniversary in 2020. As stated in the Institute's 2013 Business Plan, an early goal was to stand alongside UofC's six other excellent health research institutes in terms of research excellence, and be consulted by local and provincial stakeholders, to influence policy. The metrics and *Stories of Impact* presented in this year's Research Impact Assessment suggest that these goals have been met, and that the Institute is now poised to build a national and international reputation, to extend its important mission and vision. Along with celebrating its successes, the Institute will therefore be assessing the international context of public health research, determining which counterpart organizations should be emulated, and strategizing the roadmap by which to pursue such lofty goals.

As mentioned on [page 10](#), more intensive pursuit of sustainable funding also lies ahead, including through local philanthropic strategies and international consulting. Also in the category of sustainable Institute operations, but more importantly in the realm of visionary Institute leadership, more intensive efforts at leadership delegation and succession planning will be occurring over the next year, to prepare for the end of the Scientific Director's second term, in summer 2020.

APPENDICES

Appendix 1 - Membership

Figure 1.1 (right) Growth in the number of members in the O'Brien Institute for Public Health

Since the initial membership call established the Institute in March 2009, the number of members has grown consistently, attesting to the relevance of the Institute's support programs and networking events. Since March 2017, 62 new members have joined the Institute, 50% of which are from outside the Cumming School of Medicine. The apparent dip in 2016-2017 is due to a non-exhaustive review of the membership and removal of lapsed members.

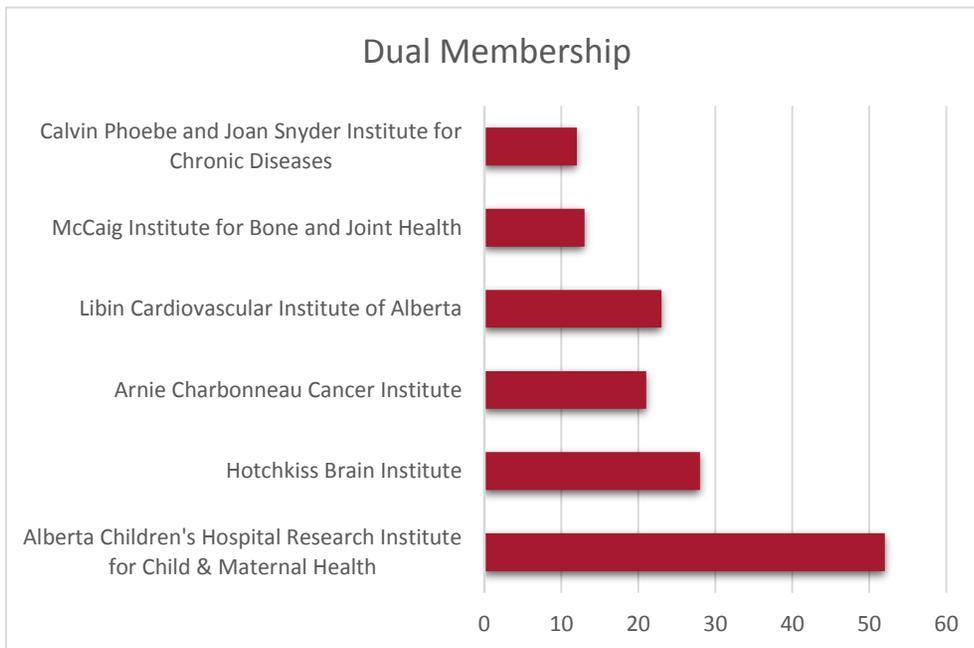
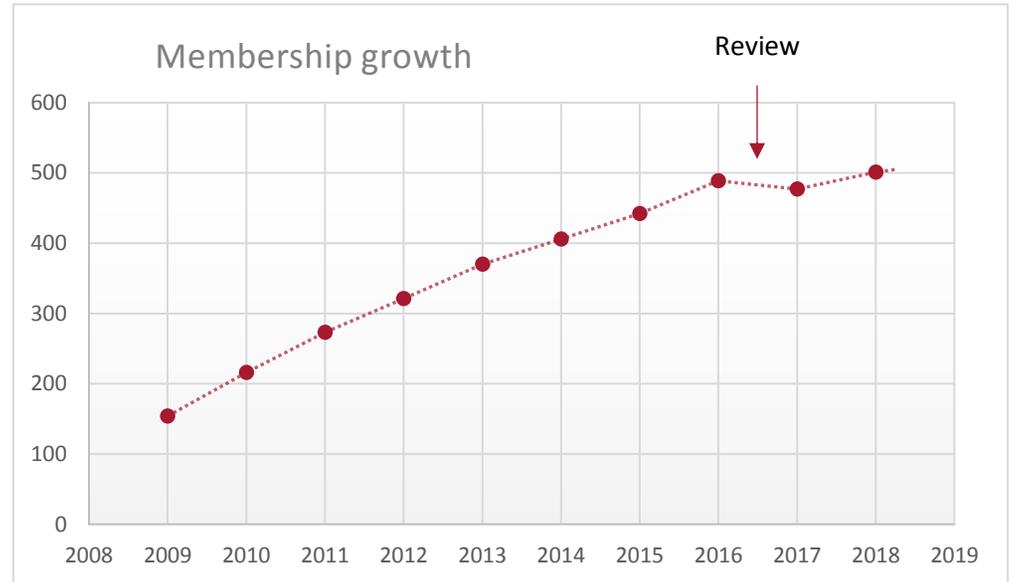


Figure 1.2 (left) Dual Institute membership

Approximately 30% of O'Brien members are also members of one of the Cumming School of Medicine's six other research institutes. Dual membership is more prevalent in the O'Brien Institute than in any other, allowing individual researchers to access expertise in both their area of physiological specialization, as well as in health services and population health research approaches.

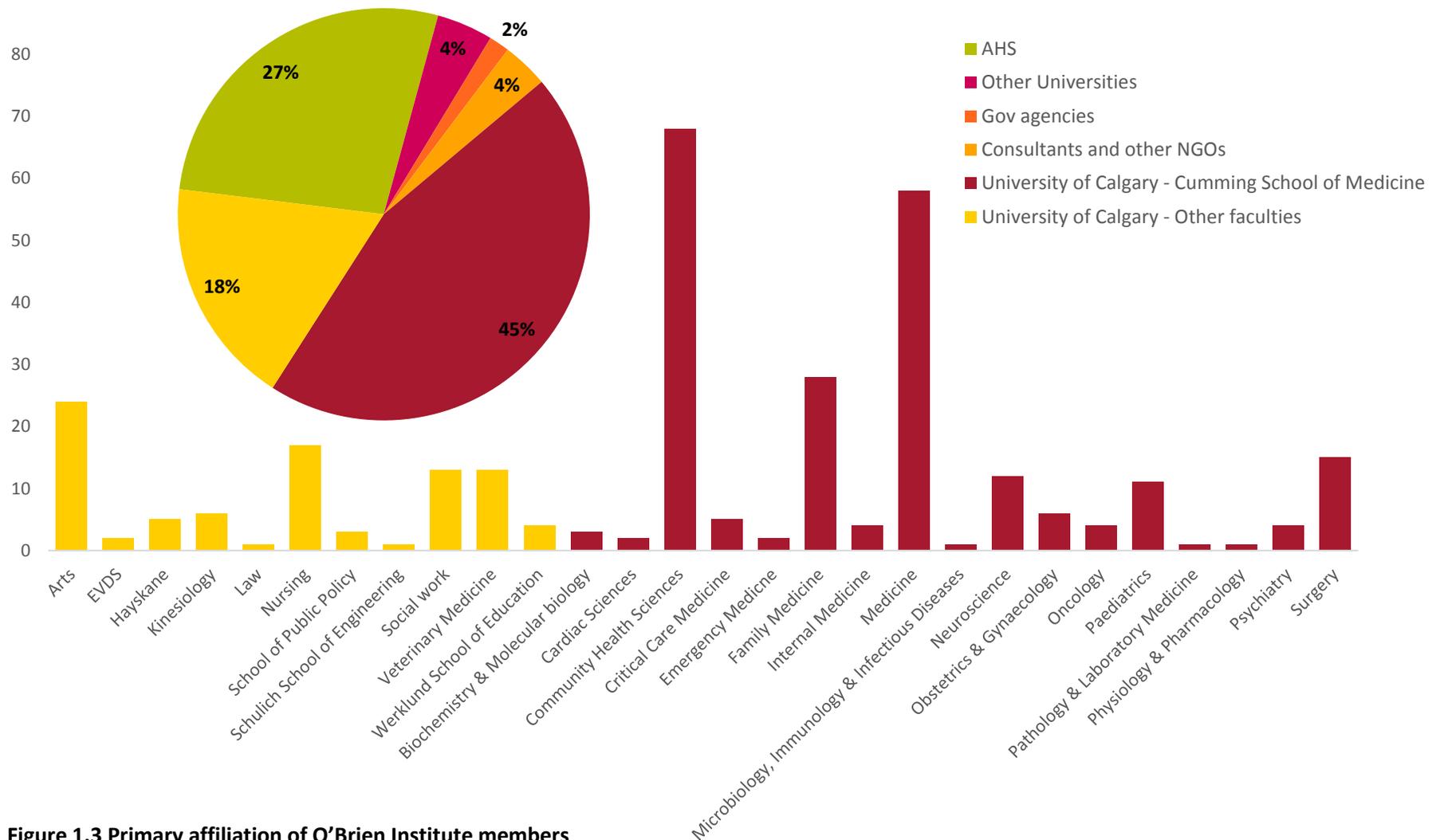


Figure 1.3 Primary affiliation of O'Brien Institute members

The O'Brien Institute membership is multidisciplinary, and includes a combination of knowledge generators (who initiate and conduct research projects) and knowledge users (who incorporate new knowledge into policy and practice). Forty-five percent of O'Brien Institute members have their appointments within 17 Departments of the Cumming School of Medicine (representation from the Physiology and Pharmacology Department being new since 2017). Another 18% are appointed within 11 other University of Calgary Faculties and Schools (the Faculty of Law and the School of Public Policy being an addition since 2017). Alberta Health Services employees account for 27% of the membership, and the remaining 10% come from municipal and provincial government agencies, community service organizations, and other educational institutions.

