Heart and Stroke Foundation Research Report

2016–2017

Heart &Stroke™

Mission

The Heart and Stroke Foundation's mission is to prevent disease, save lives and promote recovery. A volunteer-based health charity, we strive to tangibly improve the health of every Canadian family, every day. 'Healthy lives free of heart disease and stroke. Together we will make it happen.'

Every seven minutes in Canada, someone dies from heart disease or stroke.

Heart disease and stroke are two of the three leading causes of death in Canada; more than 62,000 strokes, an estimated 70,000 heart attacks, and up to 40,000 cardiac arrests occur every year.

Since its inception in 1952, the foundation has invested more than $1.52 billion into vital heart and stroke research, making it the largest contributor in Canada after the federal government.

Over the past 60 years, thanks to the work of the foundation and our partners, the death rate from heart disease and stroke in Canada has declined by more than 75 per cent. This decline has resulted in 1.6 million people living with their effects today.

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Each year, individuals across Canada join together to further the Heart & Stroke mission of eliminating heart disease and stroke. Canadians from coast to coast to coast donate valuable resources, including their time, money, and expertise, to improve the health and quality of life of all Canadians. The following groups deserve special thanks:

Donors. Providing funds to support heart and stroke research is the first step in a process which culminates in scientific breakthroughs that touch all our lives. The donors and volunteers in every community across Canada that have supported the foundation's fundraising efforts have made lasting investments in the future health and well-being of Canadians.

Council on Mission: Priorities, Advice, Science and Strategy (CoMPASS). The foundation's primary mechanism for informing Mission directions. Comprised of a cadre of thoughtfully selected, dedicated Canadian experts and Heart & Stroke Mission champions, the CoMPASS mandate is to provide considered and strategic advice on Mission priorities. The members of this committee are identified in Appendix G (page 76).

Scientific Review Committees. The scientific and lay reviewers' expertise and commitment enable Heart & Stroke to fund the highest standard of scientific excellence. Exemplary leadership to over 150 volunteer reviewers has been provided by the Scientific Review Committee's Chair and Vice Chair, Drs Glen Tibbits and Gary Newton, respectively. The Chairs of Heart & Stroke's vital peer review committees across the foundation are identified in Appendix G (page 77).

Heart & Stroke Researchers. Each one of Heart & Stroke's researchers, through extraordinary work, contributes to advancements in the understanding of cardio- and cerebrovascular disease. The knowledge gained from their efforts leads to earlier diagnoses, better treatments and new insights into prevention. Their ongoing commitment to the advancement of knowledge helps Heart & Stroke move closer to achieving its mission.

Partners. A number of organizations collaborated with Heart & Stroke in 2016-2017, enabling the foundation to leverage funding and resources for heart and stroke research.

1. Purpose and Scope

The purpose of this report is two-fold:

1. To illustrate the Heart & Stroke's overall research investments made in 2016-2017 across all research funding programs and initiatives.
2. To serve as a reference tool for volunteers and staff across the Heart and Stroke Foundation, the research community, other research funding agencies, and academic institutions.

This report covers the period from July 1, 2016 to June 30, 2017. It is a snapshot of expenditures in research during that period. The report presents financial and statistical data for new grants and awards made in 2016-2017, as well as continued funding of previously reported multi-year grants and awards.

2. Summary Tables

Table 1. Summary Foundation-wide and Province Specific Research Funding (2016-2017)

Province(s)/ Territory(ies)	Foundation-wide Research Initiatives						Province-specific Research Initiatives					Total	
	Grant-in-Aid		National Personnel Awards		Directed Research Fund		Personnel Awards		Chairs	Other			
	#	$	#	$	#	$	#	$	#	#	$	#	$
British Columbia & Yukon	21	1,780,991	-	-	-	-	1	50,000	5	10	200,000	37	2,030,991
Alberta, NWT & Nunavut	33	2,645,144	-	-	-	-	4	240,000	7	-	-	44	2,885,144
Saskatchewan	2	138,596	-	-	-	-	-	-	1	-	-	3	138,596
Manitoba	9	776,602	-	-	-	-	2	15,000	1	2	80,000	14	871,602
Ontario	114	9,370,501	-	-	-	-	45	2,447,000	8			167	11, 817,501
Quebec	37	3,080,629	-	-	-	-	-	-	-	9	151,020	46	3,231,649
New Brunswick	-	-	-	-	-	-	-	-	-	-	-	-	-
Nova Scotia	7	607,975	-	-	-	-	-	-	1	6	30,000	14	637,975
Prince Edward Island	-	-	-	-	-	-	-	-	-	-	-	-	-
Newfoundland and Labrador	1	95,913	-	-	-	-	5	10,000	-	-	-	6	105,913
All**	-	-	25	1,194,023*	22	1,414,991	-	-	-	-	2,000,000†	47	4,609,014
TOTAL	224	$18,496,351	25	$1,194,023	22	$1,414,991	57	$2,762,000	23‡	27	$2,461,020	378	$26,328,385

*Includes award stipends and applicable travel and/or allowances.

**Denotes competitions/initiatives eligible nationally.

†Heart & Stroke contributions to the Canadian Partnership for Stroke Recovery.

‡For the most part, Research Chair and Professorship awards are funded by endowments and are partnered with academic / health research institutions. The amounts, therefore, are not shown in the financial charts/summary information provided with this report.

Table 2. Detailed Foundation-wide and Province-specific Research Funding (2016-2017)

Province(s)/Territory(ies)	Program	Awards (#)	Awards ($)	Total ($)
British Columbia & Yukon	Grant-in-Aid	21	1,780,991	
	Research Chairs*:			
	Chair in Cardiology Research	1	-	
	Chair in Cardiovascular Prevention Research	1	-	
	Chair in Stroke Research	1	-	
	Professorship in Clinical Stroke Research	1	-	
	Professorship in Women's Cardiovascular Health	1	-	
	Personnel Award:			
	Robert Hayden Research Fellowship	1	50,000	
	Other Provincial Initiatives:			
	Heart & Stroke-UBC Cardiology Research Partnership: Cardiology Academic Practice Plan (CAPP)	10	200,000	2,030,991
Alberta/ Northwest Territories/ Nunavut	Grant-in-Aid	33	2,645,144	
	Research Chairs*:			
	Chair in Cardiovascular Research	1	-	
	Chair in Stroke Research	1	-	
	Professorship in Cardiovascular Research	1	-	
	Professorship in Neonatal Resuscitation	1	-	
	Professorship in Stroke Research	3	-	
	Personnel Award:			
	New Investigators	4	240,000	2,885,144
Saskatchewan	Grant-in-Aid	2	138,596	
	Research Chair*:			
	Chair in Clinical Stroke Research	1	-	138,596
Manitoba	Grant-in-Aid	9	776,602	
	Research Chair*:			
	Chair in Primary Prevention	1	-	
	Personnel Awards:			
	Sanofi Aventis/HSFM Award in Cardiology	1	10,000	
	Dr. Dexter Harvey Award	1	5,000	
	Other Provincial Initiatives:			
	Primary Prevention Challenge Grant	2	80,000	871,602

