



UNIVERSITY OF CALGARY
O'Brien Institute for Public Health

UNIVERSITY OF CALGARY | O'Brien Institute for Public Health

RESEARCH IMPACT ASSESSMENT 2015

Prepared for:

**The O'Brien Institute for Public Health
International Scientific Advisory Group**

March 9, 2015

Dear Reader:

Activities within the O'Brien Institute for Public Health have been guided by regular assessment of progress toward the interconnecting [goals, targets, and objectives](#) laid out in its [March 2013 Business Plan](#). In September 2013 we released our first [Metrics Report](#), which focused on membership, research awards, bibliometrics, support programs, and public health impact and outputs. That Report, which was prepared in anticipation of our first International Scientific Advisory Group review, was primarily based on data freely available through the Faculty of Medicine, the Canadian Institutes of Health Research, and University of Calgary library resources.

This second report builds on the first, with the following important changes:

- It includes but also goes beyond freely available data, as a start to more fully capturing the breadth and depth of O'Brien Institute activities.
- It is structured to reflect the [feedback received from the International Scientific Advisory Group](#), addressing three categories of success related to the Institute's operations, scientific output, and societal impact.
- It adopts the revised title of "Research Impact Assessment" to acknowledge an enhanced effort at measuring success beyond traditional research outputs, and presents "Indicators" rather than "Metrics" to convey the importance of both quantitative and qualitative indicators of performance.

We intend to release Research Impact Assessments periodically, on an 18-month to biennial basis. Continual refinements will ensure that the indicators compiled and analyzed are those most meaningful to population health and health services research, feasible within the Institute's environment, and optimally responsive to the needs of our key stakeholders.

Thank you for your interest in the O'Brien Institute for Public Health.

Lindsay McLaren and Jenny Godley

William Ghali

Lynn McIntyre

Jamie Day

Executive Committee leads for Performance Metrics

Scientific Director

Associate Scientific Director

Administrative Director

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The O'Brien Institute at a Glance

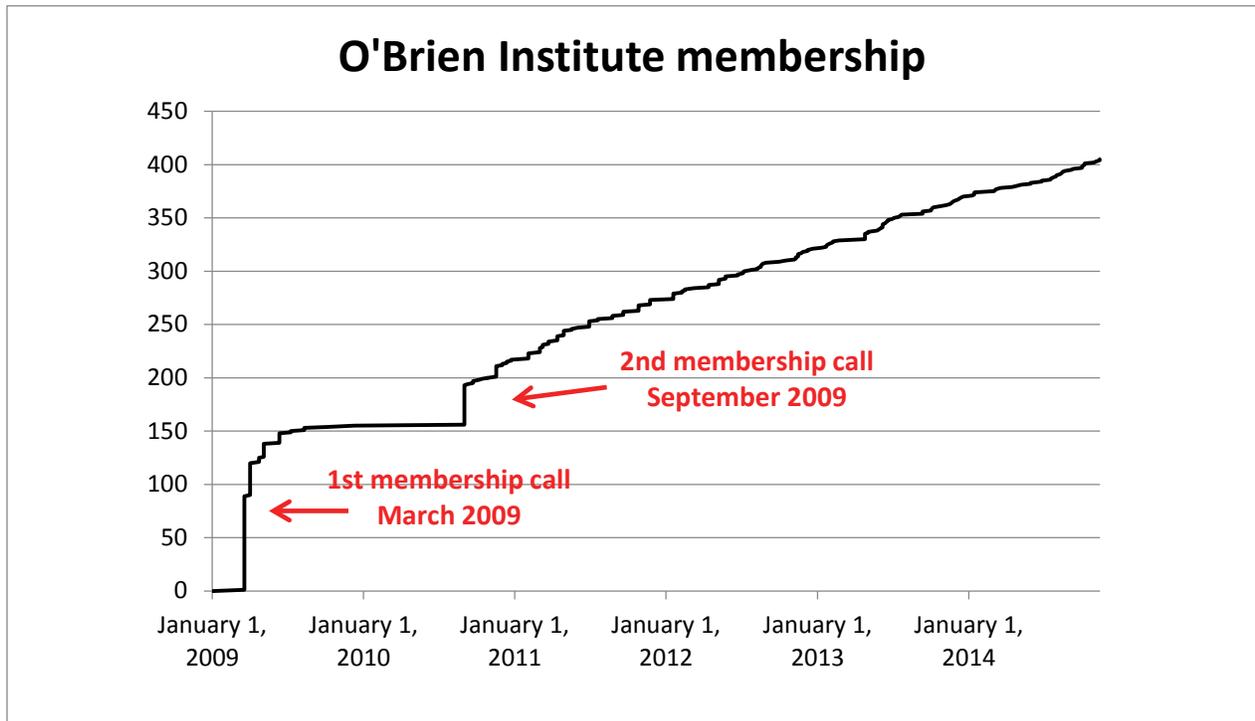
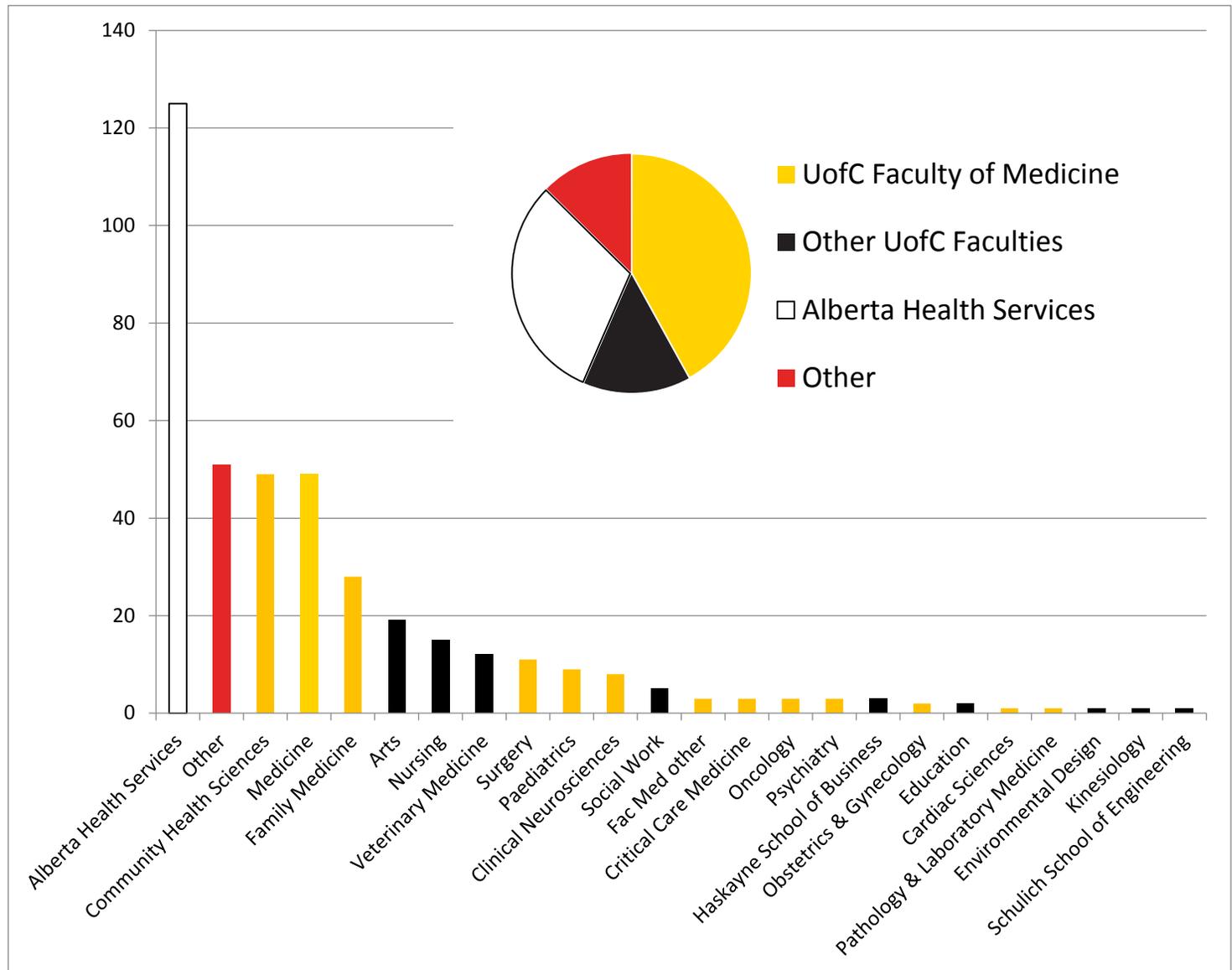


Figure 1. Growth in the number of members in the O'Brien Institute for Public Health

An initial call in March 2009 established a base membership, from which inaugural leadership was able to continue development of the Institute, including the appointment of Dr William Ghali as Scientific Director in July 2010. A second membership call launched an ongoing membership growth that attests to the relevance of the Institute's support programs and networking events. The O'Brien Institute membership is diverse, and includes a combination of stakeholders who generate knowledge (i.e., individuals who initiate and conduct research innovation projects) and knowledge users, who incorporate new knowledge into health policy and broader public policy.

Figure 2. Main affiliation of O'Brien Institute members.

Forty-two percent of O'Brien Institute members have their appointments within 14 Departments of the Cumming School of Medicine. Another 15% are appointed within 9 other University of Calgary Faculties. Alberta Health Services employees account for 31% of the membership. The 'Other' category includes municipal and provincial government agencies, community service organizations, and other educational institutions.



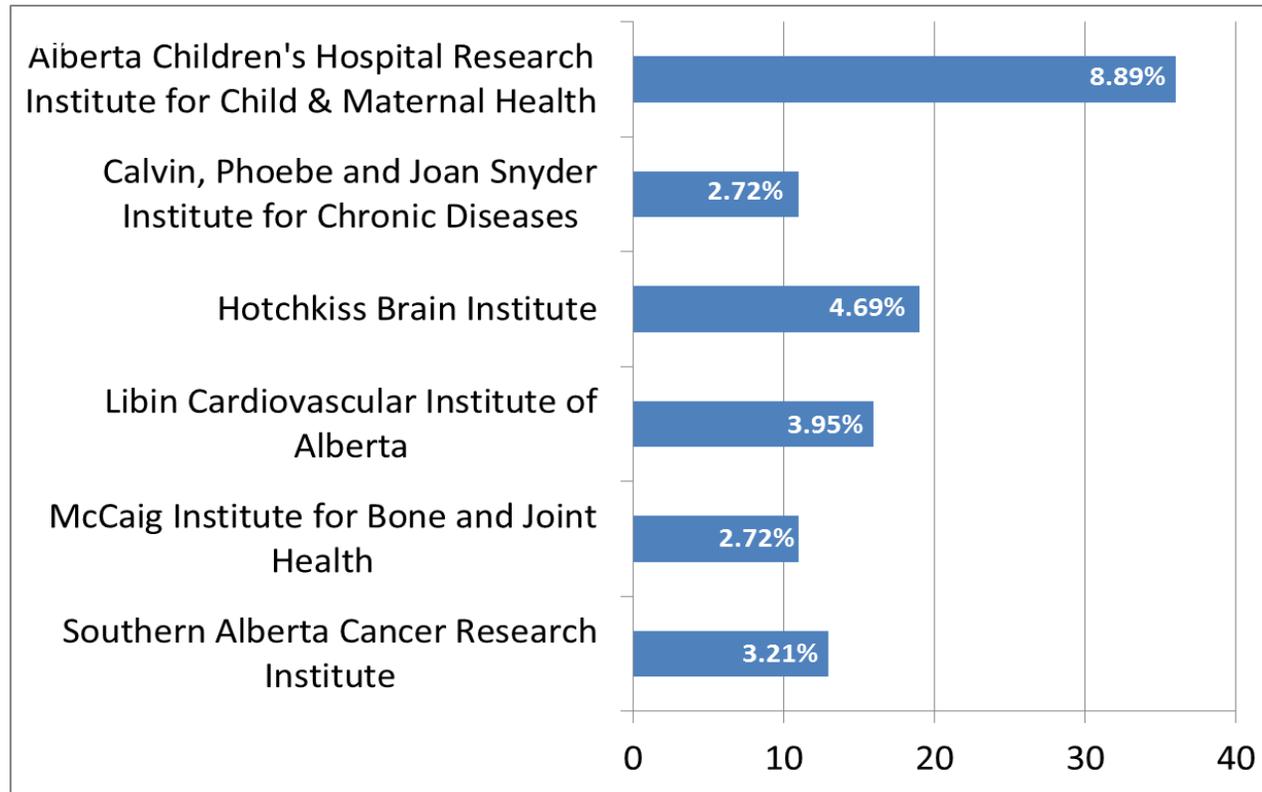


Figure 3. Dual Membership

The number (and percentage of total O'Brien Institute membership) of O'Brien members who are also members of one of the Cumming School of Medicine's six other research institutes. Approximately 26% of O'Brien members hold dual membership. 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