Appendix 2 - Operational Funding

	FY 2014/2015 (\$)	FY 2015/2016 (\$)	FY 2016/2017 (\$)	FY 2017/2018 (\$)	FY 2018/2019 (\$)	TOTAL 2014/2019 (\$)
FUNDS AVAILABLE TO SPEND						
Balance of funds at close of previous period	51,122	8,093,963	7,265,173	6,316,353	5,674,656	-
O'Brien naming donation + interest*	7,984,721	205,537	91,824	45,137	67,487	8,394,705
O'Brien interest from endowed gift*	-	-	70,173	163,760	268,568	502,500
Donations (multi-sources)	48,863	27,060	30,678	298,792	335,491	740,884
Event Sponsorship	-	-	-	-	309,719	309,719
Cumming School of Medicine allocation	131,392	51,000	51,000	51,000	50,905	335,297
Contracts	452,428	1789	3,385	12,500	-	470,103
TOTAL FUNDS AVAILABLE FOR PERIOD	\$ 8,668,524	\$ 8,379,349	\$ 7,512,233	\$ 6,887,542	\$ 6,706,825	\$ 10,753,207
EXPENDITURES						
Salaries	333,493	501,420	572,211	621,674	703,856	2,732,654
Events	79,018	101,712	72,132	136,369	137,857	527,088
Sponsored events	6,840	36,942	48,789	13,957	18,881	125,409
Catalyst awards	32,098	169,951	212,921	104,889	328,369	848,227
Start-up grants	31,068	135,000	172,500	158,500	167,279	664,348
Trainees	-	33,916	32,555	41,477	45,576	153,524
Research Groups	25,578	59,446	16,118	33,134	22,939	157,214
Executive Committee Portfolios	10,932	32,494	28,017	27,618	12,232	111,292
CORE General Expenses / Enterprise	23,319	39,196	39,878	74,963	17,595	194,951
Institute Infrastructure	32,215	4,100	761	305	5,445	42,826
TOTAL EXPENDITURES	\$ 574,561	\$ 1,114,176	\$ 1,195,880	\$ 1,212,886	\$ 1,460,029	\$ 5,557,533
BALANCE AT CLOSE OF PERIOD	\$ 8,093,963	\$ 7,265,173	\$ 6,316,353	\$ 5,674,656	\$ 5,248,796	-

Figure 2.1 O'Brien Institute statement of accounts from Fiscal years 2014/15 to 2018/19

This statement of account includes only the funds directly available for operating expenditures of the Institute. It excludes funding that is held and expenditures that are made by the Institute on behalf of stakeholders (eg. "in-and-out" transactions for fellowships, and research projects "sub-contracted" to members.)

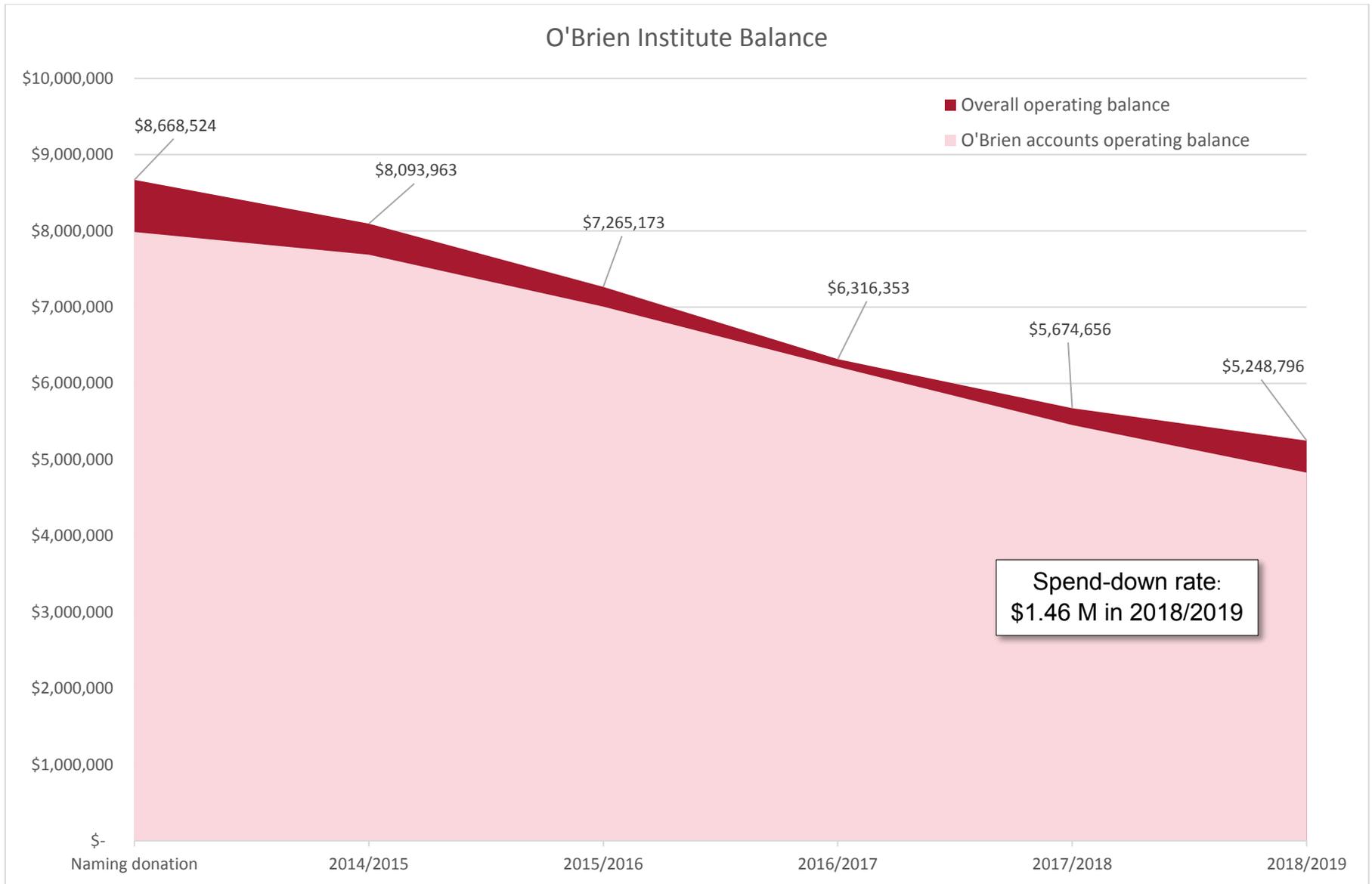


Figure 2.2 O'Brien Institute annual balances and current spend-down rate

The O'Brien naming donation was projected to sustain the Institute for 10 – 15 years, and complete spend-down is on schedule for 2022.

Appendix 3 - External Research Funding

Figure 3.1 O’Brien Institute members’ external research revenue with respect to the Cumming School of Medicine and its six other institutes

Sources of revenue secured by Institute members include the federal tricouncil agencies (Canadian Institutes of Health Research (CIHR), the Social Sciences and Humanities Research Council (SSHRC), Natural Science and Engineering Research Council (NSERC)); other federal government sources (*e.g.*, Canada Research Chairs, Canada Foundation for Innovation); provincial research funding agencies (*e.g.*, Alberta Innovates); national and provincial not-for-profit agencies (*e.g.*, Heart and Stroke Foundation), and corporate sponsors. Recent results rank the O’Brien Institute in the top 2 of the 7 Cumming School of Medicine Institutes, which is notable given the typically lower project budgets required for health services and population health research (relative to basic science research, with its greater infrastructure needs).

*Note that these data only include the 209 (of total 505) O’Brien members tracked by CSM.