Province(s)/Territory(ies)	Program	Awards (#)	Awards ($)	Total ($)
Ontario	Grant-in-Aid	114	9,370,501	
	Research Chairs*:			
	Chair in Population Health Research	1	-	
	Chair in Cardiac Nursing	1	-	
	Chair in Cardiovascular Research	5	-	
	Chair in Aboriginal and Rural Health	1	-	
	Personnel Awards:			
	Career Investigator	7	581,000	
	Clinician Scientist	6	347,500	
	Mid-Career Investigator	18	1,440,000	
	Summer Student Scholarships	14	78,500	11,817, 501
Quebec	Grant-in-Aid	37	3,080,629	
	Other Provincial Initiatives:			
	Awards for Excellence in Research	7	120,000	
	Training bursaries	1	6,666	
	Bursaries in partnership with FRQS	1	24,354	3,231,649
New Brunswick	Grant-in-Aid	-	-	-
Nova Scotia	Grant-in-Aid	7	607,975	
	Research Chair*:			
	Chair in Cardiology Research	1	-	
	Other Provincial Initiative:			
	BrightRed Student Research Award	5	25,000	
	Dr. Gregory Ferrier Award	1	5,000	637,975
Prince Edward Island	Grant-in-Aid	-	-	-
Newfoundland and Labrador	Grant-in-Aid	1	95,913	
	Personnel Awards:			
	Graduate Scholarship	1	1,500	
	Keith Griffiths Memorial Scholarship	1	1,500	
	Undergraduate Nursing Award in Cardiovascular Health	1	1,500	
	Undergraduate Nursing Award in Stroke	1	1,500	
	Heart and Stroke Foundation (NL) MD Research Award	1	4,000	105,913
SUBTOTAL		331	21,719,371	21,719,371
	Directed Research Fund	22	1,414,991	1,414,991
	National Personnel Awards†	25	1,194,023	1,194,023
	Heart & Stroke Canadian Partnership for Stroke Recovery‡	-	2,000,000	2,000,000
TOTAL		378	26,328,385	26,328,385

* For the most part, Research Chair and Professorship awards are funded by endowments and are partnered with academic / health research institutions.

† Includes award stipends, obligatory benefits, and applicable travel and/or research allowances.

‡ Heart & Stroke contributions to the Canadian Partnership for Stroke Recovery

3. Research Funding Overview

3.1 Scientific Review Process

Scientific peer review is the cornerstone of the foundation's research enterprise. All research funded by Heart & Stroke, at a national or provincial level, undergoes peer review and must meet criteria for scientific rigor.

The purpose of peer review is to ensure excellence in research funded by Heart & Stroke. Peer review is carried out by committees of experts (peer review committees) that encompasses all four themes of health research (basic biomedical, clinical, health services/systems, and social, cultural, environmental and population health). The foundation's peer review is overseen by the Scientific Review Committee (SRC), an advisory committee. For recurring competitions, standing peer review committees are formed, and committee members are recruited for a term of service (typically three years) in order to ensure consistency and continuity in the review process. Standing committee membership may be supplemented by additional members as required, based on the applications received and expertise needed for their review. For ad hoc competitions, committees are formed to review applications for that particular competition and then disbanded.

A typical SRC peer review committee consists of a Chair, Deputy Chair, scientific peer reviewers, Heart & Stroke staff secretariat and other specialized roles, such as lay reviewers or knowledge users, depending on the funding opportunity. Committee members are selected for their high levels of expertise related to the mandate of the review committee and their experience in evaluating and reviewing research funding applications. In addition, membership balances expertise, and ensures that each committee has the capacity to review applications submitted in English or French. Peer review meetings are held in English, but internal and external reviewers are assigned with linguistic abilities in mind.

Standard Steps in Peer Review Process:

1. Applications submitted to Heart & Stroke are administratively reviewed and sorted into their appropriate committee.

2. An allocation meeting to distribute applications is held. The Chair and Deputy Chair of the committee select two internal reviewers (and any required external reviewers) for each application. Internal reviewers are members of the Scientific Review Committee who meet face to face whereas external reviewers are members of the scientific community across Canada and internationally selected for their particular expertise. External reviewers supplement the expertise of the panels and provide written comments on the application submitted. The foundation relies on the support and commitment of many researchers across Canada and internationally to ensure this process is effective.

3. Peer review meetings are held in December through to March where the applications are discussed. The Chair or Deputy Chair writes an SRC report which summarizes the discussion and the application is rated.

4. Based on the ratings/rankings as well as available funds, the foundation determines which grants and awards will be funded.

In 2016-2017, over 150 of Canada's top cardio- and cerebrovascular scientists participated on the SRC.

3.2 Research Enterprise Components

The Heart & Stroke research enterprise contains four key parts presented in Figure 1. The Grant-in-Aid program (research project operating grants); the National Personnel Awards program (salary awards at doctoral, post-doctoral, and new investigator levels); the Directed Research Fund initiatives (strategic research initiatives primarily in partnership with other funding agencies); and provincial research initiatives (personnel awards, grants and other awards).

Figure 1. Heart & Stroke Research Funding by Program (2016-2017)

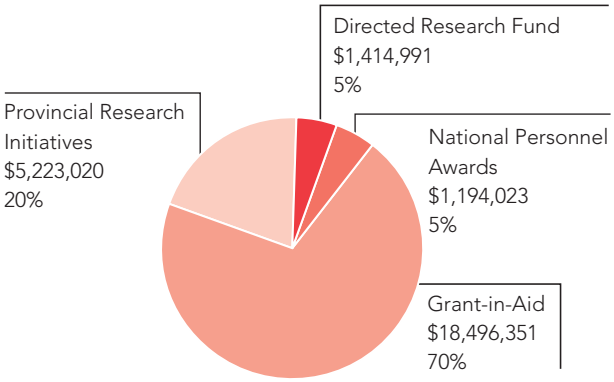
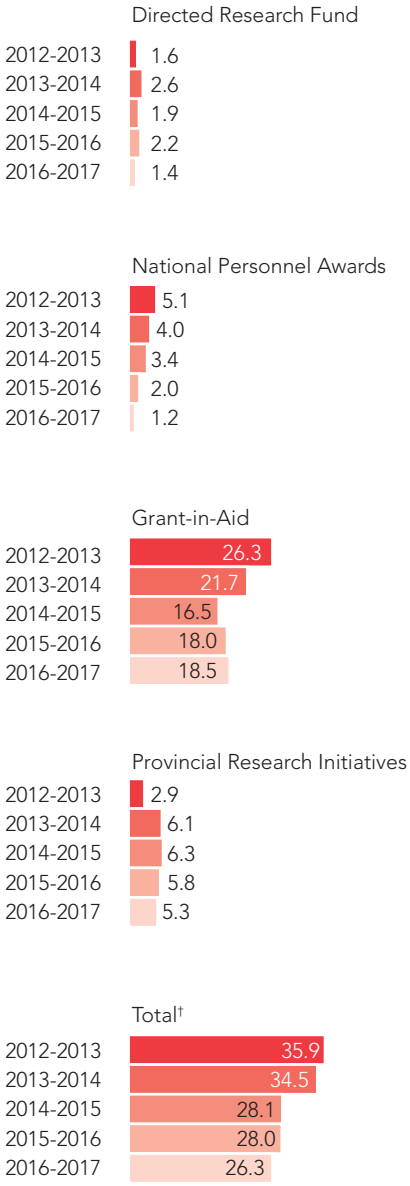