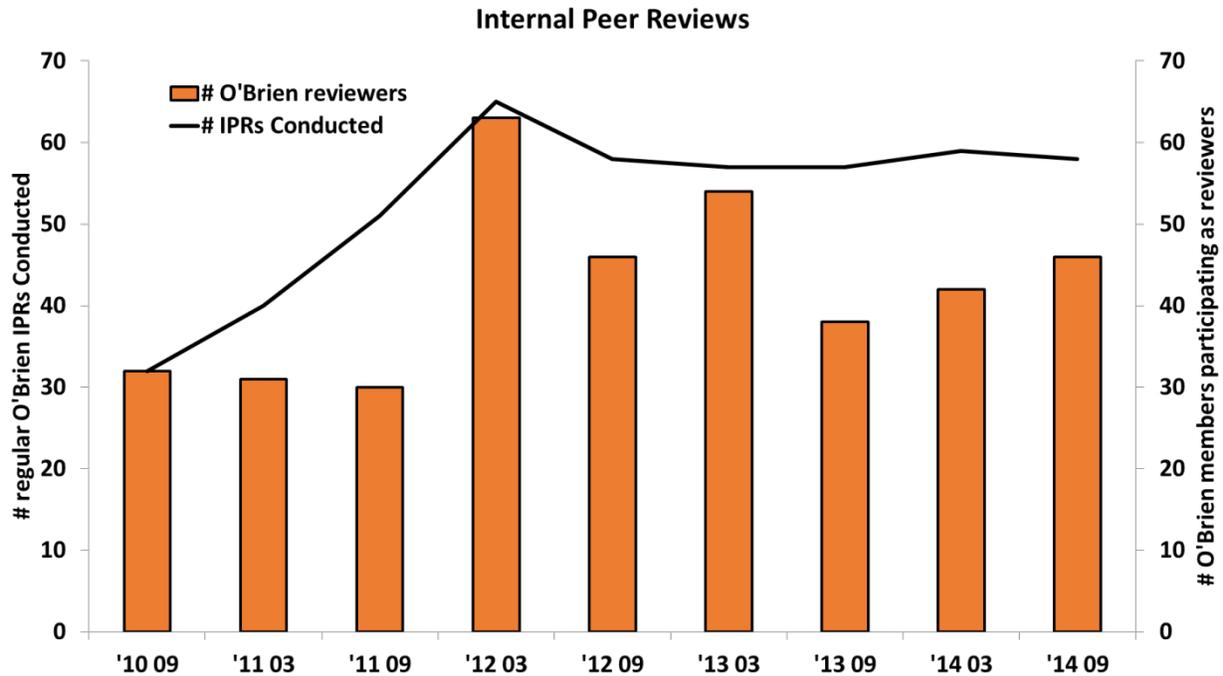


Figure 4. Internal Review Program

O'Brien Institute members with relevant expertise are selected and invited to review every CIHR OOGP application under development. At least two sets of constructive criticism per application are sought as part of this regular internal peer review (IPR), and experienced members often conduct > 1 review per competition. Internal peer reviewers, sometime working in committees, also assist with less standard (or especially strategic) funding opportunities, for which more intensive review processes are used. In addition to improving the quality of funding applications, the process increases networking among members.

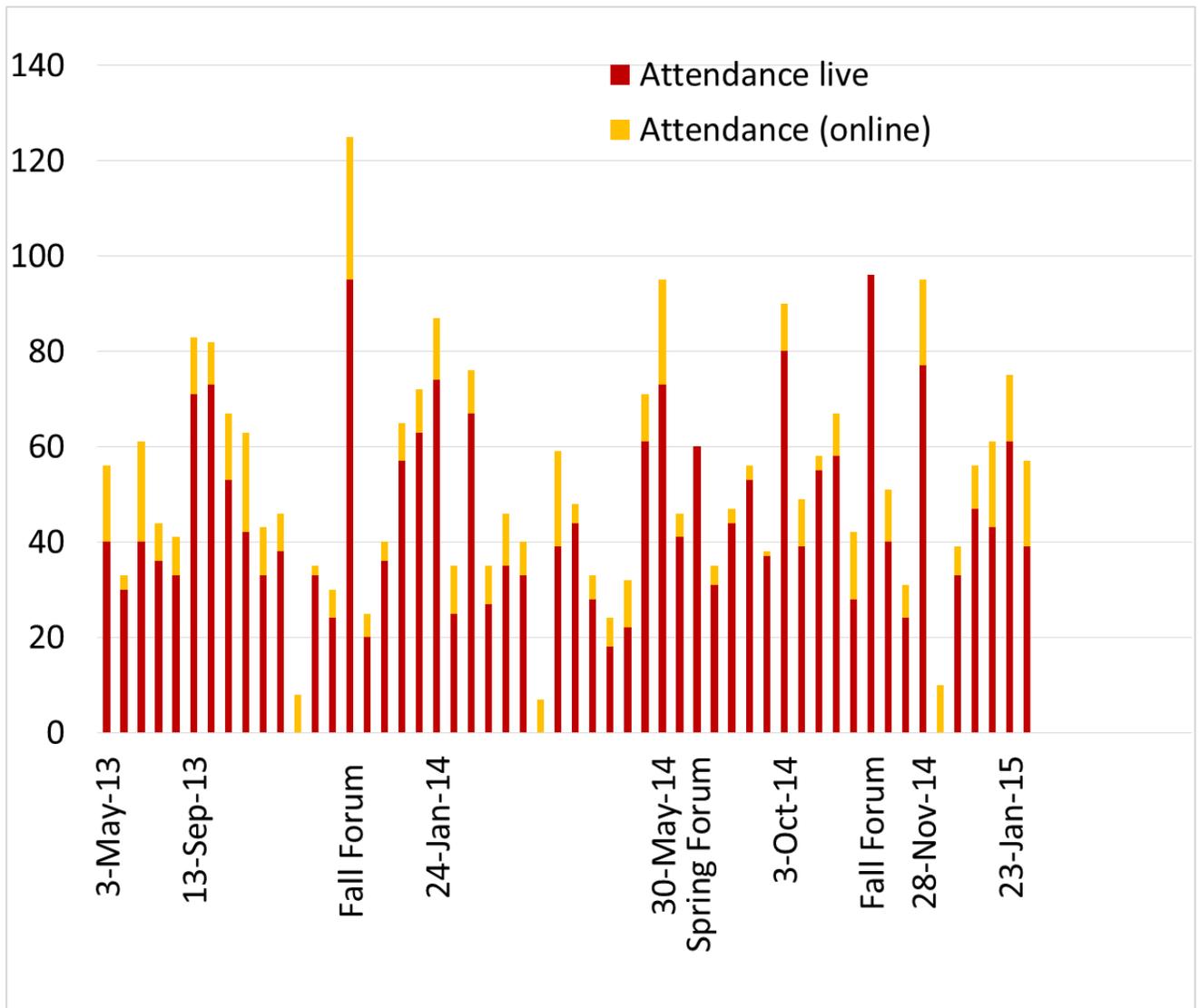


Figure 5. Seminars and events attendance

A wide variety of topics are presented in the weekly seminar series, and online attendance facilitates the participation of the O'Brien Institute's widespread membership. (Data for live attendance is missing in a few cases.) Among the most well attended of the weekly seminars (Sept 13, 2013; Jan 10, 2014; Oct 3, 2014; Jan 23, 2015) are those featuring a panel of Institute. Not shown is the January 22, 2015 [Imagine Project event](#), which was attended by an estimated 400 people, with another 275 participating online.

O'Brien at a Glance: Support Programs

Relationship of this type (in % of respondents) with:	another O'Brien Institute Member	another O'Brien Institute member <u>with the same affiliation</u>	another O'Brien Institute Member <u>with a different affiliation</u>
Grants and Publications			
Co-published, peer reviewed	66.7		
Co-published, other	39.7		
Applied for grants	66.7		
Held grants	56.3		
Served on grant peer review cttee	38.1		
Held other funding	30.2		
AT LEAST ONE	83.3	75.2	44.4
Advice and Mentorship			
Gave formal advice	54.8		
Received formal advice	51.6		
Gave informal advice	71.4		
Received informal advice	74.6		
Provided ongoing mentorship	43.7		
Received ongoing mentorship	41.3		
AT LEAST ONE	88.1	77.0	48.4
Teaching and Presentations			
Co-taught	50.8		
Developed curriculum	34.1		
Delivered seminar	38.1		
Invited other to deliver seminar	27		
AT LEAST ONE	65.9	57.1	31.0
Student Supervision			
Co-supervised	56.3		
Served on student committee	55.6		
AT LEAST ONE	67.5	57.9	22.2
Other			
Served on other committee	56.3		
Advocacy	42.1		
Hiring	43.7		
Other collaboration	52.4		
AT LEAST ONE	78.6	70.6	37.3

Figure 6. Intra-Institute Networking

Through programs including Internal Peer Review and Mentorship, and the many networking and information events organized by the Institute, members build and maintain valuable professional connections. An Institute-wide Relationship survey was conducted in January 2015, and 126 members responded as to the type of interactions occurring since 2010, and the categories of Institute members involved (within or between Departments, Faculties, and sectors). A large proportion of respondents have had relationships, most often within their own affiliation grouping (eg. University members with University members), but to a notable extent with members from the other sectors. More detailed results are [posted](#).

Funds spent (projects = 4)	\$51,051
Allocations approved (projects = 13)	\$309,250

Figure 7. Catalyst Program Allocations Since July 2014

The O'Brien Institute allocates small funding awards (< \$30,000) to encourage activities among the membership that will further the Institute's academic and societal impact goals. Prior to the naming donation, approximately \$50,000 was allocated annually to such activities. Since July of 2014, project proposals have been invited, with assessment criteria including: alignment with Institute priorities, scientific excellence, identified pathway to societal impact, feasibility, current leveraging of partnership funding, and future plan to secure external funding. Seventeen projects have been launched or approved, including start-up funding to new faculty; salary support for research associates, post-doctoral fellows, and coordinators; specialized infrastructure; and sponsorships of relevant events external to the Institute.