Institute	2015/16 Total Research Revenue (% of CSM)	2017/18 Total Research Revenue (% of CSM)
HBI	41.7 M (24.95%)	47.04 M (23.72%)
O’Brien*	31.72 M (18.98%)	45.87 M (23.13%)
Snyder	31.0 M (18.55%)	35.19 M (17.75%)
ACHRI	20.62 M (12.34%)	29.58 M (14.92%)
Libin	20.38 M (12.19%)	22.4 M (11.3%)
Charbonneau	15.3 M (9.16%)	18.48 M (9.32%)
McCaig	10.36 M (6.2%)	10.75 M (5.42%)
CSM	167.11 M (100%)	198.3 M (100%)

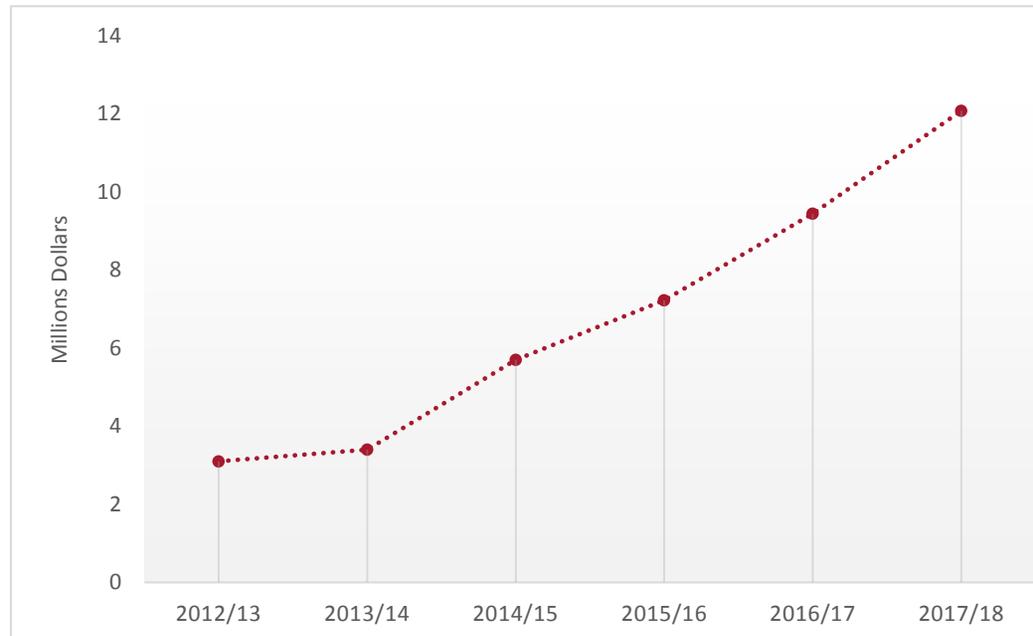


Figure 3.2 O’Brien Institute members’ CIHR revenue

Of the total research revenue tabulated in Figure 3.1, a large proportion is competitive, peer-reviewed funding from the Canadian Institutes of Health Research (CIHR). Members are increasingly successful in CIHR competitions, and securing a steadily increasing amount of CIHR funding.

	Award Year	CSM	ACHRI	HBI	Libin	McCaig	Charbonneau	Snyder	O'Brien
IPR Program launch →	2010	22	4	10	5	1		5	1
	2011	29	3	10	9		1	7	5
	2012	23	3	6	4		4	5	4
Change to CIHR Programs →	2013	30	2	10	3	1	3	5	10
	2014	24	4	9	4	1	3	3	6
	2015	34	4	9	4	3	1	4	10
	2016	32	5	14	4	1	1	8	7
	2017	34+1	9	11	3	2	3	5	10
	2018	27	5	8	7	2	1	5	13

Figure 3.3 Number of CIHR Open Operating Grant Program (OOGP), Foundation Scheme, and Project Scheme awards to O'Brien Institute and other Cumming School of Medicine (CSM) institutes

Successful applications for CIHR open funding are considered the benchmark for Canadian researchers. CIHR modified its open programs in 2014 to include both a Project Scheme for short-term research projects (similar to the previous OOGP) and a new Foundation Scheme, which provided excellent researchers with longer, programmatic funding (the Foundation Scheme therefore arguably even more prestigious).

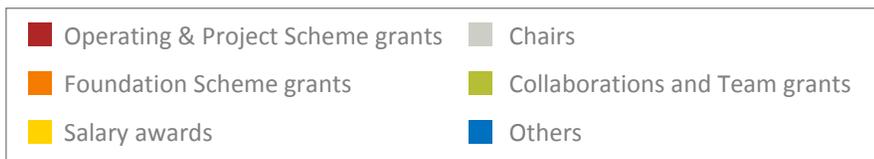
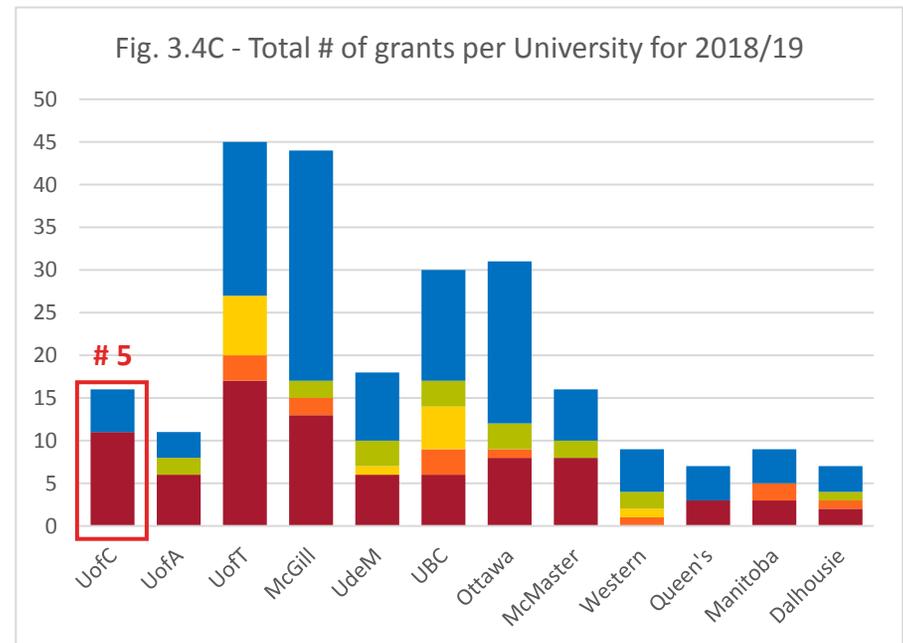
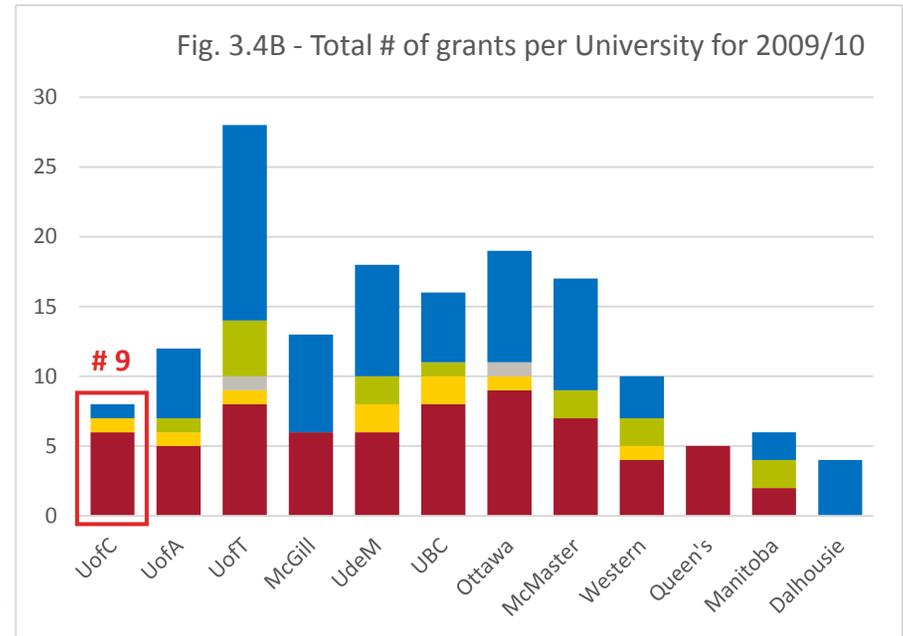
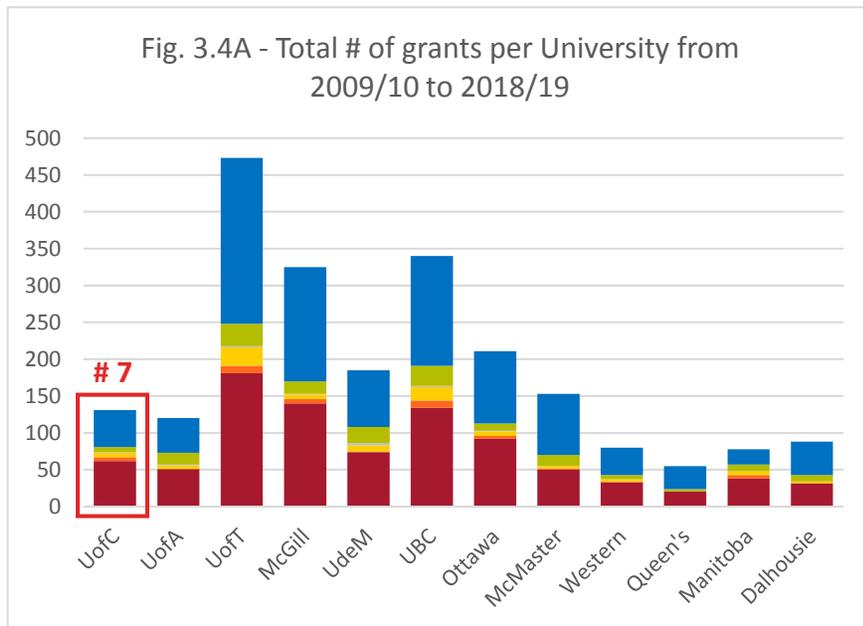
The O'Brien Institute's share of CIHR awards has risen since the Institute's official launch in 2010, and since implementation of its Internal Peer Review program, such that it is consistently among the Cumming School of Medicine's top ranked institutes.