Figure 2. Heart & Stroke Research Funding Trends by Program (2012-2017)

Numbers represent $ Millions



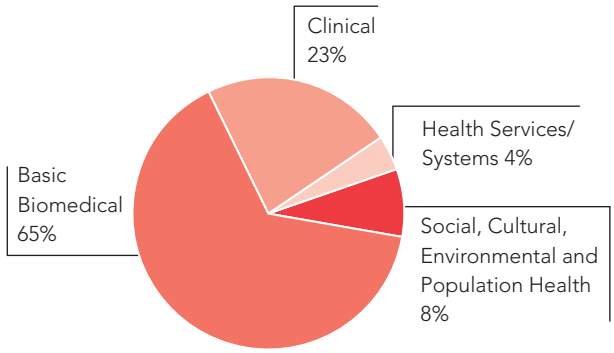
† Does not include Chair and Professorship values. Includes Heart & Stroke Foundation Canadian Partnership for Stroke Recovery value.

3.3 Investments across Health Research Themes

Research supported by Heart & Stroke spans the four health research themes: basic biomedical, clinical, health services/systems, and social, cultural, environmental and population health (defined in Appendix H).

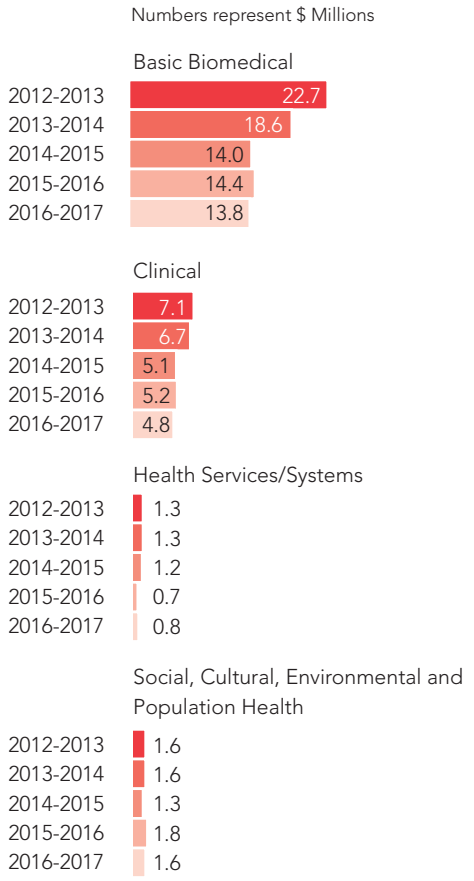
Figures 3 and 4 show the relative Heart & Stroke investments across health research themes. Further in the report, funding by health research theme in each of the foundation-wide programs is presented. Currently, we do not have data on provincial initiatives by theme.

Figure 3. Heart & Stroke Research Funding by Health Research Theme (2016-2017) †



† Includes Directed Research Fund, National Personnel Awards (stipends only), and Grant-in-Aid funding.

Figure 4. Heart & Stroke Research Funding Trends by Health Research Theme (2012-2017) †



† Includes Directed Research Fund, National Personnel Awards (stipends only), and Grant-in-Aid funding.

4. 2016–2017 Research Funding by Program

This section provides summary information for each of the four main components of the Heart & Stroke research enterprise:

Foundation-wide research programs:

1. Directed Research Fund
2. National Personnel Awards
3. Grant-in-Aid
4. Province-specific research initiatives:
   i. Provincial Research Chairs and Professorships
   ii. Provincial Personnel Awards
   iii. Other Provincial Research Initiatives

4.1 Directed Research Fund

The Directed Research Fund (DRF) supports research in areas of strategic priority to the foundation, typically through a request for applications process, and in partnership with other agencies and organizations.

New initiative appearing in this year's report:

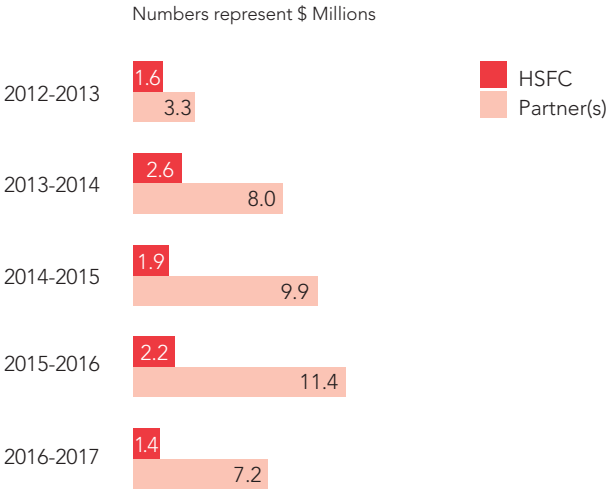
Emerging Research Leaders Initiative (ERLI) 2015: ERLI is an establishment grant program for researchers at the transition stage from post-doctoral fellow to early professional career stage in the areas of cardiovascular, cerebrovascular, and/or respiratory health research. This initiative aims to support successful early career launch of new investigators. Through this initiative, partners will provide establishment grant funds that will create a set of conditions conducive to the successful career launch of emerging research leaders in the cardiovascular, cerebrovascular, and/or respiratory health research domains.

The majority of the projects listed in Appendix A represent the continuation of previously reported research investments. A total of 6 initiatives, representing 22 individual grants and awards, are detailed in Appendix A.

The total value of the foundation's investment in these strategic projects for 2016-2017 is over $1.4 million. In addition to the foundation's investment, partner funds have further extended the DRF research portfolio, leveraging donors' dollars.

As outlined in Figure 5, foundation funding is leveraged by a ratio of five to one. Over a 5 year period, the foundation has taken steps to more fully align the DRF's investments with the strategic mission priorities of the foundation.

Figure 5. Directed Research Fund Leveraged Funding (2012-2017)



One of the objectives of the DRF is to support multi-disciplinary research in the areas of health services/systems and social, cultural, environmental and population health. Figures 6 and 7 illustrate significant progress in achieving this objective while remaining responsive across health research themes.