Research Indicators

Research Indicators – External Research Awards

Competition	CSM	ACHRI	HBI	Libin	McCaig	SACRI	Snyder	No Inst	O'Brien
'09 03	15	1	6	6		1	2		2
'09 09	9	1	4	2	1		1		0
'10 03	13	3	6	3			4		1
IPR Program launch → '10 09	17	2	5	6		1	3	2	3
'11 03	12	1	5	3			4		2
'11 09	12	2	3	2		2	4		2
'12 03	11	1	3	2	0	2	1	0	2
'12 09	16	2	5	2	1	2	3	1	4
'13 03	14	0	5	1	0	1	2	1	6
'13 09	11	1	4	1	1	2	1	1	3*
'14 03	13	3	5	3		1	2		3

Fig 8. Number of CIHR Open Operating Grant Program (OOGP) awards to O'Brien Institute and other Cumming School of Medicine institutes

The Canadian Institutes of Health Research (CIHR) is a federal agency and the main source of peer-reviewed health research funding in Canada. CIHR's twice-annual Open Operating Grant Program is highly competitive, and successful applications are considered important milestones for Canadian researchers. The O'Brien Institute's share of OOGP awards has risen since the Institute's official launch in 2010, and since implementation of its Internal Peer Review program, such that the O'Brien Institute 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 (42% of the O'Brien Institute membership) from whom most of the University of Calgary's CIHR applications emanate.
- *In one of the rare exceptions to the above-noted generalization, an O'Brien Institute member from the Faculty of Kinesiology was successful in this competition, bringing the total to 4. Also noteworthy in this competition, 3 of the 9 OOGPs awarded nation-wide by CIHR's Public, Community & Population Health committee were to O'Brien Institute members, ranking 1st, 5th, and 6th.

Research Indicators – External Research Awards

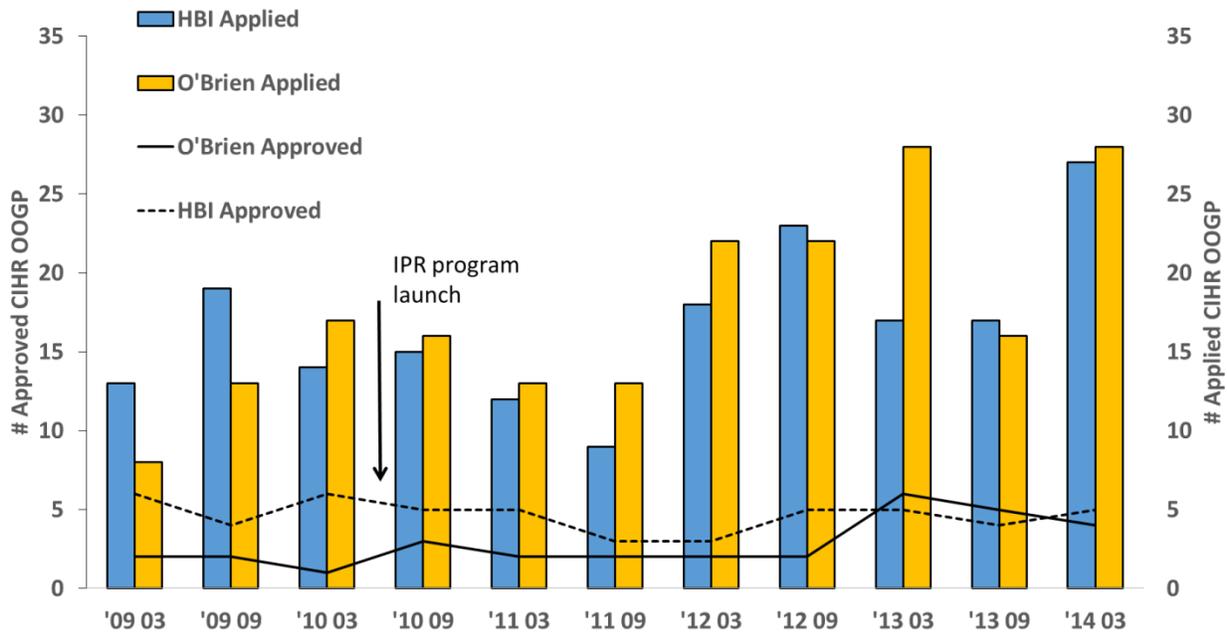


Figure 9. Number of O’Brien Institute OOGP applications and successes compared to model Institute

In recent competitions, the O’Brien Institute has closely matched the Hotchkiss Brain Institute, arguably the Cumming School of Medicine’s strongest institute, in the number of approved OOGP awards. (NB: In this Figure only, the approved values include both OOGPs funded through CIHR’s core budget, as well as those funded through Priority Announcements.) Given the nature of health services and population health peer review committees at CIHR, the O’Brien Institute has adopted a proactive strategy of encouraging its members to produce a higher number of applications (including resubmissions) than most other institutes.

Research Indicators – External Research Awards

	Number of applications	Number invited to Stage 2	Success rate
National	1366	467	34.2%
University of Calgary	74	27	36.5%
Cumming School of Medicine	48	17	35.4%
O'Brien Institute for Public Health	18	9	50%

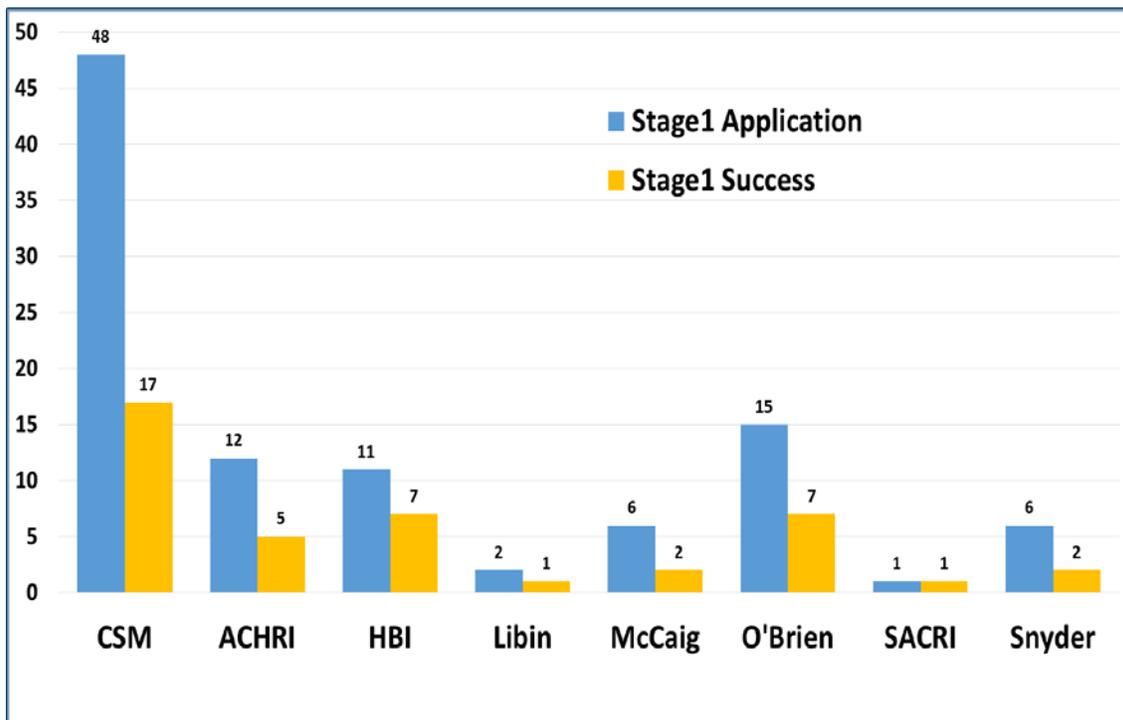


Figure 10. CIHR Foundation Scheme Stage 1 successes

CIHR funding programs are evolving to include a more programmatic Foundation Scheme, along with a “Project Scheme” that will be similar to the previous OOGP. The transition includes a “Live Pilot” of the Foundation Scheme, in which eligible researchers submitted a Stage 1 application in September 2014 to compete for the opportunity to submit a Stage 2 application in February 2015. Funding successes will be announced in July 2015.

The table shows the large number of applicants supported by the O’Brien Institute, with a success rate higher than the local or national average. The figure compares the number of applications and successes *only* for Cumming School of Medicine applicants (i.e. differences between the table and the figure are due to the fact that 3 O’Brien Institute members outside of CSM applied, of whom 2 were successful).

Research Indicators – External Research Awards

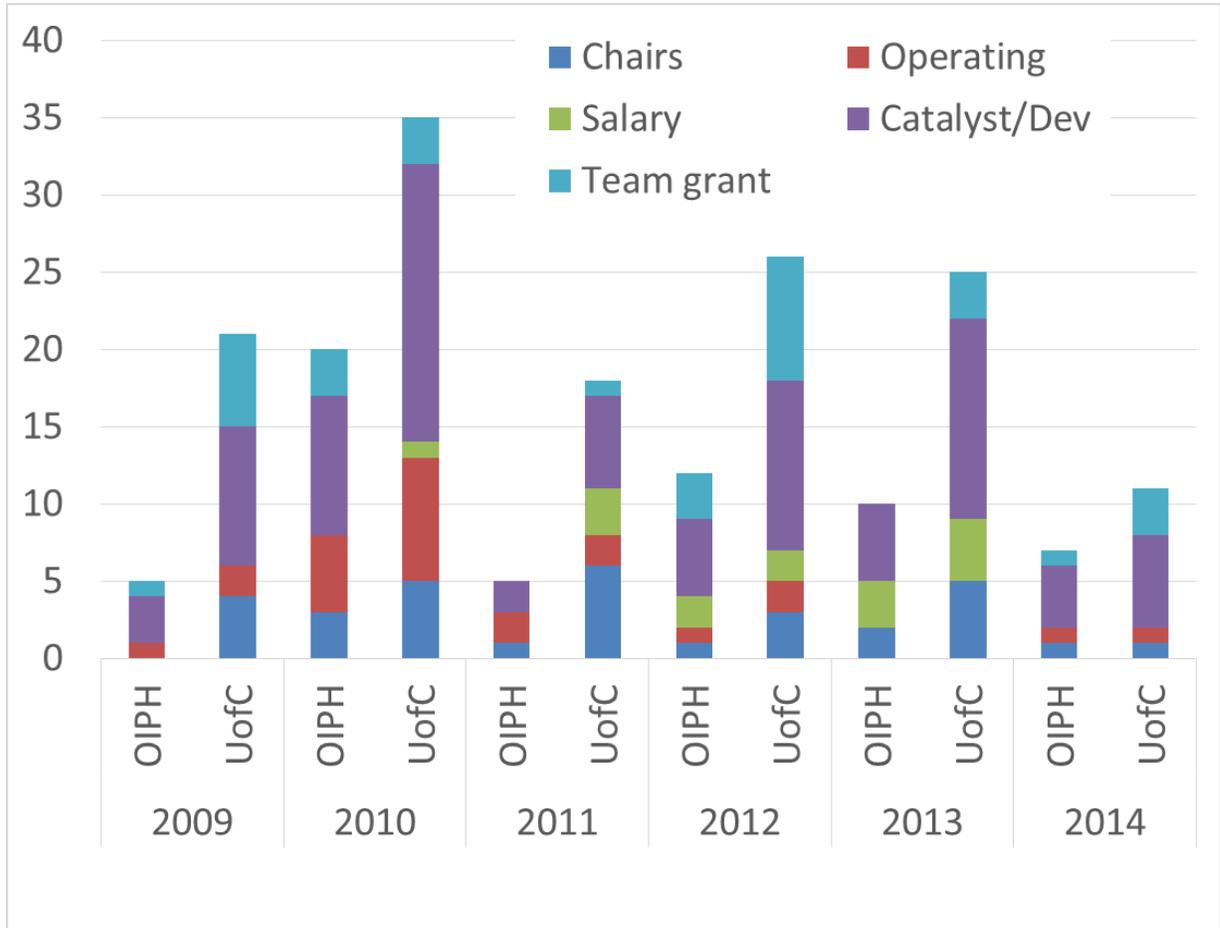


Fig 11. CIHR non-OOGP awards over time

CIHR allocates approximately 40% of its annual budget to funding streams other than the Open Operating Grant Program, including special research operating competitions, salary awards, research chairs, team grants, and numerous catalyst and development opportunities. In these strategic opportunities, the O'Brien Institute secures a large proportion of the University of Calgary's special awards.