NB:

- Successful awards for dual members are counted in the totals of both relevant institutes, such that the CSM value \leq the total of the Institutes' values.
- Unless otherwise noted, external award data presented throughout this document are only for the CSM cohort (45% of the O'Brien Institute membership) from whom most of the University of Calgary's CIHR applications emanate.
- CIHR has recently cancelled the Foundation Scheme program: since the [2017 RIA](#), 1 additional O'Brien member received a Foundation Scheme award, and one member's application is pending final CIHR decision/notification in the final competition

Figure 3.4 CIHR Pillar 3 and 4 Grants to UofC and other Canadian universities

These figures depict the number of grants awarded, per University, by the two CIHR Institutes most relevant for public health researchers: the Institute of Population and Public Health (IPPH) and the Institute of Health Services and Policy Research (IHSPR). In the context of other Canadian universities applying to IPPH and IHSPR, the University of Calgary's ranking (attributable almost exclusively to O'Brien members) went from #9 in 2009/10 (Fig. 3.4B) to #5 in 2017/18 (Fig. 3.4C). This #5 ranking has been maintained from the 2016/17 results shown in the [2017 RIA](#).



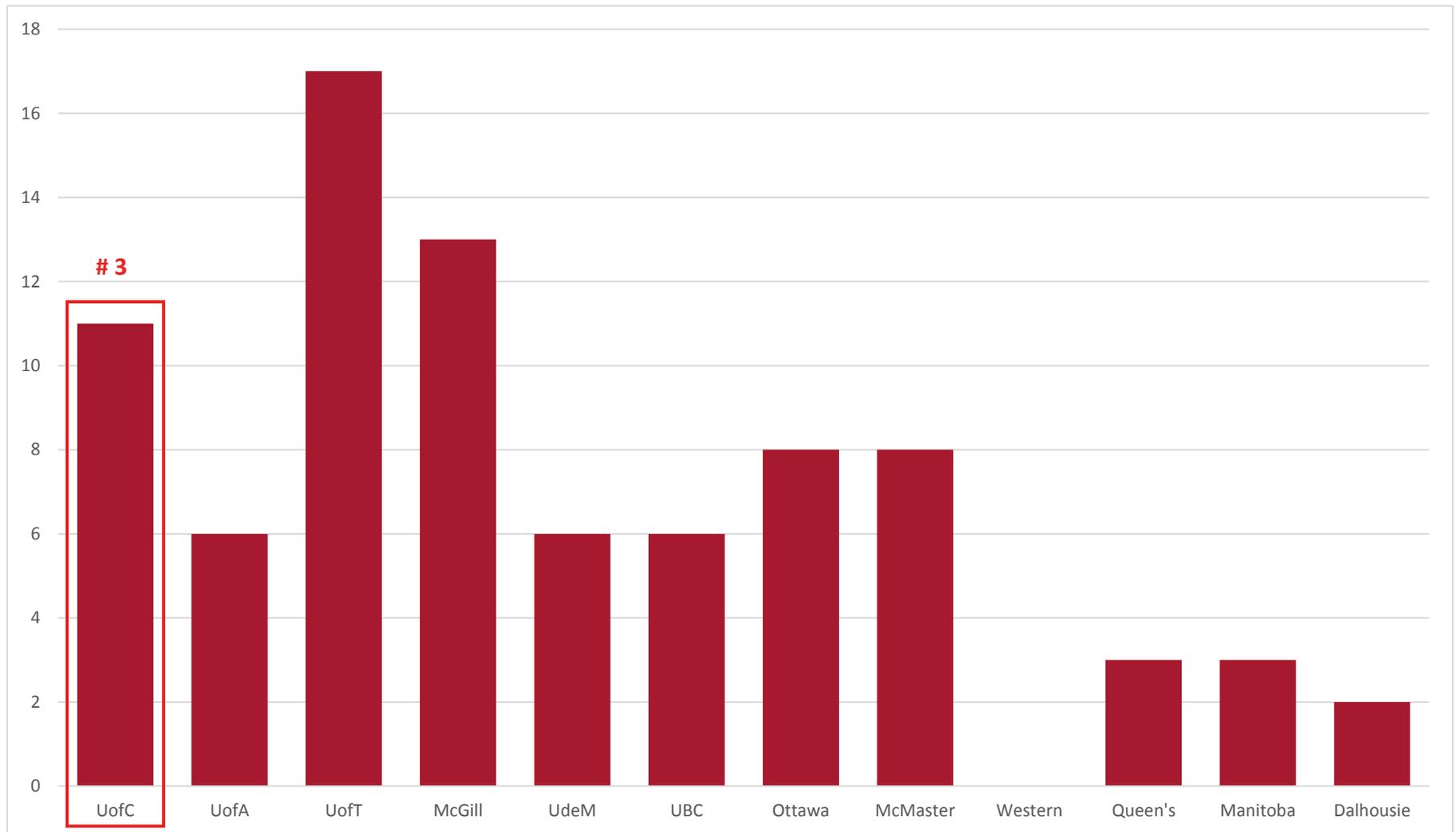


Figure 3.5 CIHR Pillar 3 and 4 Operating Grants to UofC and other Canadian universities

Data from Figure 3.4 are narrowed to consider only CIHR's operating grants, which are awarded through Canada's most competitive health funding opportunities (Project Scheme had a 15% national success rate in Fall 2018). UofC ranks third in IPPH and IHSPR operating grants.