Figure 6. Directed Research Fund Funding by Health Research Theme (2016-2017)

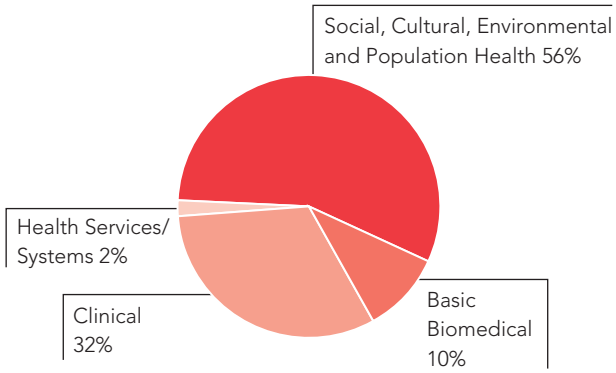
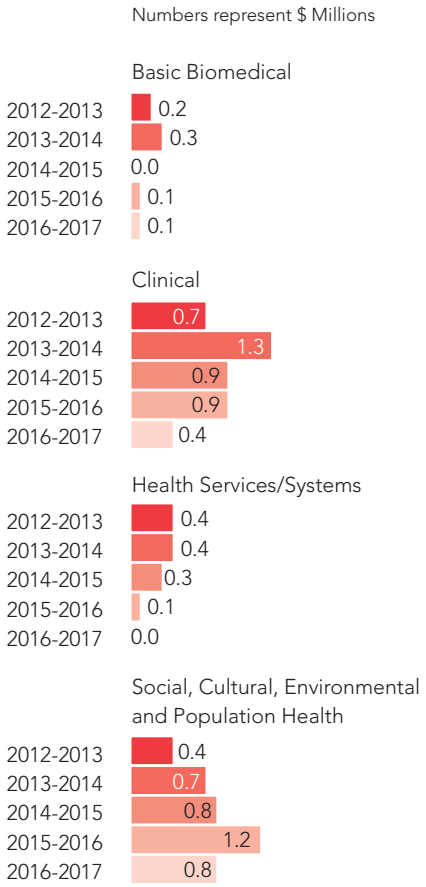


Figure 7. Directed Research Fund Funding Trends by Health Research Theme (2012-2017)



4.2 National Personnel Awards

National Personnel Awards build Canada's cardio- and cerebrovascular research capacity by providing salary support to investigators at early scientific career stages. In 2016-2017, Heart & Stroke only launched the New Investigator award program. Other existing awards continued being funded in 2016-2017. These programs included Distinguished Clinician Scientist, Research Fellowship and Doctoral Research Award.

National Personnel Awards Programs in 2016-2017

Distinguished Clinician Scientist — A salary award to support clinical new investigators who wish to establish their own independent research laboratory. This award is given to the highest ranked eligible clinician in the New Investigator competition ($75,000 stipend + $25,000 research allowance per year for five years, including fringe benefits).

New Investigator — A salary award to support new investigators who wish to establish their own independent research laboratory ($60,000 per year for four years, including fringe benefits).

Research Fellowship — A training award for applicants who have completed a doctorate level professional degree, MD or PhD ($40,000 or $50,000 + $1,500 travel allowance per year for up to two or three years, depending upon eligibility).

Doctoral Research Award — A training award for graduate students, enrolled in a PhD program, who are undertaking full-time research training ($21,000 + $1,000 travel allowance per year for up to three years).

Additional salary support was offered through the Focus on Stroke initiative.

Focus on Stroke Initiative — The emphasis of this award is on building capacity in the later themes/pillars of stroke research (i.e., clinical, health services/policy, and/ or social, cultural, environmental and population health) and supporting research training of health professionals (e.g. nurses, occupational therapists, pharmacists, physiotherapists, speech therapists). This initiative is offered through Doctoral Research Awards, and Research Fellowships.

In 2016-2017, 25 new and continuing awards were funded. This included one award supported in part by industry. The total Heart & Stroke investment in National Personnel Awards in 2016-2017 was over $1.1 million (Table 3). A list of award recipients can be found in Appendix B.

Table 3. Number of National Personnel Awards and Investment of Funds (2016-2017)

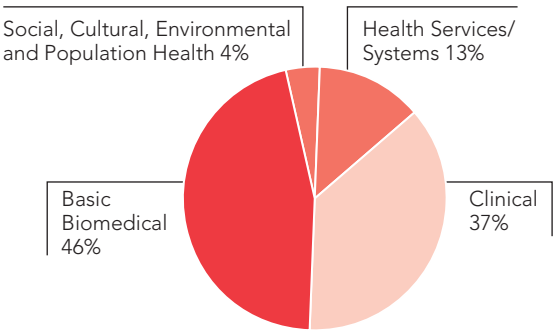
Program	Recipients (#)	Funds Invested ($)
Distinguished Clinician Scientist	2	150,000
New Investigator	15	890,000
Research Fellowship	5	45,833
Doctoral Research Award	3	52,500
Research Allowance	-	50,000
Travel Allowance	-	5,690
TOTAL	25	$1,194,023

Table 4. National Personnel Awards by Health Research Theme (2016-2017) †

Type of Award	Basic Biomedical		Clinical		Health Services/ Systems		Social, Cultural, Environmental and Population Health		Total	
	(#)	($)	(#)	($)	(#)	($)	(#)	($)	(#)	($)
Distinguished Clinician Scientist	0.1	7,500	0.9	67,500	0.9	67,500	0.1	7,500	2.0	150,000
New Investigator	8.0	482,500	5.2	292,000	1.2	74,500	0.7	41,000	15.0	890,000
Research Fellowship	3.1	19,833	1.7	22,334	0.1	2,000	0.2	1,667	5.0	45,833
Doctoral Research Awards	0.7	11,550	2.2	39,900	0.1	1,050	0.0	-	3.0	52,500
TOTAL	11.9	$521,383	9.9	$421,734	2.3	$145,050	0.9	$50,167	25.0	$1,138,333

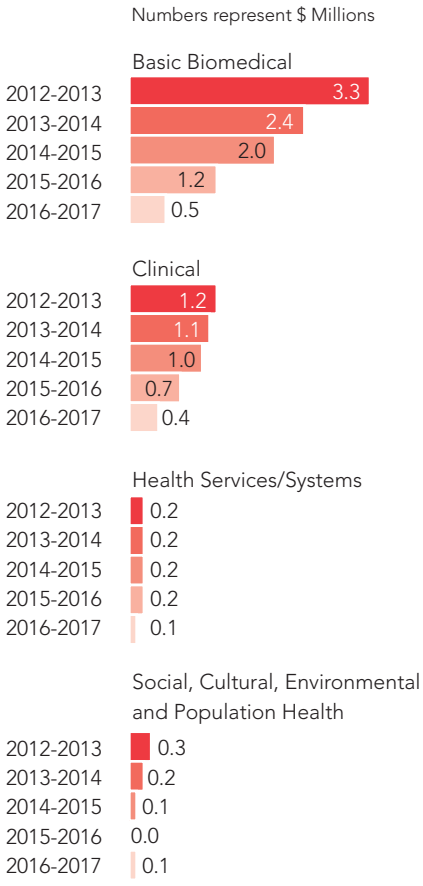
† Includes award stipends only.

Figure 8. National Personnel Awards Funding by Health Research Theme (2016-2017) †



† Includes award stipends only.

Figure 9. National Personnel Awards Funding Trends by Health Research Theme (2012-2017) †



† Includes award stipends only.

4.2.1 Heart and Stroke Foundation Prestigious Awards

Each year, the Heart and Stroke Foundation recognizes leadership and scientific excellence through the following prestigious awards.

McDonald Scholarship
The McDonald Scholarship is named in honour of Ewing McDonald, the Heart and Stroke Foundation of Canada's Executive Director from 1968 to 1987. This award is given annually to the highest-rated applicant in the New Investigator program. The recipient is awarded a $10,000 research grant (in addition to the New Investigator award stipend).

Dr. T. Alexander Quinn from Dalhousie University was the Heart & Stroke's 2016-2017 McDonald Scholar. Dr. Quinn is studying the effect of irregular heart contractions on electrical signals in the heart.