Research Indicators – External Research Awards

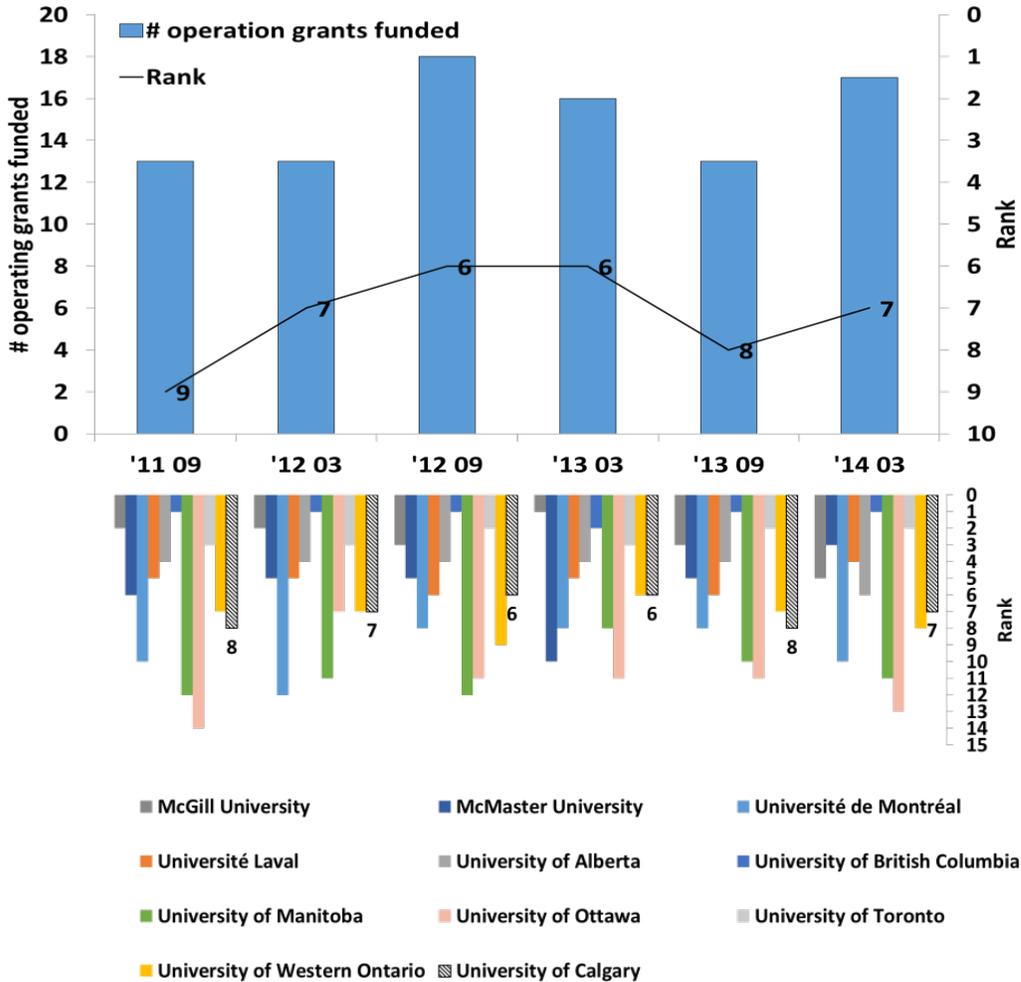


Fig 12. National ranking of UofC CIHR OOGP awards

The successes of O’Brien Institute researchers in securing CIHR OOGP awards make a significant and direct contribution to the University of Calgary’s “Eyes High” goal of entering the top 5 Canadian research institutions by 2016.

Research Indicators – External Research Awards

	Annual Research Revenue of CSM members of the O’Brien Institute
2011/12	\$23.6 M
2012/13	\$27.1 M
2013/14	\$25.5 M

Institute	2013/14 Total Research Revenue	% of CSM
HBI	35,892,627	23%
Snyder	28,000,067	18%
O’Brien	25,496,828	16%
ACHRI	23,923,884	15%
Libin	20,244,037	13%
SACRI	13,663,595	9%
McCaig	13,625,179	9%

Figure 13. External research revenue held by O’Brien Institute members within the Cumming School of Medicine

Although CIHR award successes are considered a proxy for health research excellence in Canada, CIHR funding represents < 19% of the external funding secured by O’Brien Institute members in the Cumming School of Medicine in 2013/14. Additional sources include other federal government sources (*e.g.*, Canada Research Chairs), provincial research funding agencies (*e.g.*, Alberta Innovates - Health Solutions), national and provincial not-for-profit agencies (*e.g.*, Heart and Stroke Foundation), and corporate sponsors. These research revenue values consistently rank the O’Brien Institute in the top 3 of the 7 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).

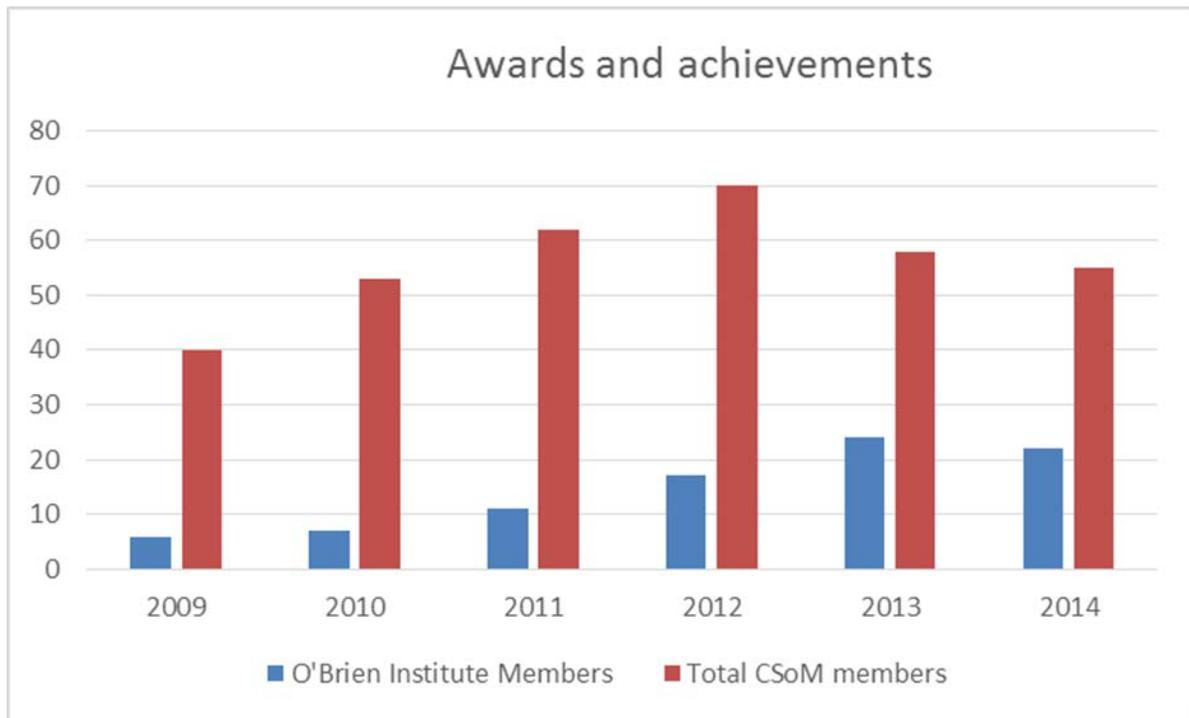


Figure 14. Recognition of O'Brien Institute members

Forty-two 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 Celebration of Excellence. As shown in the graph, O'Brien members' award numbers have been increasing, and recently represent almost half of the total awards recognized by CSoM.

As there is no comprehensive source of awards and recognition data, the tables below list those compiled from several sources, including the CSoM data graphed above, a University of Calgary listing, and the O'Brien Institute's records.

2013 Awards

Award	Recipient (s)
Distinguished Achievement Award	
Canadian Academy of Health Science Induction	Michael Hill
Medical and Scientific Organization Awards	
CIHR Top Achievements in Health Research Award	Brenda Hemmelgarn Braden Manns Marcello Tonelli
Guenter Award for International Health	Norman Robert Campbell
Vic Chernick Award for Outstanding Contribution to Pediatric Respirology in Canada	Ian Mitchell
Canadian Medical Association – Dr. William Marsden Award in Medical Ethics	Ian Mitchell
College of Family Physicians of Canada – Lifetime Award for Research in Family Medicine	Roger Thomas
Alberta Medical Association – Medal for Distinguish Services	Cyril Frank
Canadian Rheumatology Association – Young Investigator Award	Cheryl Barnabe
Canadian Association of Gastroenterology – Young Investigator Award	Gil Kaplan
Alberta Centre for Child, Family and Community Research – Westbury Legacy award	Karen Benzies
Association of Faculties of Medicine of Canada – Infoway, e-health Award	David Topps
ASTech (Alberta Science and Technology) Foundation honouree for Societal Impact	W21C
AHS President’s Excellence Award for Outstanding Achievement in Research	David Johnson
Cochrane award for Research	Deborah Marshall
University of Alberta Alumni of the year	Douglas Hamilton
Western University Honorary Degree – Doctor of Science Honoris causa	Tom Feasby
Sandee Award for Mentoring	Lynn McIntyre
Citation Awards	
1000 Citation Award	Hude Quan
Community Awards	
Calgary Avenue Magazine top 40 under 40	Susan Samuel
Queen Elizabeth II Diamond Jubilee Medal	Zaheed Damani (student) Cyril Frank David Hanley Tom Noseworthy Sandra Reilly Ardene Vollman Gregor Wolbring
University of Calgary Awards	
Order of the University of Calgary Induction	Cyril Frank
Killam Emerging Research Leader Award	Gil Kaplan
Killam Excellence in Research Award	Brenda Hemmelgarn
Killam Annual Professor	William Ghali

2014 Awards

Award	Recipient (s)
Distinguished Achievement Award	
Order of Canada	Norm Campbell Cyril Frank
Canadian Academy of Health Science Induction	Herman Barkema Norm Campbell
Royal Society of Canada College of New Scholars, Artists and Scientists	Carolyn Emery Nathalie Jetté
Medical and Scientific Organization Awards	
CIHR-IHSPR Barer-Flood Prize in Health Services and Policy Research	Tom Noseworthy
Alberta Medical Association – Medal for Distinguish Services	Tom Feasby
Canadian Medical Association - Medal of Honor	Juliet Guichon
Canadian Public Health Association – National Public Health Hero	Juliet Guichon
CIHR – Young Investigator Award	Cheryl Barnabe Matt James
NSERC Industrial Research Chair in Infectious Diseases of Dairy Cattle	Herman Barkema
Alberta Medical Association – Member Emeritus Award	Wendy Tink
Alberta Medical Association – General Practice Long Service Award	Wendy Tink
Canadian Association of Medical Education – Certificate of Merit	Fabiola Aparicio-Ting Lara Nixon
Canadian Cancer Society’s O. Harold Warwick Prize	Christine Freidenreich
Canadian Paediatric Society – Geoffrey C. Robinson Award	Reginald Sauvé
Canadian Cardiovascular Society - Dr. Howard N. Segall Award	Norm Campbell
Canadian Rheumatology Association – Young Investigator Award	Cheryl Barnabe
Canadian Rheumatology Association – Epidemiology / Health Services Research Award	Cheryl Barnabe
Hypertension Canada Certificate of Excellence Award	Hude Quan
Confederation of Alberta Faculty Associations – Distinguished Academic Award	Norm Campbell
Commonwealth Fund, Harkness Fellowship in health care Policy and Practice	Fiona Clement
Malcolm Ferguson Smith Award for Best original paper published in the Journal by a young investigator	Amy Metcalfe
Citation Awards	
Thompson-Reuters list of Most-cited Researchers	William Ghali
1000 Citation Award	Sam Wiebe
Community Awards	
Alberta’s 50 most Influential People	Charles Leduc
Calgary Community Advocate Award	Sandra Reilly
Calgary Avenue Magazine top 40 under 40	Gavin McCormack
University of Calgary Awards	
Killam Emerging Research Leader Award	Carolyn Emery
Killam Excellence in Teaching Award	David Keegan
Killam Annual Professor	Daniel Lai
BHSc Research Mentor Award	Gregor Wolbring