Appendix 4 - Bibliometrics

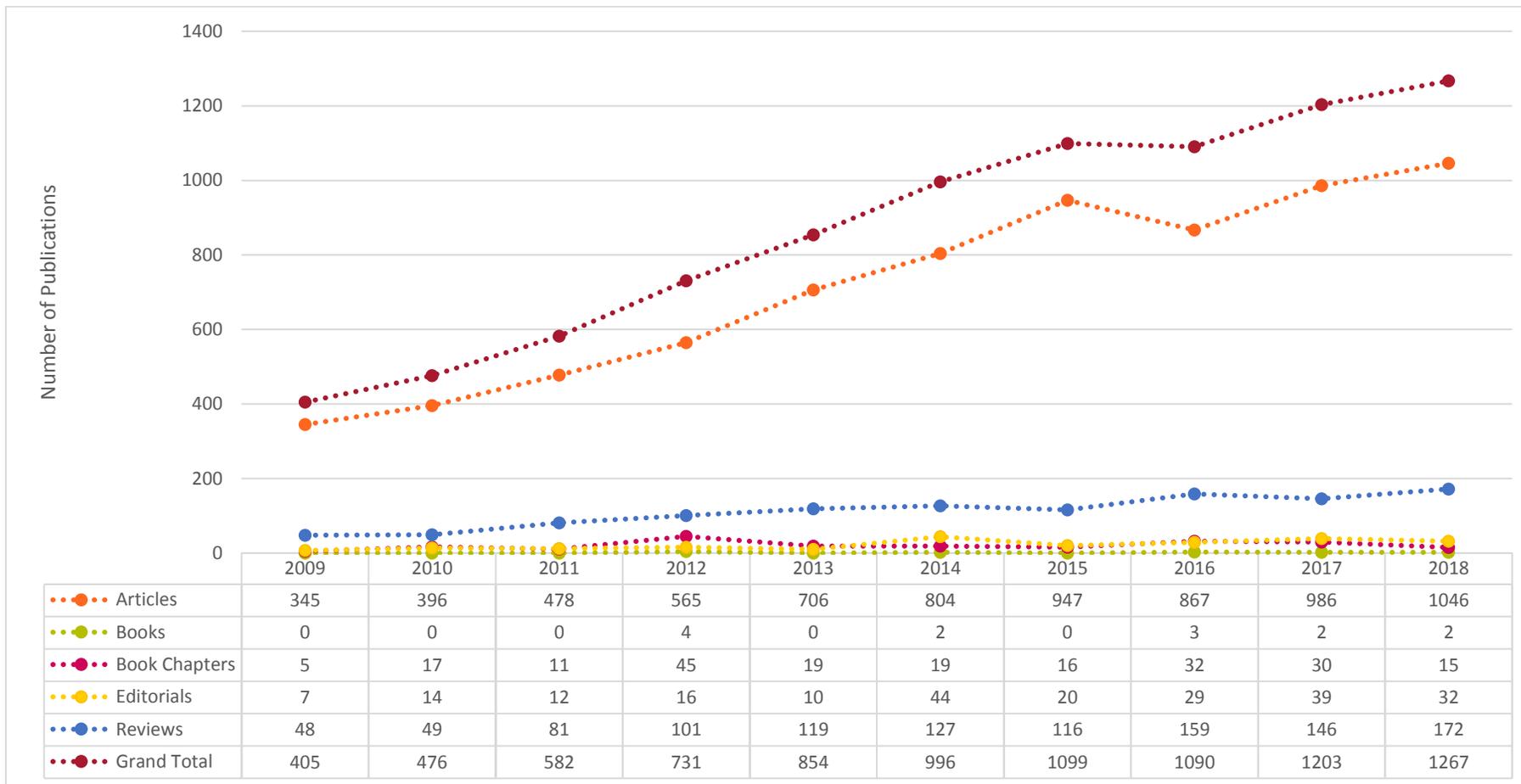


Figure 4.1 Total research publications by O’Brien Institute members

The number of research publications by O’Brien Institute members has increased substantially in the sampled period of January 2009 – December 2018. Peer-reviewed articles of independent research comprise the majority of this work. Of the 501 members (as of December 31st, 2018) tracked through Scopus, 296 members had at least one publication during this time period. Unless otherwise noted, the data from these 296 members is presented in all ensuing bibliometrics figures. Publications with more than one O’Brien Institute author are counted only once, and data for an author are only included in the year(s) after their O’Brien membership. Ongoing adaptations of bibliometrics methods preclude direct comparison of these data with those shown in previous O’Brien reports, and no obvious technical explanation accounts for the dip in Articles in 2016.

Figure 4.2 Research publication output profile of O'Brien Institute members

Most of the Institute's 500 members have three or less publications per year, which is not surprising given the large contingency of non-academic members. A growing cadre of more than 50 prolific members have greater than 10 publications per year. Publications with more than one O'Brien Institute author are counted for each author.

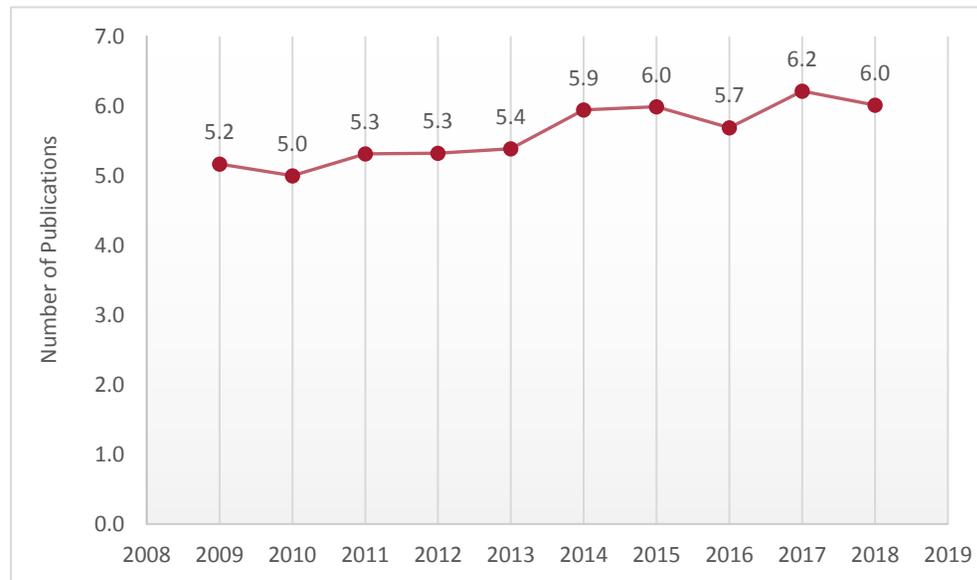
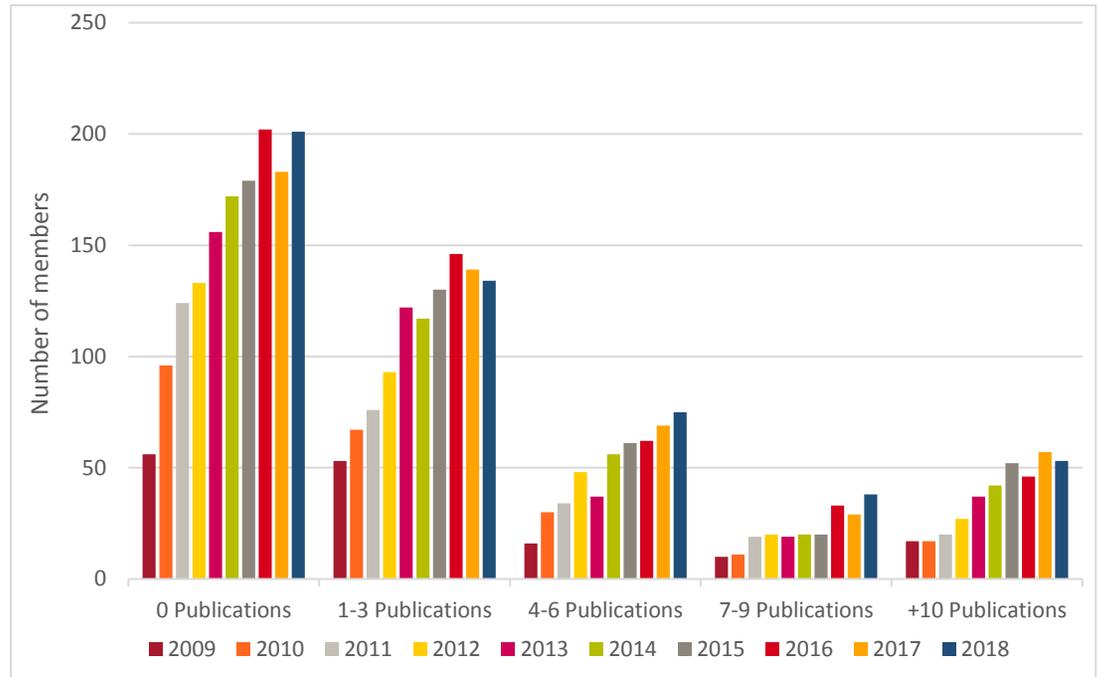


Figure 4.3 Average number of research publications per publishing O'Brien Institute member

The average number of research publications per O'Brien Institute member has increased over time. Publications with more than one O'Brien Institute author are counted for each author.