Henry J.M. Barnett Scholarship
The Henry J.M. Barnett Scholarship was established to honour Dr. Henry J.M. Barnett's exceptional contributions to stroke research, education, and patient care in Canada. This award is presented annually to a highly rated investigator applicant working in stroke research. The recipient is awarded a $10,000 research grant (in addition to their award stipend).

Dr. Claudine Gauthier from Concordia University was the Heart & Stroke's 2016-2017 Barnett Scholar. Dr. Gauthier is understanding the link between cardiovascular health and disease, and brain health, at the level of both blood vessels and tissue. She is also investigating the impact of cardiovascular and brain health on cognition.

4.3 Grant-in-Aid

Grants-in-Aid form the largest category of research expenditure for Heart & Stroke. The Grant-in-Aid program supports the direct operating costs of conducting research, including laboratory supplies, technicians, and some equipment.

In 2016-2017, 224 Grants-in-Aid (new and continuing) were funded, representing an investment of over $18 million (Table 5). A list of grant recipients can be found in Appendix C.

Table 5. Number of Grants-in-Aid and Investment of Funds (2016-2017)

Province(s)/Territory(ies)	Recipients (#)	Funds Invested ($)
British Columbia/Yukon	21	1,780,991
Alberta, NWT & Nunavut	33	2,645,144
Saskatchewan	2	138,596
Manitoba	9	776,602
Ontario	114	9,370,501
Quebec	37	3,080,629
New Brunswick	-	-
Nova Scotia	7	607,975
Prince-Edward-Island	-	-
Newfoundland and Labrador	1	95,913
TOTAL	224	$18,496,351

Figure 10. Grant-in-Aid Funding by Health Research Theme (2016-2017)

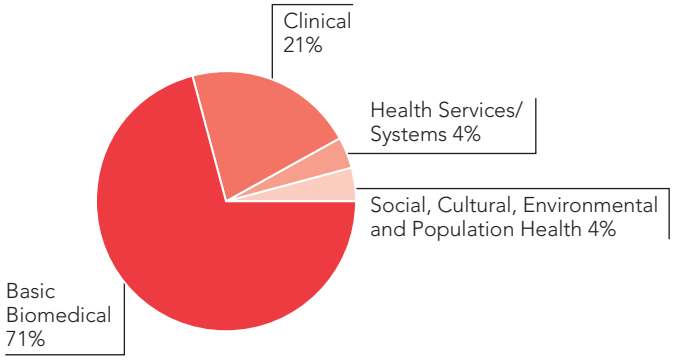
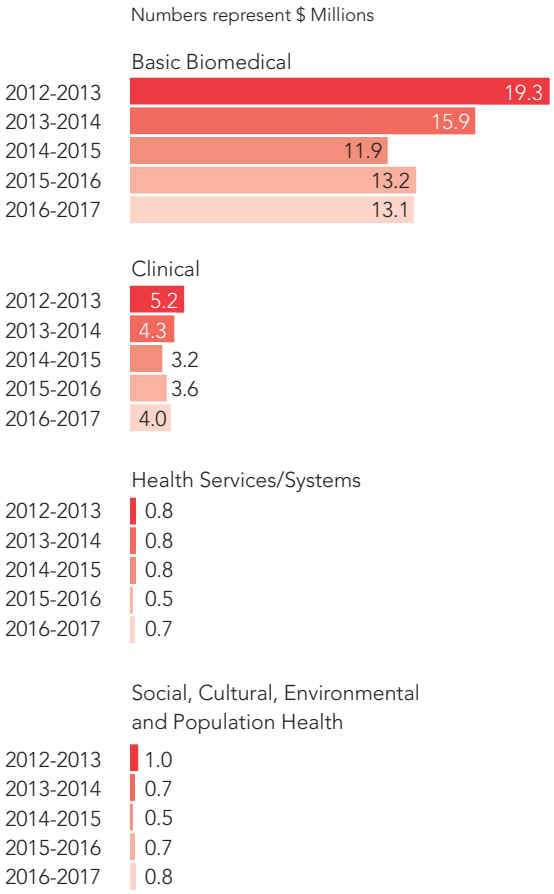


Figure 11. Grant-in-Aid Funding Trends by Health Research Theme (2012-2017)



The number of applications submitted and funded in the Grant-in-Aid program varies widely across provinces (Figures 12 and 13). The overall success rate for the Grant-in-Aid competition in 2016-2017 was approximately 21%.

Figure 12. Number of Grant-in-Aid Applications Submitted by Province(s)/Territory(ies) (2012-2017)

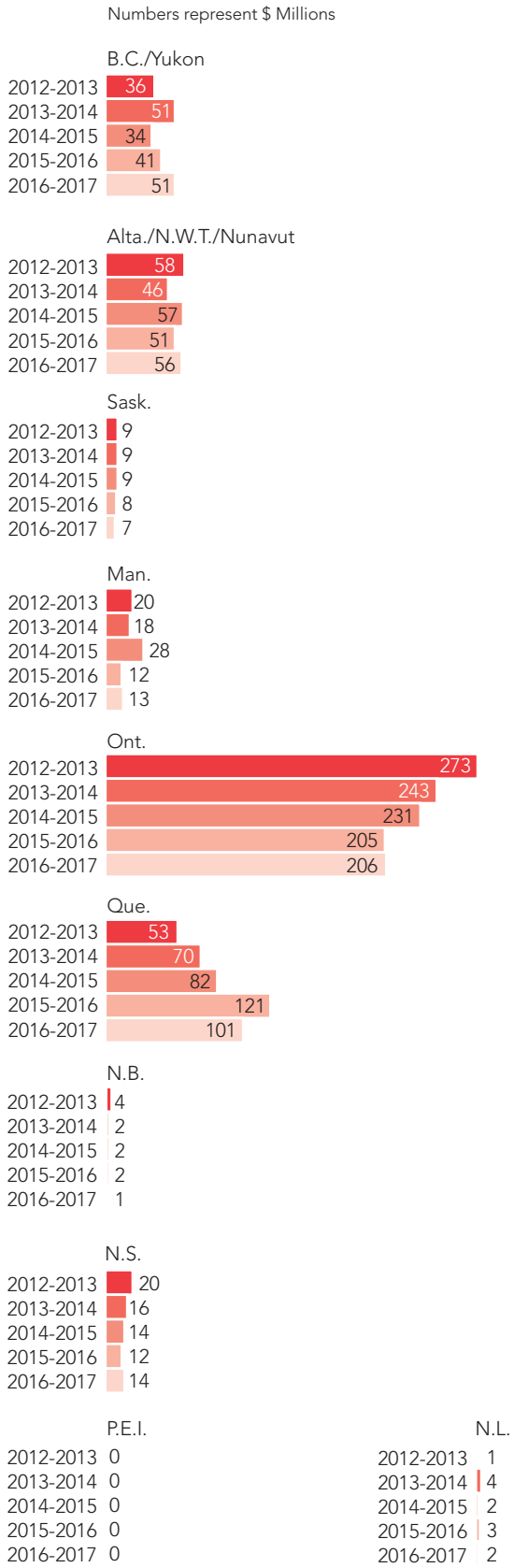
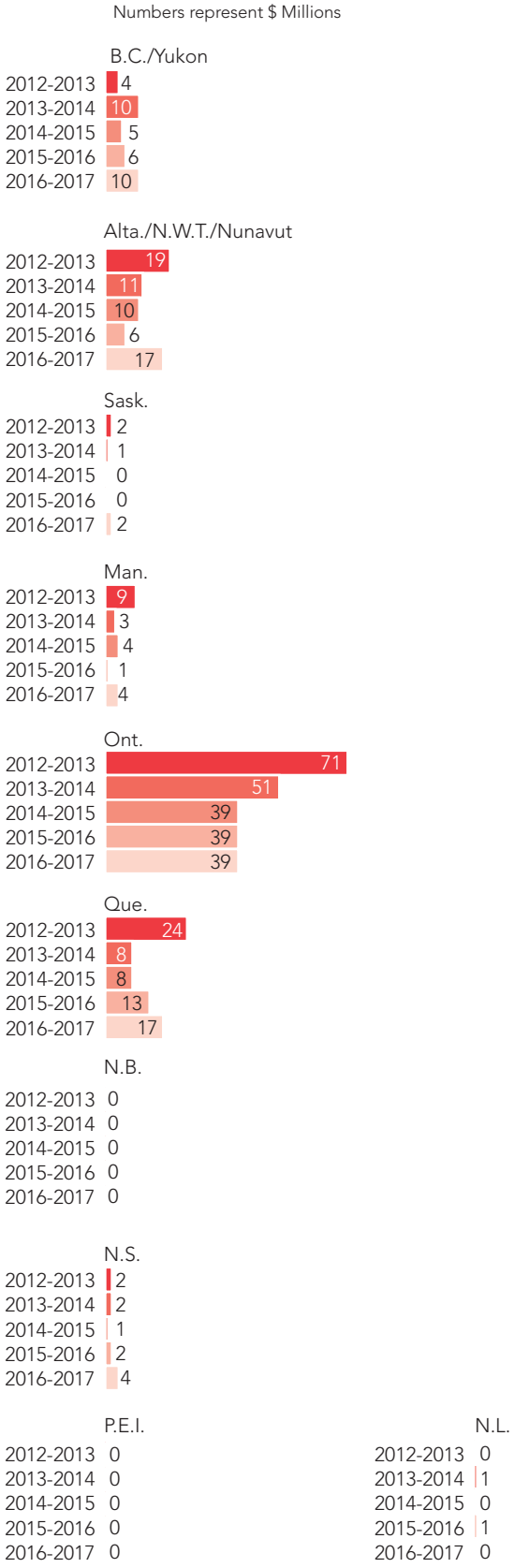