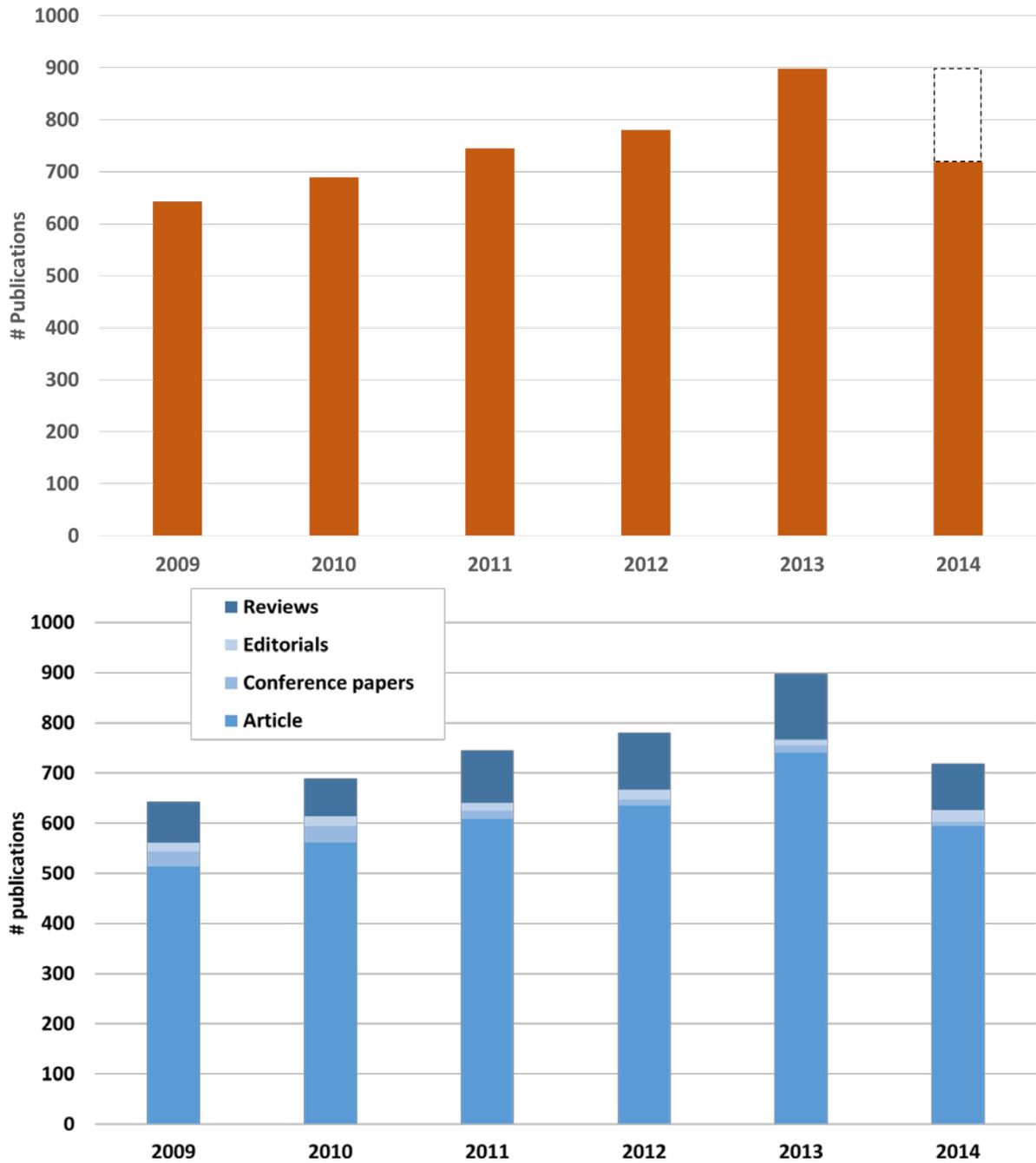


Figure 15. Research publications by O'Brien Institute members

The number of research publications by O'Brien Institute members (according to a compilation of Scopus searches) has increased substantially in the sampled period of January 2009 – December 2014. In the upper figure only, the dotted line estimates that 25% of 2014 publications may not yet be included in the Scopus database. As shown in the lower figure, peer-reviewed articles of independent research comprise the majority of this work.

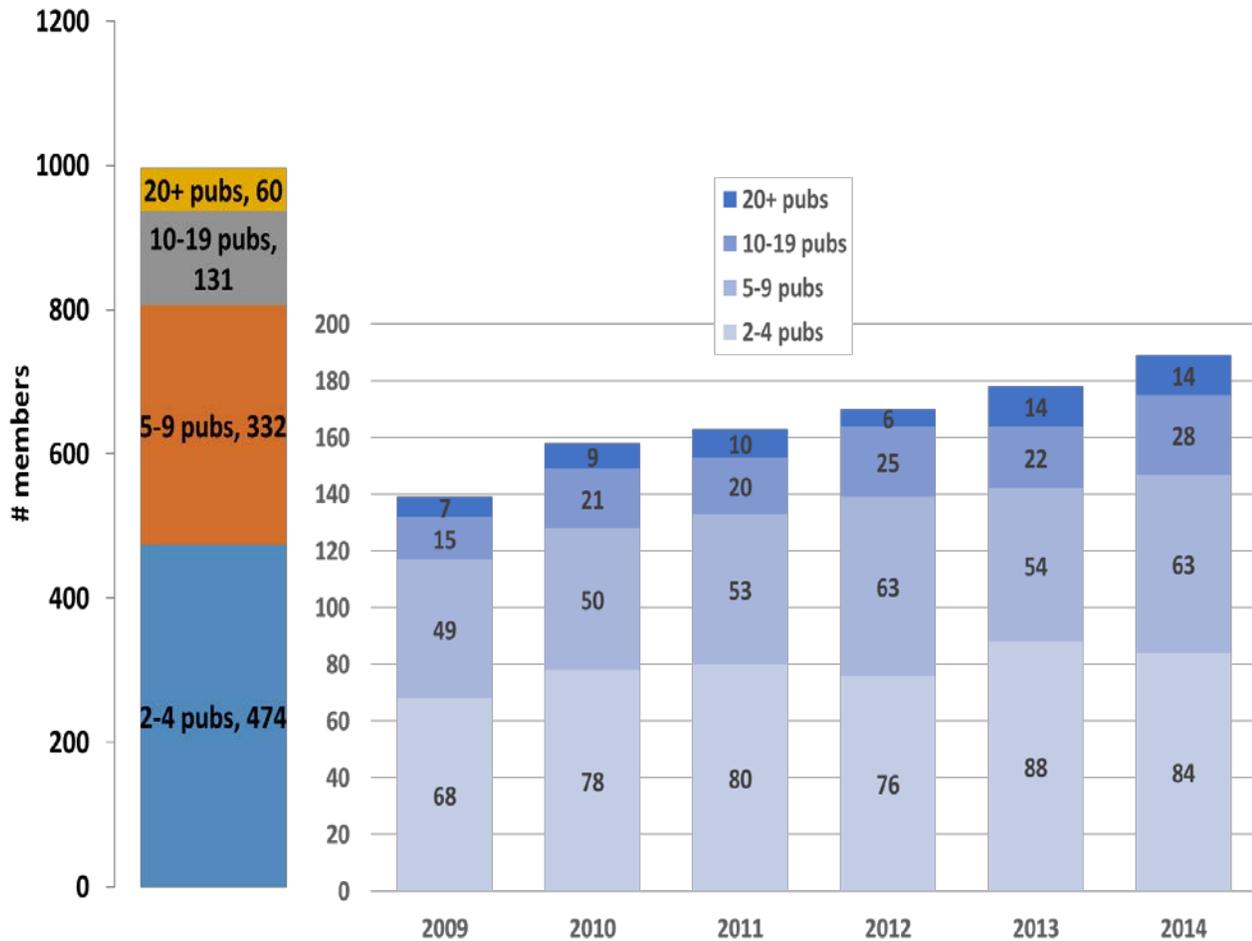


Figure 16. Publication distribution among O’Brien Institute members

Among the O’Brien Institute membership, a core grouping of University researchers has a consistently productive publication record. The first column depicts the number of authors with various total publication numbers over the full 6 year period, which is broken out by year in the right hand columns. Many of the membership, being “research users” more than “research producers” were not represented in the Scopus publication search, or had only 1 publication over the 6 year sampling period, as demonstrated by the difference between the full membership (>400) and the 236 members depicted in the first column.

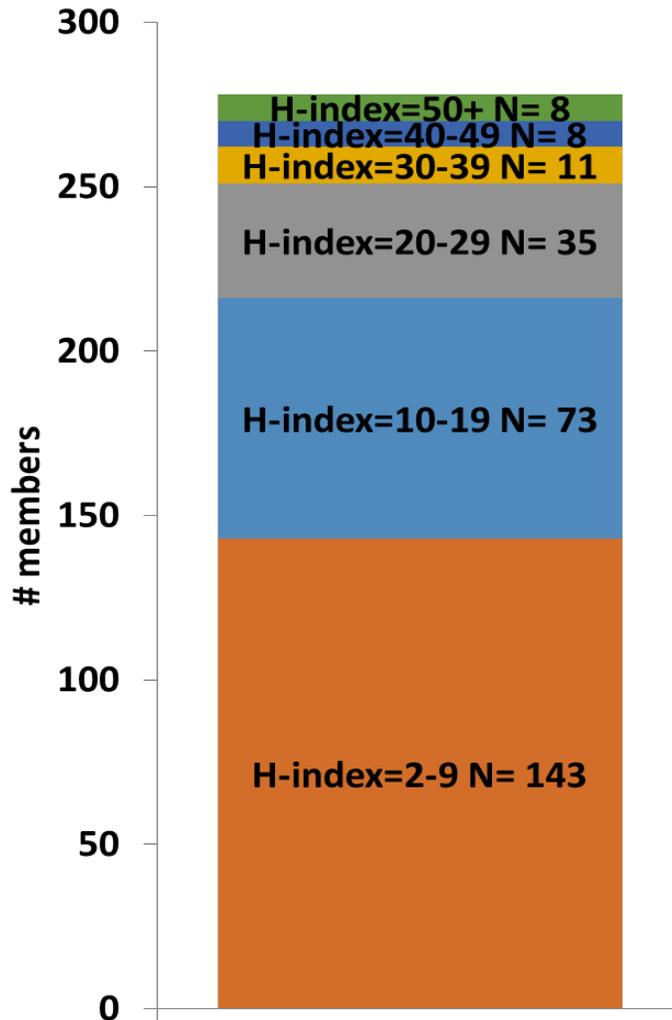


Figure 17. H-index distribution among O'Brien Institute members

As an indication of the quality and relevance of members' publications, 8 O'Brien Institute members have H-indexes ≥ 50 , meaning that each of these 8 have ≥ 50 publications that have been cited ≥ 50 times. An H-index of 45 – 50 has been estimated as a maximum feasible level for researchers publishing in the social sciences, and the [top H-index among Canadian researchers in the Public Health Policy category was reported in March 27, 2012 by the Globe and Mail national newspaper](#) to be that of one of the O'Brien Institute's senior researchers, depicted here in the top H-index category.