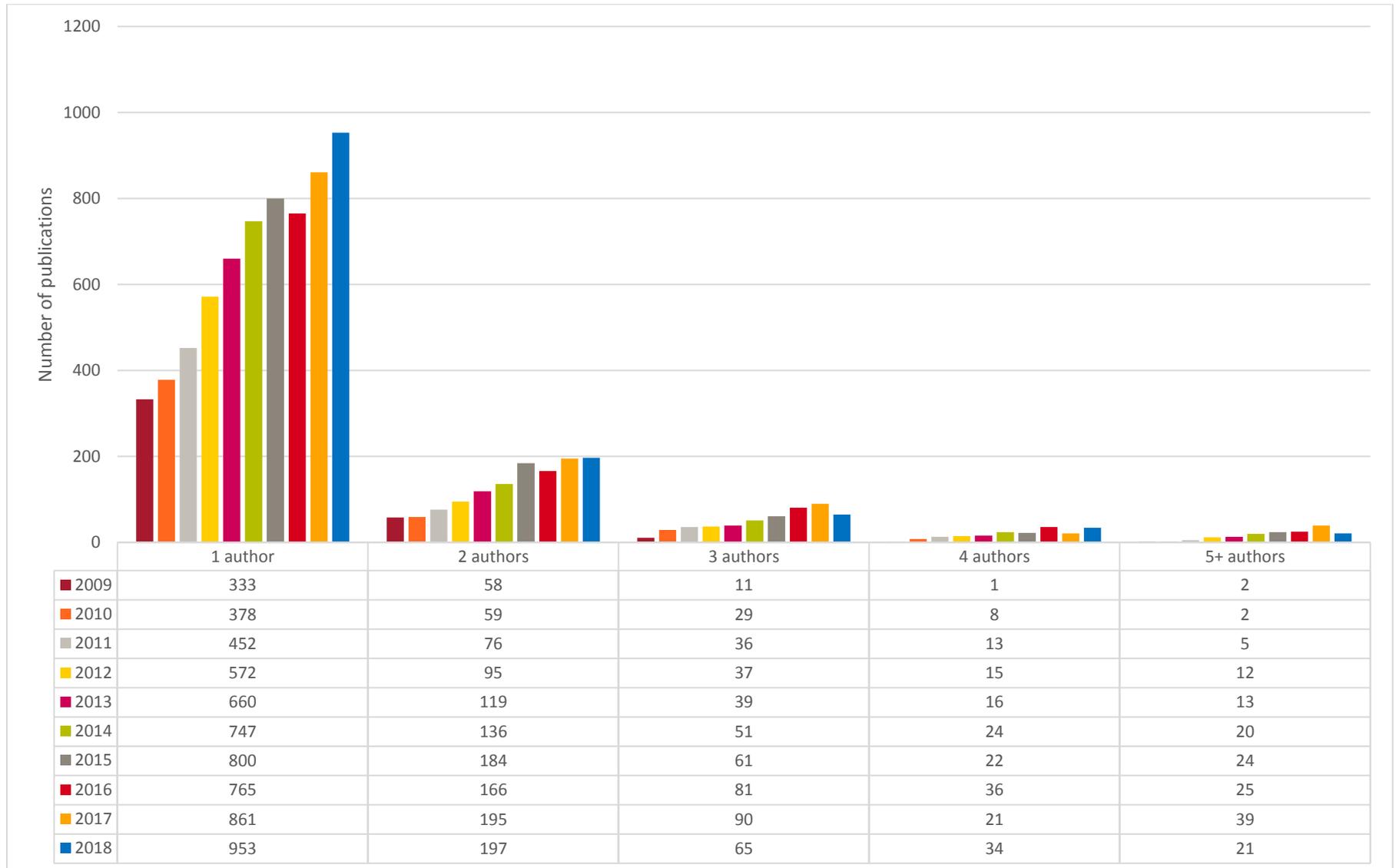


Figure 4.4 Co-authorship of O’Brien Institute members

Most of the publications revealed by the Scopus exercise had one O’Brien author, although there appears to be a trend for two or more O’Brien members to co-publish.

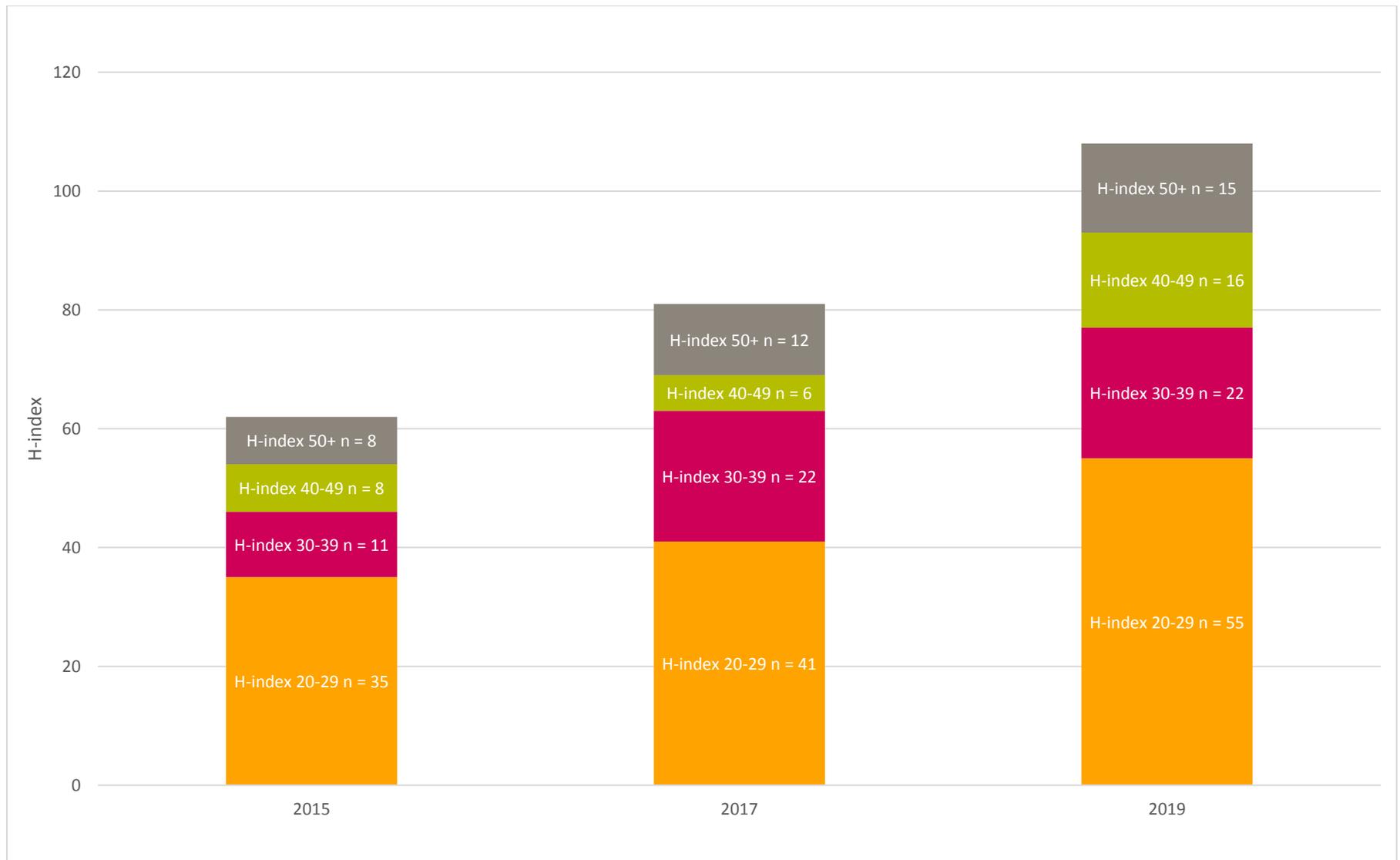


Figure 4.5 H-index distribution among O'Brien Institute members

The use of H-index is contentious, but it can be considered an indication of the quality and relevance of researchers' publications. Fifteen O'Brien Institute members currently have H-indexes ≥ 50 , meaning that each of these 15 have ≥ 50 publications that have been cited ≥ 50 times. H-index values were taken from Scopus.

Journal	Members' articles 2009-2016	Impact Factor 2018	Members' articles 2009-2018
American Journal of Epidemiology	11	4.322	13
American Journal of Public Health	6	4.380	6
Annals of Internal Medicine	10	19.384	12
British Medical Journal and its subsidiaries	100	23.562	160
Canadian Medical Association Journal	79	6.818	107
Critical Public Health	5	2.412	12
International Journal of Epidemiology	6	8.360	12
Journal of the American Medical Association	56	47.661	82
Medical Care	9	3.338	14
Nature Subsidiaries	21	41.557	27
New England Journal of Medicine	16	79.26	20
Social Science and Medicine	11	3.007	16
The Lancet and subsidiaries	44	53.254	73

Figure 4.6 Number of articles by O'Brien Institute members in a non-exhaustive sample of prestigious health services and population health journals

These data are presented as a further indication of quality and relevance of output. Generalist journals in the area of public health with higher impact factors were selected. Articles co-authored by multiple members are counted only once. Impact Factors cited from [Clarivate Analytics InCites Journal Citation Reports](#).

Figure 4.7 Examples of O'Brien Institute members' articles in prestigious health services and population health journals – pp 52 to 55

nature COMMUNICATIONS

ARTICLE

<https://doi.org/10.1038/s41467-018-08159-w> OPEN

Central body fatness is a stronger predictor of cancer risk than overall body size

Amanda M. Barberio¹, Asalah Alareeki², Benjamin Viner¹, Joy Pader¹, Jennifer E. Vena³, Paul Arora⁴, Christine M. Friedenreich^{1,5} & Darren R. Brenner^{1,5}

ANALYSIS HEALTH SERVICES CPD

The impact of pharmaceutical rebates on patients' drug expenditures

K. Ally Memedovich BHSc, Braden Manns MD MSc, Reed Beall PhD, Aidan Hollis PhD, Fiona Clement PhD

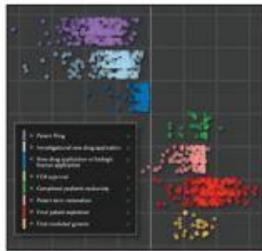
■ Cite as: *CMAJ* 2019 March 18;191:E308-12. doi: 10.1503/cmaj.181041

JAMA Psychiatry | Original Investigation | META-ANALYSIS

Prevalence of Depression in Patients With Mild Cognitive Impairment: A Systematic Review and Meta-analysis

Zahinoor Ismail, MD; Heba Elbayoumi, BScPharm; Corinne E. Fischer, MD; David B. Hogan, MD; Colleen P. Millikin, PhD; Tom Schweizer, PhD; Moyra E. Mortby, PhD; Eric E. Smith, MD; Scott B. Patten, MD, PhD; Kirsten M. Fiest, PhD

An interactive perspective is available at NEJM.org



Interactive Perspective: Major Events in the Life Course of New Drugs, 2000–2016

This interactive graphic allows viewers to explore data — gathered by Reed F. Beall, Thomas J. Hwang, and Aaron S. Kesselheim — on the time required for investigational drugs to reach important U.S. milestones, such as new drug applications, FDA approval, expiration of market exclusivity, and market entry of a generic version. Data may be viewed by individual drug, therapeutic class, approval pathway, and approval year, as well as in aggregate.