Figure 13. Number of Grant-in-Aid Applications Funded by Province/Territory (2012-2017)



4.4 Province Specific Research Initiatives

In addition to the Grant-in-Aid program, many of the provincial offices administer Research Chairs and Professorships; Provincial Personnel Awards; and other research initiatives.

4.4.1 Research Chairs and Professorships

Research Chair and Professorships funding provides salary, research and infrastructure support to enable a leading researcher to develop a particular research focus at a Canadian university. In 2016-2017 a total of 23 Chairs and Professorships were supported by Heart & Stroke in the areas of aboriginal and rural health, cardiology, cardiac nursing, stroke, neonatal resuscitation, population health and primary prevention. The recipients of these Chairs and Professorships can be found in Appendix D.

Table 6. Research Chairs and Professorships (2016-2017)†

Province(s)/Territory(ies)	Program	Awards (#)	Total (#)
British Columbia/Yukon	Chair in Cardiology Research	1	
	Chair in Cardiovascular Prevention Research	1	
	Chair in Stroke Research	1	
	Professorship in Clinical Stroke Research	1	
	Professorship in Women's Cardiovascular Health	1	5
Alberta, NWT & Nunavut	Chair in Cardiology Research	1	
	Chair in Stroke Research	1	
	Professorship in Cardiology Research	1	
	Professorship in Stroke Research	3	
	Professorship in Neonatal Resuscitation	1	7
Saskatchewan	Chair in Clinical Stroke Research	1	1
Manitoba	Chair in Primary Prevention	1	1
Ontario	Chair in Population Health Research	1	
	Chair in Cardiac Nursing	1	
	Chair in Cardiovascular Research	5	
	Chair in Aboriginal and Rural Health	1	8
Quebec	-	-	-
New Brunswick	-	-	-
Nova Scotia	Chair in Cardiology Research	1	1
Prince Edward Island	-	-	-
Newfoundland and Labrador	-	-	-
TOTAL		23	23

† For the most part, Research Chair awards are funded by endowments and are partnered with academic/health research institutions.

4.4.2 Provincial Personnel Awards

In 2016-2017, the provincial offices funded a total of 57 Personnel Awards, building capacity by supporting cardio- and cerebrovascular researchers throughout their careers, from high school students working in research settings to established senior scientists (Table 7). The recipients of these awards can be found in Appendix E.

Table 7. Heart & Stroke Provincial Personnel Awards Funded (2016-2017)

Province(s)/Territory(ies)	Program	Awards (#)	Awards ($)	Total ($)
British Columbia & Yukon	Robert Hayden Research Fellowship	1	50,000	50,000
Alberta, NWT & Nunavut	New Investigator	4	240,000	240,000
Saskatchewan	-	-	-	-
Manitoba	Sanofi Aventis/HSFM Award in Cardiology	1	10,000	
	Dr. Dexter Harvey Award	1	5,000	15,000
Ontario	Career Investigator	7	581,000	
	Clinician Scientist	6	347,500	
	Mid-Career Investigator	18	1,440,000	
	Summer Student Scholarships	14	78,500	2,447,000
Quebec	-	-	-	-
New Brunswick	-	-	-	-
Nova Scotia	-	-	-	-
Prince Edward Island	-	-	-	-
Newfoundland and Labrador	Graduate Scholarship	1	1,500	
	Keith Griffiths Memorial Scholarship	1	1,500	
	Undergraduate Nursing Award in Cardiovascular Health	1	1,500	
	Undergraduate Nursing Award in Stroke	1	1,500	
	Heart and Stroke Foundation (NL) MD Research Award	1	4,000	10,000
TOTAL		57	$2,762,000	$2,762,000

Description of Provincial Personnel Awards

Heart & Stroke in British Columbia & Yukon

Robert Hayden Research Fellowship — The Robert Hayden Research Fellowship was established to promote cardiovascular outcomes research that utilizes the rich clinical data in **HEART is** to improve cardiovascular care in British Columbia. The award will provide a stipend and travel allowance to support a post-doctoral fellow using data in their research project. The successful candidate will be provided with a workspace at ICVHealth in Vancouver and work collaboratively with epidemiologists, biostatisticians and knowledge translation experts.

Heart & Stroke in Alberta, NWT & Nunavut

New Investigator — The New Investigator Awards aim to provide outstanding Alberta investigators in their early career with the opportunity to establish research programs and build teams through provision of a contribution to their group research efforts, laboratories or salary. The intent is to foster research excellence and support retention of outstanding talents in Alberta. This initiative provides salary support to excellent Alberta applicants whose innovative research plans have demonstrated strong potential to deliver impact on the Heart & Stroke mission. The applicants are expected to demonstrate that their overall research program and plan have a cardio or cerebrovascular focus.