Journal	Impact Factor	Member articles since 2009
American Journal of Epidemiology	4.975	9
American Journal of Public Health	4.229	4
Annals of Internal Medicine	16.104	6
British Medical Journal and its subsidiaries	16.378	44
Canadian Medical Association Journal	5.808	61
International Journal of Epidemiology	9.197	5
Journal of the American Medical Association	30.387	31
Medical Care	2.941	7
Nature Subsidiaries	-	13
New England Journal of Medicine	54.42	8
Social Science and Medicine	2.558	11
The Lancet and subsidiaries	39.207	23

Figure 18. Number of articles by O’Brien Institute members in prestigious health services and population health journals

CLINICAL GUIDELINE

Annals of Internal Medicine

Open Access

Research

Lipid Management in Chronic Kidney Disease: Synopsis of the Kidney Disease: Improving Global Outcomes 2013 Clinical Practice Guideline

Marcello Tonelli, MD, SM, and Christoph Wanner, MD, for the Kidney Disease: Improving Global Outcomes Lipid Guideline Development Work Group Members*

BMJ Open ‘Conditional candour’ and ‘knowing me’: an interpretive description study on patient preferences for physician behaviours during end-of-life communication

Amane Abdul-Razzak,¹ John You,² Diana Sherifali,³ Jessica Simon,⁴ Kevin Brazil⁵

To cite: Abdul-Razzak A, You J, Sherifali D, *et al*. ‘Conditional candour’ and

ABSTRACT Objective: To understand patients’ preferences for physician behaviours during end-of-life

Strengths and limitations of this study

Research

Original Investigation

Effects of Aerobic Training, Resistance Training, or Both on Percentage Body Fat and Cardiometabolic Risk Markers in Obese Adolescents

The Healthy Eating Aerobic and Resistance Training in Youth Randomized Clinical Trial

Ronald J. Sigal, MD, MPH; Angela S. Alberga, PhD; Gary S. Goldfield, PhD; Denis Prud’homme, MD, MSc; Stasia Hadjiyannakis, MD; Réjeanne Gougeon, PhD; Penny Phillips, MA; Heather Tulloch, PhD; Janine Malcolm, MD; Steve Doucette, MSc; George A. Wells, PhD; Jinhui Ma, PhD; Glen P. Kenny, PhD

body fat and waist circumference in obese adolescents. In more adherent participants, combined training may cause greater decreases than aerobic or resistance training alone.

affiliations are listed at the end of this article.

Corresponding Author: Ronald J. Sigal, MD, MPH, Faculties of Medicine and Kinesiology, University of Calgary, 1820 Richmond Rd SW, Room 1898, Calgary, AB T2T 5C7, Canada (rsigal@ucalgary.ca).

jamapediatrics.com

ANALYSIS

CMAJ

Addressing cost-related barriers to prescription drug use in Canada

Karen L. Tang MD, William A. Ghali MD MPH, Braden J. Manns MD MSc

Competing interests: None declared.

This article has been peer reviewed.

Correspondence to: Braden J. Manns, braden.manns@albertahealthservices.ca

CMAJ 2014. DOI:10.1503/cmaj.121637

In a recent randomized trial, Choudhry and colleagues¹ showed that patients randomly assigned to receive full insurance coverage of their medications prescribed after myocardial infarction had lower rates of major vascular events and improved adherence compared with patients who had copayments. These findings have heightened the awareness of the potential negative impact of patient-borne expenses for prescription drugs on treatment access and outcomes. This

households.² In a survey of Canadians who had one or more of hypertension, diabetes or cardiovascular disease, 14% reported having no drug insurance.³ Even those with insurance may face difficulty affording medications, because most systems require copayments in part to lower expenses for the insurer. After copayments were introduced in the province of Quebec, the number of prescription drugs used per day decreased by 9% among older people and by 16% among those

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Figure 19. Sixteen exemplary research publications by O’Brien Institute members

Portions of the first page of 16 prestigious publications are shown, to demonstrate the quality and breadth of topics of the Institute members’ work. The full articles for these 16 selections are also available at [link](#).

RESEARCH

Use of high potency statins and rates of admission acute kidney injury: multicenter, retrospective observational analysis of administrative database

OPEN ACCESS

Colin R Dormuth assistant professor1, Brenda R Hemmelgarn associate professor2, J Mich Paterson scientist3, Matthew T James assistant professor2, Gary F Teare director of quality management and analysis4, Colette B Raymond research scientist5, Jean-Philippe Lafrance professor6, Adrian Levy head7, Amit X Garg professor of medicine8, Pierre Ernst professor of medicine9 Canadian Network for Observational Drug Effect Studies (CNODES)

Viewpoint

Addressing invisibility, inferiority, and powerlessness to achieve gains in maternal health for ultra-poor women

Zubia Mumtaz, Sarah Salway, Afshan Bhatti, Lynn McIntyre

Despite a continued stated commitment to social justice and equity—the guiding spirit of the Millennium Declaration in 2000—concerns have arisen that this focus has often been diluted in efforts to translate the Millennium Development Goals (MDGs) into actions.2 Nowhere is this more apparent than in relation to MDC 5. Analyses of national survey data and local

position. Importantly, we noted low uptake of maternal health-care services and very high rates of maternal mortality in these ultra-poor, socially marginalised women. Drawing on our empirical work, we emphasise key characteristics of the lives of socially marginalised women that directly affect their access to health services and resources which, although specific, are also evident

Lancet 2014; 383: 1095-97 Published Online October 2, 2013 http://dx.doi.org/10.1016/S0140-6736(13)61646-3 School of Public Health, University of Alberta, Edmonton, Canada



CMAJ

ANALYSIS

Delays in the submission of new drugs in Canada

Ali Shajarizadeh MA, Aidan Hollis PhD

Some commentators have claimed that Health Canada's process for approving new drugs is excessively slow, thereby delaying access to these drugs for Canadian patients.

authorization to launch for market) for new drugs in each jurisdiction using the data provided in Appendix 1.

Competing interests: Aidan Hollis has received fees for expert testimony from Apotex, Cobalt,

Original Investigation

Cost-effectiveness Analysis of Endoscopic Sphenopalatine Artery Ligation vs Arterial Embolization for Intractable Epistaxis

Luke Rudmik, MD, MSc, Randy Leung, MD

JAMA Otolaryngol Head Neck Surg. 2014;140(9):802-808. doi:10.1001/jamaoto.2014.1450 Published online August 14, 2014.

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Illicit and prescription drug problems among urban Aboriginal adults in Canada: The role of traditional culture in protection and resilience

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RESEARCH

Associations of estimated glomerular filtration rate and albuminuria with mortality and renal failure by sex: a meta-analysis

OPEN ACCESS

Irothea Nitsch clinical senior lecturer1, Morgan Grams assistant professor2, Yingying Sang iostatistician3, Corri Black senior clinical lecturer4, Massimo Cirillo associate professor5, Ognjenka Bjurdjev corporate director6, Kunitoshi Iseki director8, Simerjot K Jassal clinical professor9, Heejin Lim assistant professor10, Florian Kronenberg professor11, Cecilia M Øien associate professor12, Andrew S Levey professor13, Adeera Levin professor7, Mark Woodward professor14, Brenda R Hemmelgarn associate professor15, for the Chronic Kidney Disease Prognosis Consortium

RESEARCH

CMAJ

Association between First Nations ethnicity and progression to kidney failure by presence and severity of albuminuria

Susan M. Samuel MD MSc, Luz Palacios-Derflinger PhD, Marcello Tonelli MD SM, Braden Manns MD MSc, Lynden Crowshoe MD, Sofia B. Ahmed MD MSc, Min Jun PhD, Nathalie Saad MD, Brenda R. Hemmelgarn MD PhD; for the Alberta Kidney Disease Network

See also research article by Jiang and colleagues at www.cmaj.ca/lookup/doi/10.1503/cmaj.130721 and commentary by McDonald at www.cmaj.ca/lookup/doi/10.1503/cmaj.131605

Competing interests: None declared.

ABSTRACT

Background: Despite a low prevalence of category. We determined the relative hazard of

Research

Original Investigation

Effect of Oximetry on Hospitalization in Bronchiolitis A Randomized Clinical Trial

Suzanne Schuh, MD, FRCPC; Stephen Freedman, MD, FRCPC; Allan Coates, MD; Upton Allen, MD, FRCPC; Patricia C. Parkin, MD, FRCPC; Derek Stephens, MSc; Wendy Ungar, PhD; Zelia DaSilva, RT; Andrew R. Willan, PhD

JAMA. 2014;312(7):712-718. doi:10.1001/jama.2014.8637

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jama.com

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Mortality and Morbidity Among Military Personnel and Civilians During the 1930s and World War II From Transmission of Hepatitis During Yellow Fever Vaccination: Systematic Review

During World War II, nearly all US and Allied

Roger E. Thomas, MD, PhD, Diane L. Lorenzetti, MLIS, and Wendy Spragins, BA

BMJ Open A group-based HIV and sexually transmitted infections prevention intervention for lesbian, bisexual, queer and other women who have sex with women in Calgary and Toronto, Canada: study protocol for a non-randomised cohort pilot study

Carmen H Logie,^{1,2} Daniela Navia,³ Marie-Jolie Rwigema,¹ Wangari Tharao,⁴ David Este,⁵ Mona R Loutfy²

CMAJ

REVIEW

CME

Risks and benefits of intensive blood pressure lowering in patients with type 2 diabetes

Doreen M. Rabi MD MSc, Raj Padwal MD MSc, Sheldon W. Tobe MD, Richard E. Gilbert MD PhD, Lawrence A. Leiter MD, Robert R. Quinn MD PhD, Nadia Khan MD MSc; on behalf of the Canadian Hypertensive Education Program and Canadian Diabetes Association

The debate about appropriate blood pressure targets for patients with hypertension and diabetes is of substantial public health importance because the global burden of diabetes and hypertension is large and continues to increase. In Canada, nearly 1 in 10 adults

What is the basis for the blood pressure target of less than 130/80 mm Hg for patients with hypertension and diabetes?

Competing interests: See end of article.

This article has been peer reviewed.