NE American Journal of Epidemiology
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Vol. 185, No. 2
DOI: 10.1093/aje/kww159
Advance Access publication:
December 20, 2016

Original Contribution

Inflammatory Cytokines and Lung Cancer Risk in 3 Prospective Studies

Darren R. Brenner, Anouar Fanidi, Kjell Grankvist, David C. Muller, Paul Brennan, Jonas Manjer, Graham Byrnes, Allison Hodge, Gianluca Severi, Graham G. Giles, Mikael Johansson*, and Mattias Johansson*

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Multicenter Trial of a Combination Probiotic for Children with Gastroenteritis

Stephen B. Freedman, M.D.C.M., Sarah Williamson-Urquhart, B.Sc.Kin., Ken J. Farion, M.D., Serge Gouin, M.D.C.M., Andrew R. Willan, Ph.D., Naveen Poonai, M.D., Katrina Hurley, M.D., Philip M. Sherman, M.D., Yaron Finkelstein, M.D., Bonita E. Lee, M.D., Xiao-Li Pang, Ph.D., Linda Chui, Ph.D., David Schnadower, M.D., M.P.H., Jianling Xie, M.D., M.P.H., Marc Gorelick, M.D., and Suzanne Schuh, M.D., for the PERC PROGUT Trial Group*



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journal homepage: www.elsevier.com/locate/socscimed



The application of ‘valence’ to the idea of household food insecurity in Canada

Lynn McIntyre^{a,*}, Patrick B. Patterson^a, Catherine L. Mah^b

^a Department of Community Health Sciences, Cumming School of Medicine, University of Calgary, 3rd Floor, Teaching Research and Wellness Building, 3280 Hospital Drive N.W., Calgary, AB, T2N 4Z6, Canada

^b School of Health Administration, Faculty of Health, Dalhousie University, 5850 College Street, Tupper Building, 2nd Floor, PO Box 15000, Halifax, NS, B3H 4R2, Canada

RESEARCH AND REPORTING METHODOLOGY

Evaluation of an electronic health record structured discharge summary to provide real time adverse event reporting in thoracic surgery

Andrew J Graham,¹ Wrechelle Ocampo,² Danielle A Southern,³ Anthony Falvi,⁴ Dina Sotiropoulos,⁴ Bruce Wang,⁵ Kevin Lonergan,⁶ Biraboneye Vito,⁷ William A Ghali,⁸ Sean Daniel Patrick McFadden¹

BMJ Qual Saf: first published as 10.1136/bmjqs-2018-008090

ORIGINAL ARTICLE

Lactobacillus rhamnosus GG versus Placebo for Acute Gastroenteritis in Children

David Schnadower, M.D., M.P.H., Phillip I. Tarr, M.D., T. Charles Casper, Ph.D., Marc H. Gorelick, M.D., M.S.C.E., J. Michael Dean, M.D., Karen J. O’Connell, M.D., Prashant Mahajan, M.D., M.P.H., Adam C. Levine, M.D., M.P.H., Seema R. Bhatt, M.D., Cindy G. Roskind, M.D., Elizabeth C. Powell, M.D., Alexander J. Rogers, M.D., Cheryl Vance, M.D., Robert E. Sapient, M.D., Cody S. Olsen, M.S., Melissa Metheny, B.S., R.N., Viani P. Dickey, A.B., Carla Hall-Moore, B.S., and Stephen B. Freedman, M.D.C.M., for the PECARN Probiotics Study Group

Restricting the use of antibiotics in food-producing animals and its associations with antibiotic resistance in food-producing animals and human beings: a systematic review and meta-analysis

Karen L Tang, Niamh P Caffrey, Diego B Nóbrega, Susan C Cork, Paul E Ronsley, Herman W Barkema, Alicia J Polachek, Heather Ganshorn, Nishan Sharma, James D Kellner, William A Ghali



Lancet Planet Health 2017; 1: e316–27

Weekend Surgical Care and Postoperative Mortality A Systematic Review and Meta-Analysis of Cohort Studies

Stephen A. Smith, MD,* Jennifer M. Yamamoto, MD,† Derek J. Roberts, MD, PhD,* Karen L. Tang, MD,† Paul E. Ronsley, PhD,‡ Elijah Dixon, MD,§ W. Donald Buie, MD,* and Matthew T. James, MD, PhD||

(*Med Care* 2018;56: 121–129)

JAMA | Original Investigation

Derivation and External Validation of Prediction Models for Advanced Chronic Kidney Disease Following Acute Kidney Injury

Matthew T. James, MD, PhD; Neesh Pannu, MD, SM; Brenda R. Hemmelgarn, MD, PhD; Peter C. Austin, PhD; Zhi Tan, MSc; Eric McArthur, MSc; Braden J. Manns, MD, MSc; Marcello Tonelli, MD, SM; Ron Wald, MD; Robert R. Quinn, MD, PhD; Pietro Ravani, MD, PhD; Amit X. Garg, MD, PhD

Nephrology consultation and mortality in people with stage 4 chronic kidney disease: a population-based study

Ping Liu PhD, Robert R. Quinn MD PhD, Mohammad Ehsanul Karim PhD, Aminu Bello MD PhD, Helen Tam-Tham PhD, Robert Weaver MSc, Paul E. Ronksley PhD, Hude Quan PhD, Giovanni F.M. Strippoli MD PhD, Braden Manns MD PhD, Brenda R. Hemmelgarn MD PhD, Marcello Tonelli MD SM, Pietro Ravani MD PhD

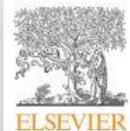
■ Cite as: *CMAJ* 2019 March 11;191:E274-82. doi: 10.1503/cmaj.181372

Worldwide incidence and prevalence of inflammatory bowel disease in the 21st century: a systematic review of population-based studies



Siew C Ng*, Hai Yun Shi, Nima Hamidi, Fax E Underwood, Whitney Tang, Eric I Benchimol, Remo Panaccione, Subrata Ghosh, Justin C Y Wu, Francis K L Chan, Joseph J Y Sung, Gilaad G Kaplan*

Lancet 2017; 390: 2769-78



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journal homepage: www.elsevier.com/locate/socscimed



Dog-bites, rabies and One Health: Towards improved coordination in research, policy and practice



Melanie J. Rock^{a, b, c, *}, Dawn Rault^{a, d}, Chris Degeling^e

^a Department of Community Health Sciences, Cumming School of Medicine, University of Calgary, Canada
^b O'Brien Institute for Public Health, University of Calgary, Canada
^c Department of Ecosystem and Public Health, Faculty of Veterinary Medicine, University of Calgary, Canada
^d Department of Economics, Justice and Policy Studies, Faculty of Arts, Mount Royal University, Canada
^e Centre for Values, Ethics and the Law in Medicine, School of Public Health, University of Sydney, Canada

Stroke 1



Current practice and future directions in the diagnosis and acute treatment of ischaemic stroke

Charlotte Zerna, Götz Thomalla, Bruce C V Campbell, Joung-Ho Rha, Michael D Hill

Lancet 2018; 392: 1247-56

JAMA Neurology | Original Investigation

Prediction Tools for Psychiatric Adverse Effects After Levetiracetam Prescription

Colin B. Josephson, MD, MSc, FRCPC; Jordan D. T. Engbers, PhD; Nathalie Jette, MD, MSc; Scott B. Patten, MD, PhD; Shaily Singh, MD, DM; Tolulope T. Sajobi, PhD; Deborah Marshall, PhD; Yahya Agha-Khani, MD; Paolo Federico, MD, PhD; Aaron Mackie, MD; Sophie Macrodimitris, PhD; Brienne McLane, MD; Neelan Pillay, MB ChB; Ruby Sharma, PhD; Samuel Wiebe, MD, MSc



Critical Public Health



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Universal and targeted policy to achieve health equity: a critical analysis of the example of community water fluoridation cessation in Calgary, Canada in 2011

Lindsay McLaren & Rachel Petit

ANALYSIS ■ VULNERABLE POPULATIONS CPD

Diet quality in Canada: policy solutions for equity

Dana Lee Olstad PhD RD, Norman R.C. Campbell MD, Kim D. Raine PhD RD

■ Cite as: *CMAJ* 2019 January 28;191:E100-2. doi: 10.1503/cmaj.180938

Research

JAMA Internal Medicine | Original Investigation

Assessment of the Safety of Discharging Select Patients Directly Home From the Intensive Care Unit A Multicenter Population-Based Cohort Study

Henry T. Stelfox, MD, PhD; Andrea Soo, PhD; Daniel J. Niven, MD, PhD; Kirsten M. Fiest, PhD; Hannah Wunsch, MD, MSc; Kathryn M. Rowan, PhD; Sean M. Bagshaw, MD, MSc

ORIGINAL RESEARCH

A randomised controlled trial assessing the efficacy of an electronic discharge communication tool for preventing death or hospital readmission

Maria J Santana,¹ Jayna Holroyd-Leduc,^{1,2} Danielle A Southern,¹ Ward W Flemons,² Maeve O'Beirne,³ Michael D Hill,^{1,2,4} Alan J Forster,⁵ Deborah E White,⁶ William A. Ghali,⁷ the e-DCT Team

BMJ Qual Saf: first published as 10.1136/bmjqs-2017-006635

EDITORIAL

Screening for Obstructive Sleep Apnea Important to Find, but How Hard Should We Look?