Heart & Stroke in Manitoba

Sanofi / Heart and Stroke Foundation in Manitoba Award in Cardiology — This $10,000 award is given to stimulate and support excellence in research and scholarly activity in the discipline of Cardiology at the University of Manitoba. The award funds a clinical cardiology resident, preferably in their third year, who demonstrates academic excellence within the clinical residency program, possesses humanistic qualities with respect to patient care, collegiality and interpersonal dealings with medical and paramedical staff, has clinical competence in the field, and is expected to pursue further academic training beyond core cardiology.

Dr. Dexter Harvey Award — This $5,000 award encourages and supports training for outstanding Master's or PhD students enrolled in a Manitoba university program whose research focuses on primary prevention risk factor reduction in the areas of physical inactivity, excess weight and tobacco smoking. The annual award was named after retired Heart & Stroke board member, Dr. Dexter Harvey, whose dedication to improving the public health and well-being of Manitobans has been demonstrated through his 30-year commitment as a senior volunteer with the foundation.

Heart & Stroke in Ontario

Career Investigator — Stipend support for up to five years for investigators of national/international stature.

Clinician Scientist Phase 1 — Stipend support for up to four years, to provide clinician-scientists who are within 4 years of their first full-time academic appointment with protected time to build influential programs of cardio- or cerebrovascular research.

Clinician Scientist Phase 2 — Stipend support for up to three years, to provide clinician-scientists within no fewer than 4, and no more than 8 years since their first full-time academic appointment with protected time to build influential programs of cardio- or cerebrovascular research.

Mid-Career Investigator — Stipend support for up to four years, to provide investigators within no fewer than 8, and no more than 18 years since their first full-time academic appointment with protected time to build influential programs of cardio- or cerebrovascular research.

Summer Student Scholarship — Stipend support for up to four months for students to conduct cardio- or cerebrovascular research with mentorship from established investigators.

Heart & Stroke in Newfoundland and Labrador

Graduate Scholarship — This scholarship, valued at $1,500 per annum, is awarded to a full-time graduate level student in the Faculty of Medicine, who is pursuing a research program related to cardiovascular disease.

Keith Griffiths Memorial Scholarship — This scholarship, valued at $1,500 per annum, was established through a generous contribution by the Griffiths family, in memory of their father, Keith Griffiths, a stroke survivor and dedicated volunteer, and in partnership with the Heart and Stroke Foundation. The scholarship is awarded to a full-time graduate level student in the Faculty of Medicine, who is pursuing a research program in stroke or neurological issues related to stroke.

Undergraduate Nursing Award in Cardiovascular Health — This scholarship, valued at $1,500 annually, is awarded to an undergraduate student in any year of the Bachelor of Nursing program at the School of Nursing who demonstrates an interest in cardiovascular health, have actively volunteered with the Heart and Stroke Foundation and also have met the minimum academic requirements for an award.

Undergraduate Nursing Award in Stroke — This scholarship, valued at $1,500 annually, is awarded to an undergraduate student in any year of the Bachelor of Nursing program at the School of Nursing who demonstrates an interest in patient health related to stroke care, have actively volunteered with the Heart and Stroke Foundation and also have met the minimum academic requirements for an award.

Heart and Stroke Foundation MD Research Award — This scholarship, valued at $4,000 per annum, is awarded to a second year student in the undergraduate medical education degree program at the Faculty of Medicine, who is conducting research in a heart and stroke related area.

4.4.3 Other Provincial Initiatives

In 2016-2017, the provincial offices funded a wide variety of other research initiatives. Table 8 provides details of these initiatives and a list of recipients can be found in Appendix F.

Table 8. Other Provincial Research Initiatives (2016-2017)

Province(s)/Territory(ies)	Program	Awards (#)	Awards ($)	Total ($)
British Columbia & Yukon	Heart & Stroke-UBC Cardiology Research Partnership: Cardiology Academic Practice Plan (CAPP)	10	200,000	200,000
Alberta, NWT & Nunavut	-	-	-	-
Saskatchewan	-	-	-	-
Manitoba	Primary Prevention Challenge Grant	2	80,000	80,000
Ontario	-	-	-	-
Quebec	Awards for Excellence in Research	7	120,000	
	Training bursaries	1	6,666	
	Bursaries in partnership with FRQS	1	24,354	151, 020
New Brunswick	-	-	-	-
Nova Scotia	Dr. Gregory Ferrier Award	1	5,000	
	BrightRed Student Research Award	5	25,000	30,000
Prince Edward Island	-	-	-	-
Newfoundland and Labrador	-	-	-	-
Heart and Stroke Foundation Canadian Partnership for Stroke Recovery‡		-	2,000,000	2,000,000
TOTAL		27	$2,461,020	$2,461,020

‡ H&S contributions to the Canadian Partnership for Stroke Recovery.

Description of Other Provincial Research Initiatives

Heart & Stroke in British Columbia & Yukon

Heart & Stroke- UBC Cardiology Research Partnership: Cardiology Academic Practice Plan (CAPP — As part of its mandate to support innovative research and its application to improve the health of Canadians, Heart and Stroke Foundation, BC & Yukon, has partnered with the University of British Columbia's Division of Cardiology to support research by early career cardiologists. By providing grant support that will protect the research time of awardees, the academic practice plan will cultivate academic capacity, supporting increased clinical research and education. This will in turn strengthen the recruitment and retention of outstanding early career physicians in British Columbia.

Heart & Stroke in Manitoba

Primary Prevention Challenge Grant — As part of its commitment to primary prevention research, Heart & Stroke in Manitoba allocated funds towards the Primary Prevention Challenge Grant program to support innovative and unique projects that have direct policy and/or practice relevance and application to reducing risk factors at a population level in Manitoba. The program builds on the findings of Making the Case for Primary Prevention: An Economic Analysis of Risk Factors in Manitoba, which clearly demonstrated the need to reduce the prevalence of risk factors for chronic disease which will reduce health care costs and improve population health.

Heart & Stroke in Quebec

Awards for Excellence in Research — A number of Awards for Excellence in Research are awarded each year by Quebec mostly in partnership with individual and corporate donors. These awards are in partnership with the Grant-in-Aid program to support Quebec researchers. The awards range from $5,000 to $50,000.

Training bursaries for PhD students in Cardiovascular and Stroke Research — Partnership between the Fonds de recherche du Québec en santé (FRQS) and the Heart & Stroke in Quebec. The partners offer training bursaries for PhD students working with researchers receiving a Grant-in-Aid from the Heart & Stroke in Quebec.

Bursaries in partnership with FRQS for new investigators in Cardiovascular and Stroke Research — Partnership between the Fonds de recherche du Québec en santé (FRQS) and the Heart & Stroke in Quebec. The partners offer bursaries for new investigators.

Heart & Stroke in Nova Scotia

Dr. Gregory Ferrier Award — Nova Scotia offers an award for excellence in research. This award is given annually to the highest rated Nova Scotia Grant-in-Aid recipient in honour of Dr. Gregory Ferrier, an internationally respected, award-winning scientist known for his groundbreaking and innovative research program related to heart failure mechanisms. The award also honours the spirit of Dr. Ferrier's mentorship to a new generation of researchers; he went above and beyond to ensure they were able to conduct their research in Nova Scotia. A stipend of $5,000 is awarded to the grant budget in support of student funding in recognition of Dr. Ferrier's commitment to research training.