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Public health ethics and more-than-human solidarity

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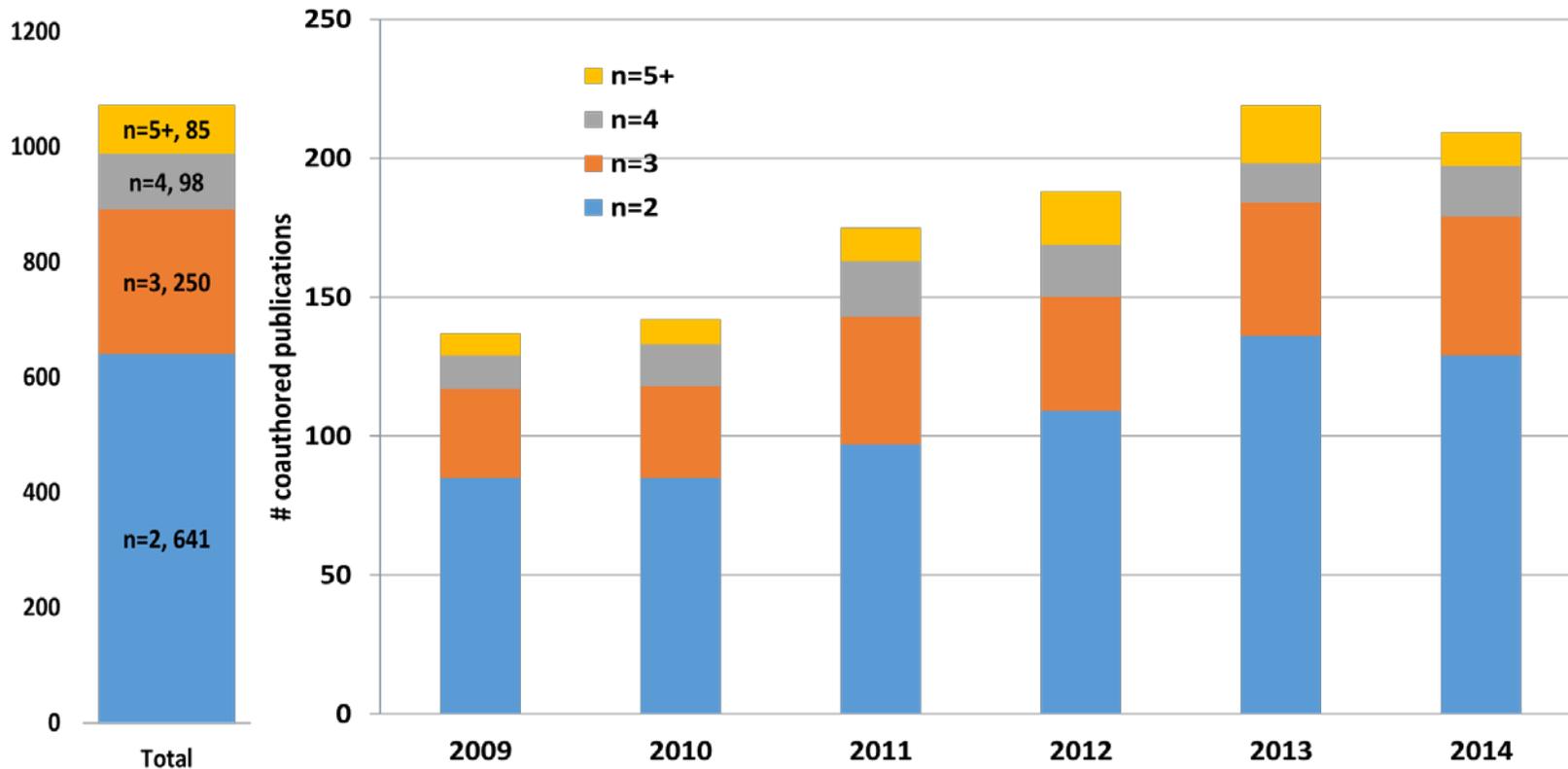


Figure 20. Number of publications coauthored with other members of the O’Brien Institute

One indication of networking among the membership is co-authorship. Over 1000 of the approximately 6960 publications recovered by Scopus were co-authored by at least one other member, and by this measure, the cohesion amongst the membership has been increasing over the last few years.

Impact Indicators

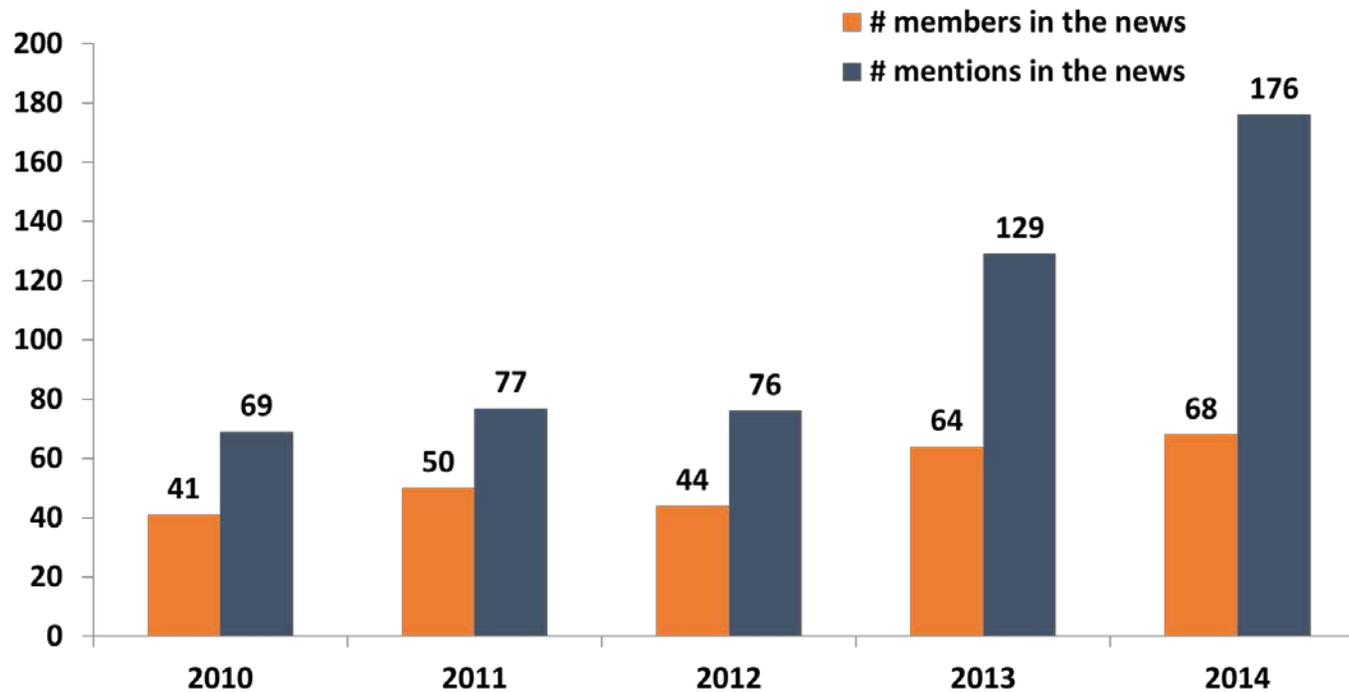


Figure 21. Members in the News

The number of members cited in the popular press is growing to a small extent over time, while the average number of citations per specific topic and per member is increasing notably.

Impact Indicators

Sentinel Event / Media link	Media Outlet	Date
Alberta's child advocate urges foster parents to stop bed-sharing with infants	CBC	Aug. 5, 2014
Cisco to work with Calgary hospital on health innovations	IT World	Oct. 9, 2014
Doctors create app to help diagnose, treat patients at point of care	Calgary Herald	Sept. 8, 2014
Sometimes there is no cure: Doctors, machines and technology can keep us alive, but why?	National Post	Jan. 20, 2015
New resource in Alberta's battle against chronic kidney disease	CTV Local News, UToday (University online publication)	Dec. 10, 2014
Antibiotics Use In Agriculture Threatening Global Public Health: U Of C Professor	The Huffington Post	Jan. 6, 2014
Revised HPV vaccine guidelines could boost immunization, Calgary expert says	CBC	Dec. 4, 2014
Dental impact of no fluoridation in Calgary's water studied	CBC	Dec. 16, 2013
Research project aims to reduce youth sports injuries by 20% by 2020	Calgary Sun	Jan. 23, 2014
PSA test should be abandoned as screen for prostate cancer, task force says	CBC National	Oct. 27, 2014
Let's end the flu-shot debate for Alberta health care workers	Globe and Mail op-ed (Dr. Bill Ghali)	Oct. 30, 2014
Superbugs spreading in Canada due to lax laws governing antibiotics use by farmers: leading doctors	National Post	Feb. 21, 2014
Regular exercise after menopause tied to lower breast cancer risk	Reuters, Globe and Mail	Aug. 13 2014

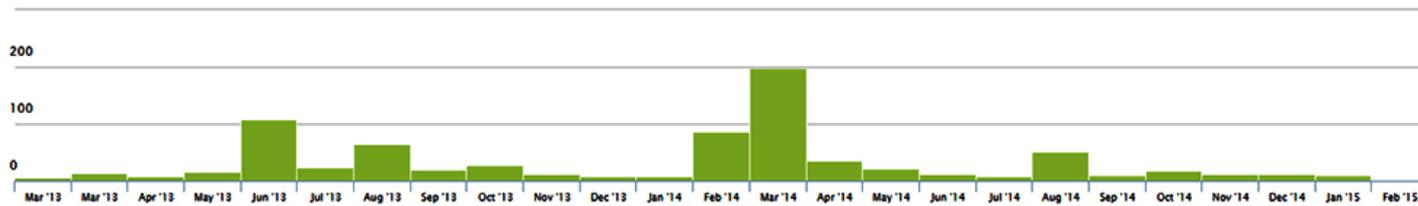
Figure 22. Examples of O'Brien Institute research impacting the community

Miscellaneous W21C metrics of activity and engagement	
Industry Enquiries	61
Industry Partnerships	29
Completed Investigator Initiated Projects	39
Completed Industry Projects	25
Completed Projects to Inform Health Services Requests	15
Active Investigator Initiated Projects	38
Active Industry Projects	4
Active Health Services Requests	3
Spin Off Companies	3
Prototypes developed	18
Patents Filed by industry partners	11
Market Ready Prototypes	9
Participants on official tours of W21C, including: Duke and Duchess of Cambridge, international delegations, multi-national companies, provincial and federal government officials, etc.	990
Technology demonstrations	124

Fig 23. Examples of W21C outputs from 2010-2014



Chart of mentions of 97 matched articles from 5th March 2013 to 5th March 2015



Location of Twitter users



Figure 24. Example of ‘altmetric’ data to assess public uptake of research

From the CVs of 5 sample members, 97 academic publications were found to have been mentioned in the non-academic literature, in trial using the Altmetric tool of Digital Science.

STORIES OF IMPACT: RESEARCH

WHO Collaborating Centre for Classification, Terminology, and Standards

The O'Brien Institute for Public Health, and by extension the Cumming School of Medicine and the University of Calgary, have set themselves apart in the field of internationally-driven coded health information research, work that's resulted in the Institute being designated a World Health Organization Collaborating Centre for Classification, Terminology, and Standards.

The road to the designation started 10 years ago with the inauguration of IMECCHI – the International Methodology Consortium for Coded Health Information – at a meeting in Banff, Alberta, in the spring of 2005. From the onset, IMECCHI became an international leader in coded health information research. The fathers of the consortium were O'Brien Institute scientific director Dr. William Ghali, Institute member Dr. Hude Quan and the University of Lausanne's Dr. Bernard Burnand, but health research leaders from the world over quickly joined the consortium's ranks.

Around this time, the leader of the Classification and Terminology Unit at the WHO, Dr. Bedirhan Ustun, had shown interest on the work being carried out by Ghali, Quan and the consortium and, as such, travelled to Canada and spoke on the topic at the University of Calgary. Thus, when a second IMECCHI meeting was held in 2006 in Montreux, Switzerland, Ustun attended the gathering, planting the seeds of what is now the O'Brien Institute's WHO Collaborating Center designation.

The proposal to become a WHO Collaborative Centre was approved on 10 Nov. 2014, and saw the O'Brien Institute join the Mayo Clinic and Stanford University as the U.S./Canada bodies advising the WHO's International Classification of Diseases (ICD).

The ICD standard aims to develop and refine a common, international language on diseases. According to the WHO, ICD enables effective and accurate storage and retrieval of diagnostic information for clinical, epidemiological and quality tracking purposes, while providing the basis for the compilation of national mortality and morbidity statistics by WHO Member States. Contributing to that process in a meaningful way is a privilege few researchers get. By becoming a WHO Collaborating Centre, the O'Brien Institute finds itself in an exclusive and prestigious club.