Sachin R. Pendharkar, MD, MSc, FRCPC, Dipl ABIM (Sleep); Fiona M. Clement, PhD

RESEARCH ■ HEALTH SERVICES

Patient, family and provider experiences with transfers from intensive care unit to hospital ward: a multicentre qualitative study

Chloe de Good BSc, Jeanna Parsons Leigh PhD, Sean M. Bagshaw MD MSc, Peter M. Dodek MD MHSc, Robert A. Fowler MD MSc, Alan J. Forster MD MSc, Jamie M. Boyd BA, Henry T. Stelfox MD PhD

■ Cite as: *CMAJ* 2018 June 4;190:E669-76. doi: 10.1503/cmaj.170588

Research

JAMA Pediatrics | Original Investigation

Association Between Screen Time and Children's Performance on a Developmental Screening Test

Sheri Madigan, PhD; Dillon Browne, PhD; Nicole Racine, PhD; Camille Mori, BA; Suzanne Tough, PhD

Appendix 5 - Awards and achievements

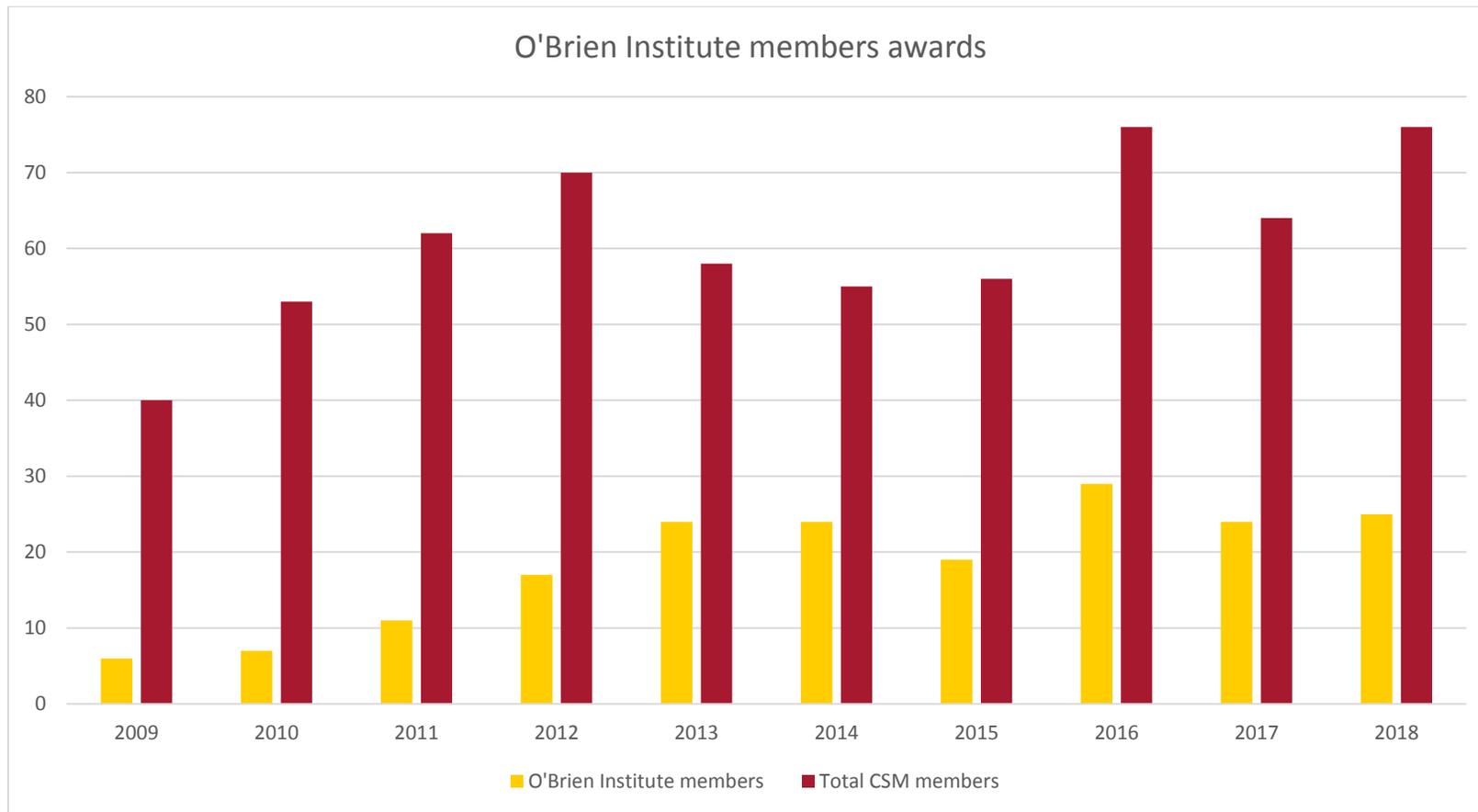


Figure 5.1 Recognition of O'Brien Institute members

Forty-five percent of O'Brien Institute members are faculty of the Cumming School of Medicine and therefore among the population whose major awards are recognized at an annual CSM Celebration of Excellence. In recent years, O'Brien members make up a large portion of total CSM awardees.

As there is no comprehensive source of awards and recognition data, the table below lists those compiled from the CSM data graphed above and the O'Brien Institute's records.

Awards received by O'Brien Institute members in 2017-2018

Award	2017 Recipient(s)	2018 Recipient(s)
Distinguished Achievement Award		
Order of Canada	Tom Feasby	John Conly
Canadian Academy of Health Science Induction	Christine Friedenreich (2016) Tom Noseworthy	
Fellowship, Royal Society of Canada	William Ghali	
Royal Society of Canada College of New Scholars, Artists and Scientists		Cheryl Barnabe
Medical and Scientific Organization Awards		
Alan Drummond Advocacy Award, Canadian Association of Emergency Physicians		Joe Vipond
Alberta Medical Association Medal for Distinguished Service		John Kortbeek
Alberta Medical Association, Member Emeritus		Brent Friesen
Alberta Medical Association, Compassionate Service Award		Bonnie Larson
Alumni Honor Award, University of Alberta		Lindsay Crowshoe
Career Research Award, Canadian Pediatric Society		David Johnson
Canadian Woman in Global Health, Canadian Society for International Health		Jennifer Hatfield Jennifer Brenner
Dr. John B. Dossetor Research Award, Kidney Foundation	Brenda Hemmelgarn	
Dr. Robert Heaney Young Investigator Award, American Society for Bone and Mineral Research		Emma Billington
Early Career Researcher in Health Science/Population Health Award, Arthritis Alliance of Canada		Claire Barber
Geoffrey C. Robinson Award, Canadian Pediatric Society	Suzanne Tough	
Ian Stiell Researcher of the year Award, Canadian Association of Emergency Physicians		Andrew McRae
Jeffrey Shiroky Award, Canadian Rheumatology Association	Cheryl Barnabe	
Junior Investigator Award, Canadian League Against Epilepsy		Colin Josephson
Medal for Research Excellence, Kidney Foundation of Canada	Braden Manns Brenda Hemmelgarn	
Measuring Impact Award, Canadian Partnership for Women and Children's Health		Jennifer Brenner
Outstanding Leadership in Health Innovation Astech Foundation		Brenda Hemmelgarn
Physician Well-Being Article Award, Stanford Medicine WellMD Center		Jane Lemaire
Ralph Meyer Young Investigator Award, Canadian Cancer Trials Group		Winson Cheung
Royal College of Physicians and Surgeons of Canada, Honorary Fellowship	Jocelyn Lockyer	
Senior Investigator Award, Hypertension Canada	Hude Quan	
Sherbaniuk/Hershfield Award for Distinguished Service, Alberta Society of Gastroenterology	Guido Van Rosendaal	
Well-Being Award, Professional Association of Resident Physicians of Alberta	Claire Temple-Oberle	

Award	2017 Recipient(s)	2018 Recipient(s)
Community & Services Awards		
Calgary Avenue Magazine top 40 under 40	Glen Hazlewood Daniel Niven	Amy Metcalfe Kirsten Fiest Tolu Sajobi Prism Schneider
Citation Awards		
10,000 Citation Award	Tom Feasby Christine Friedenreich Marcello Tonelli Scott Patten	
1,000 Citation Classic	Gilaad Kaplan	
University of Calgary Awards		
International Achievement Award	Jennifer Hatfield	
Killam Emerging Research Leader Award		Cheryl Barnabe Matt James
Killam Annual Professor Award		Michael Hill
O'Brien Institute for Public Health Awards		
Emerging Research Leader Award	Glen Hazlewood	Kirsten Fiest
Mid-Career Research Leader Award	Tom Stelfox	Matt James
Research Excellence Award	Deborah Marshall	David Hogan
Societal Impact Award	Jennifer Hatfield	Katrina Milaney
Lynn McIntyre Award for Outstanding Services	Rebecca Haines-Saah	Aleem Bharwani