While the Mayo Clinic is tasked with naming aspects, and Stanford is in charge of the computerization components, the O'Brien Institute is the lead on networking, training and assessing the validity and meaningfulness of the work being done in the field. As such, the institute is now a resource

researchers from around the world can use to expand their knowledge, and one that also provides international networking opportunities for Institute-based researchers.

Solid nomenclature means researchers, scientists and practitioners speak the same language, thus limiting ambiguity, maximizing communication, and lessening the likelihood of errors, all the while optimizing efficiencies, coordinating efforts, defining disease patterns and compiling accurate mortality and morbidity data across the globe.

“This is a good opportunity to have a huge impact,” said Hude. “We are doing research not only for our value but for the benefit of the public. So much research ends on paper, but this research has value to the public.”

Made up of member countries, international agencies and academic institutions, collaborative centres feed the WHO with the nomenclature, up-to-date expertise and the knowledge translation the organization requires to improve health at a global scale.

Being a WHO Collaborative Centre will also elevate the status of the work being carried out by the institute, while elevating the researchers themselves. The designation also brings with it political clout when at the funding and policy table, and will be a significant asset during the grant-writing process.

The Electronic Transfer of Care Tool

Sending patients home from hospital with safe, secure information

Patients are particularly vulnerable to medical errors in follow-up care during transitions, such as discharge from hospital to the community. This is because community providers are often not aware or involved in hospitalization, and transfer of important information from the hospital is not done in a timely, accurate, and standardized manner.

In the past, doctors in the hospital would dictate the patient’s information, which would then be transcribed and faxed to the family physician in the community. This process could take several weeks, and 75 per cent of the receiving primary care physicians would not have the information available in time for the patient’s follow-up appointment. These ‘discharge summaries’ contained varying pieces of important information, including details about diagnosis, admission/discharge medications, course in hospital, follow up recommendations, etc.

To combat this problem, researchers at the O’Brien Institute for Public Health’s W21C Program developed an electronic discharge summary, to ensure community health care providers received access to a patient’s critical information immediately after discharge from the hospital – reducing errors and readmission rates, and vastly improving continuity of care.

The Electronic Transfer of Care Tool, which was built directly in Sunrise Clinical Manager (the hospital database for the Calgary zone) in partnership with Alberta Health Services, works like this:

- While in the hospital, health care providers (including physicians, nurses, pharmacists, and others) record the patient's information electronically.
- This data input begins the day of admission and is compiled throughout the patient's stay -- allowing for richer communications than was previously available.
- Some information is also pulled from the existing hospital database (e.g., information on previous care, etc.)
- When the patient is discharged, a physician reviews and signs off on their information, which is then immediately uploaded to Netcare, Alberta's Electronic Health Record (EHR).

The patient is sent home with a printed copy while their primary care physician has access to the information via Netcare, and also receives it via fax. Other community health care providers, such as pharmacists, can also be given access to the patient's information on the secure and confidential electronic system.

After consulting with patients and doctors, and working with AHS to develop the tool, W21C researchers ran a two-year study to compare the tool to the old system. The study, which followed 1400 patients at one month and three months post-discharge, focused on whether any patients were readmitted to the hospital or suffered any adverse health effects after their hospital stay.

The data is currently being analyzed, and will be published and shared with both patients and health care providers. Initial results found the electronic tool eased physician workflow, improved patient engagement at the critical time of discharge, and enabled secure, timely, and meaningful electronic communications with primary care providers.

Human Factors Research for Simulated Ebola Patient Scenarios

Donning and doffing processes for Personal Protective Equipment (PPE – gowns, masks, gloves, etc.) can be a risk factor for health care workers interacting with Ebola Virus Disease patients, even in highly resourced care settings. The O'Brien Institute's W21C worked with various partners in Alberta Health Services (provincial simulation programs and the emergency disaster management) to identify the source of this risk through Human Factors evaluation, focusing on the interaction between system structures and human characteristics.

Researchers coordinated a series of simulated ebola patient scenarios with health care workers from five tertiary acute care sites within the province of Alberta. Policies and procedures (e.g., procedural aid design, training programs) equipment design (donning cart configuration, PPE design), and environmental configurations (physical space, patient room access), were all identified as potential system factors contributing to health care worker contamination with the ebola virus. From this work, recommendations were provided to the provincial health authority, to affect system redesign in

order to manage these potential risk factors in the future.

Beyond the risk factors themselves (which may or may not generalize to other regions or non-airborne infectious diseases), this project combined observational research methodology with patient simulation to provide the health region with timely, directly applicable feedback as part of a quality improvement process. In addition, the engagement of a broad spectrum of stakeholders necessary to ensure the success of the project, reveals a novel infection prevention and control sociotechnical system.

STORIES OF IMPACT: STRATEGIC ENGAGEMENT

The IMAGINE Project

The health care system in the Province of Alberta is home to some of the most talented health providers and most advanced facilities in the world. Health providers in Alberta are often leaders in their field, in terms of clinical skills, while systems and procedures research being carried out simultaneously allows them to stay in the cutting edge.

But the Alberta health care system is also weighed down by a culture that's insular, which makes it difficult for pockets of excellence within the system to guide the system as a whole. The system also lacks clear and navigable channels of communication, resulting in communications breakdowns between the different levels of care, or even between what should be collaborating experts. The system is also being guided by business principles – bottom lines, budget restraints and political and administrative pressures – rather than professional principles, which demand that patient care has to be overriding factor in operations. Finally, it is plagued by what many patients, families and watchers see as an overall culture of apathy towards the patient, which bleeds into every facet of health care – from the conceptual, to the planning and to the delivery of care – where decisions are made with little or no patient or public input.

It was in the spirit of addressing those shortfalls in the Alberta health care system that community members and the O'Brien Institute for Public Health collaborated and launched a longitudinal initiative that seeks, through public engagement, investigation, research and policy informing, to pave the way for cultural change in health care in Alberta. The IMAGINE Project launched on January 22, 2015, with a half-day forum that showcased world renowned patient-centred care advocates, such as Jim Conway, adjunct lecturer at the Harvard School of Public Health and former Executive Vice President and Chief Operating Officer of Dana-Farber Cancer Institute, and Dr. Brian Goldman, emergency room physician, author and host of the CBC's White Coat, Black Art.

The forum was open to health professionals, academia, the press and the public, and aimed to highlight areas of concern regarding patient outcomes, experience and safety in the Alberta health care system and to explore best practices or initiatives that can aid in putting health care in Alberta on a

better track. The forum was followed by a stakeholders' dinner, which included provincial level health administrators, Jim Prentice, Premier of Alberta, and Alberta Health minister, Stephen Mandel.

The IMAGINE Project is now on the next phase, which includes continued public engagement, the building of a coalition of key stakeholders in the provincial health care landscape, and the review of key literature in the topic. The initiative aims to eventually lead research that will inform how to transform Alberta's health care culture and produce actionable recommendations on how the system as a whole can welcome the patient into every aspect of health care – envisioning, planning, delivering and reviewing.

The IMAGINE Project – by building engagement, information and working networks across disciplines, cities, as well as the administrative, political and public arenas – fits well within the O'Brien Institute's themes of Enhancing Health Systems Performance and of employing Innovative Methods for Public Health, while working towards the Institute's stated goal of achieving Stakeholder Engagement and Policy Impact. (535 words)

Supporting content may include a photo from the forum and an infographic of the reach, through participation and online viewership, of the forum.

World Innovation Day –Innovation for Health (WID-I4H)

In August of 2014, leaders from the O'Brien Institute for Public Health's (then the Institute for Public Health or IPH) W21C Program travelled to Geneva, Switzerland to participate in the inaugural *World Innovation Day-Innovation for Health (WID-I4H)* -- as members of the international planning committee and jury, and as event sponsors representing both W21C and the IPH.

Initially created by leading health organizations in Geneva, Switzerland (e.g., the World Health Organization Collaborating Centre on Patient Safety, University of Geneva Hospitals), this event focused on promoting innovation in health care and medical science across the globe, and linked health and research institutions in Canada, Switzerland, South Africa, and Hong Kong. Throughout 2013, each of these locations held "Innovation Academies" in tandem with each other. In Calgary, this event was spearheaded by W21C through the W21C Innovation Academy (November 12, 2013), a business pitch competition in the style of *Dragon's Den*™.

Winners from each of the partnership countries then went on to compete in WID-I4H, with the three Calgary teams ranking in the top four spots (first, third, and fourth place: <http://www.ucalgary.ca/utoday/issue/2014-09-09/calgary-teams-dominate-international-innovation-competition>).

Through WID-I4H, O'Brien Institute members are actively enhancing the University of Calgary's *Eyes High* Internationalization strategy, creating longitudinal opportunities for international collaborations and partnerships in research and education. The WID platform continues to increase networking opportunities, to engage both internal and external audiences, and to raise the profile of W21C and the O'Brien Institute in the Calgary community, and to a broader audience on an international level.

On **August 25-26, 2016**, the W21C Program will be hosting the second World Innovation Day in Calgary, Alberta, Canada. Over two exciting days, participants from around the world will join us at the TELUS Spark Science Centre to see innovation in health care come to life. In addition to the competition, this event will highlight several high-profile international speakers in healthcare and research and development, interactive poster sessions, and substantive networking opportunities with global healthcare, government, and industry sectors.

The WID International Planning Committee (with representation from Switzerland, Canada, Hong Kong, and South Africa) is also actively seeking partnerships with RTI International, Qatar University, and the University of Toronto's Women's College Hospital Institute for Health Systems Solutions and Virtual Care.

makeCalgary

In the wake of the Calgary floods in June of 2013, the O'Brien Institute for Public Health partnered with the University of Calgary's Faculty of Environmental Design (EVDS) to co-host an event titled, "*After the Flood - making resilient communities.*" Over 200 people from the Calgary community attended this first partnership event, bringing together local and regional professionals and municipalities with international leaders in disaster recovery, flood design, and resiliency theory.

This event was just one component of a larger platform called *makeCalgary* -- an EVDS-led research initiative designed to take students outside the classroom and connect them directly with the communities they hope to impact in the future. From new bike paths and temporary parks, to a soldier's memorial along the bow river pathway, or a moveable farmers' market that brings fresh food to underserved parts of the city, *makeCalgary* participants are charged with creating unique urban designs based on four primary criteria that define a great city - **resilience, health, vibrancy, and equity.**

On April 11, 2014, EVDS and the O'Brien Institute again worked together to host *makeCalgary: Healthy--Shaping our Cities, Shaping ourselves.*" Falling within the University of Calgary's *Eyes High* Strategic Research Theme, "Human Dynamics in a Changing World: Smart and Secure Cities, Societies, and Cultures," this full-day symposium focused on exploring the relationship between urban design and the health of our communities.

This ongoing and productive collaboration has now grown to encompass the Faculty of Social Work, the City of Calgary, the Urban Alliance, and Alberta Health Services. Recent activities for this cooperative group included *makeCalgary* community workshops, which took place on February 18 and 19, 2015. Over two days, researchers and designers spoke with close to 300 people representing the general public, primary schools, and senior's groups.

People were genuinely interested and appreciative of this opportunity to be listened to, and to help plan the future of their community. Through this process, researchers and academics used innovative methods to make planning more accessible to people, empowering them to use childhood memories as a starting point for re-imagining their city. These workshops also created opportunities to show the important relationships between health, urban design, equity and social responsibility, and even planted the seeds with the kids that city planning is fun!

EVDS students followed these sessions with a 48-hour Charrette to explore ways to design a more accessible space for the communities – moving away from a ‘car-centric’ view, to encourage pedestrian and bike friendly spaces, while keeping accessibility to all amenities and services available in the area. Next steps for makeCalgary will be the further integration of education initiatives, community events, and creative design exercises to increase engagement and awareness in the Calgary community and beyond.