BrightRed Student Research Award — The BrightRed Student Research Awards Program recognizes excellent emerging cardiovascular and cerebrovascular researchers in Nova Scotia at differing stages of career development, by providing financial support to students and trainees enrolled in research-based Masters, Doctorate, or Postdoctorate programs at academic institutions in Nova Scotia.

Appendix A

Directed Research Fund

Dr. Thais de Azeredo Coutinho (University of Ottawa Heart Institute) was funded in 2016-2017 through her Emerging Research Leaders Initiative grant, which was awarded in 2015-2016. Dr. de Azeredo Coutinho also holds a 2016-2017 Grant-in-Aid and Clinician Scientist Award.

New Initiatives

Emerging Research Leaders Initiative (ERLI) 2015
Partner(s): Canadian Stroke Prevention Intervention Network; Canadian Vascular Network; New Brunswick Health Research Foundation; Fonds de recherche du Québec – Santé; Pfizer Canada Inc.; Canadian Cardiovascular Society; Cardiac Arrhythmia Network of Canada; Canadian Institutes of Health Research; Heart & Stroke.
Total Initiative funding: $894,069
Total Heart & Stroke funding: $445,635

Description: ERLI is an establishment grant program for researchers at the transition stage from post doctoral fellow to early professional career stage in the areas of cardiovascular, cerebrovascular, and/or respiratory health research. This initiative aims to support successful early career launch of new investigators. Through this initiative, partners will provide establishment grant funds that will create a set of conditions conducive to the successful career launch of emerging research leaders in the cardiovascular, cerebrovascular, and/or respiratory health research domains.

Emerging Research Leaders Initiative (ERLI)

Principal Investigator(s)	Institute	Project	Mentor(s)	Term	16-17 $ Heart & Stroke	Total 16-17 $ (All Partners)	Total $ Heart & Stroke	Total $ (All Partners)	Theme(s)
Fullerton, Morgan	University of Ottawa Heart Institute	The role of A MP-activated protein kinase (AMPK) in cardiovascular disease.	McPherson, Ruth	2016-2019	50,000	50,000	150,000	150,000	I
Lin, Steve	St. Michael's Hospital	Optimizing cerebral oxygenation and metabolism in cardiac arrest.	Lin, Paul	2016-2019	-	49,914	-	149,434	I,II
Paulin, Roxane	Institut universitaire de cardiologie et de pneumologie de Québec	An RV-T cell axis in pulmonary hypertension.	Provencher, Steeve; Michelakis, Evangelos D.	2016-2019	50,000	50,000	150,000	150,000	I
Roberts, Jason D.	University of Western Ontario	GENEtic predictors of successful atrial fibrillation treatment (GENE-AF).	Tang, Anthony S.L.	2016-2019	-	50,000	-	150,000	I,II,III,IV
Udell, Jacob A.	Women's College Hospital	Disruptive innovation in heart disease research.	Farkouh, Michael, E.	2016-2019	48,224	48,224	145,635	145,635	I,II,III,IV
Ussher, John R.	University of Alberta	Vascular insulin signaling and pulmonary arterial hypertension.	Seubert, John M.	2016-2019	-	49,000	-	149,000	I

Continuing Initiatives

Emerging Research Leaders Initiative (ERLI)
Partner(s): Canadian Respiratory Research Network; Canadian Stroke Prevention Intervention Network; Canadian Vascular Network; AllerGen NCE; Brain Canada Foundation; New Brunswick Health Research Foundation; Pfizer Canada Inc.; Canadian Cardiovascular Society; Canadian Institutes of Health Research; Heart & Stroke.
Total Initiative funding: $1,195,038
Total Heart & Stroke funding: $373,934

Description: ERLI is an establishment grant program for researchers at the transition stage from post doctoral fellow to early professional career stage in the areas of cardiovascular, cerebrovascular, and/or respiratory health research. This initiative aims to support successful early career launch of new investigators. Through this initiative, partners will provide establishment grant funds that will create a set of conditions conducive to the successful career launch of emerging research leaders in the cardiovascular, cerebrovascular, and/or respiratory health research domains.

Emerging Research Leaders Initiative (ERLI)

Principal Investigator(s)	Institute	Project	Mentor(s)	Term	16-17 $ Heart & Stroke	Total 16-17 $ (All Partners)	Total $ Heart & Stroke	Total $ (All Partners)	Theme(s)
Arcand, JoAnne L.	University of Ontario Institute of Technology	Evaluation of web-based dietary screening tools in the management of cardiovascular risk factors.	Floras, John S.; L'Abbé, Mary R.	2015-2018	-	49,947	-	149,762	II,III,IV
Brunham, Liam R.	University of British Columbia	Genomic markers of cerebral small vessel ischemia.	Khan, Nadia A.	2015-2018	24,710	49,420	74,130	148,260	I,II
de Azeredo Coutinho, Thais	University of Ottawa Heart Institute	Investigating the pathogenesis and clinical applications of arterial health in cardiovascular diseases.	Beanlands, Rob S.B.	2015-2018	-	37,289	-	148,927	II
Kramer, Caroline	Mount Sinai Hospital	Longitudinal course of metabolic health across the full spectrum of body weight.	Retnakaran, Ravi R.; Zinman, Bernard	2015-2018	50,000	50,000	149,804	149,804	I,II
Sandhu, Roopinder	University of Alberta	Improving stroke prevention in atrial fibrillation through pharmacist prescribing: PIAAF Rx Study.	McAlister, Finlay A.	2015-2018	-	50,000	-	150,000	II,III
Santosa, Sylvia	Concordia University	Acute and chronic effects of obesity on cardiovascular disease risk factors.	Bacon, Simon L.; Morais, José A.	2015-2018	25,000	25,000	150,000	150,000	I,II

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Principal Investigator(s)	Institute	Project	Mentor(s)	Term	16-17 $ Heart & Stroke	Total 16-17 $ (All Partners)	Total $ Heart & Stroke	Total $ (All Partners)	Theme(s)
West, Christopher	University of British Columbia	Habitual physical activity, exercise and cardiovascular function in spinal cord injury.	Sheel, Andrew W.	2015-2018	-	49,894	-	149,282	I,II
Wilton, Stephen	University of Calgary	An individualized shared decision-making intervention for atrial fibrillation stroke prevention.	Ghali, William A.; Sheldon, Robert S.	2015-2018	-	49,998	-	149,003	II,III

Population-Level Nutrition Interventions
Partner(s): Heart & Stroke
Total Initiative funding: $779,346
Total Heart & Stroke funding: $779,346

Description: The purpose of this initiative is to focus on generating evidence about the impact on nutrition of population-level policy and/or program interventions. Ultimately, funded projects should contribute to primary prevention of heart disease and stroke within and/or applicable to Canadian contexts and populations. The intent is to generate evidence for decision-makers who require relevant research to inform policies and programs.

Population-Level Nutrition Interventions

Principal Investigator(s)	Institute	Project	Co-Investigator(s)	Term	16-17 $ Heart & Stroke	Total 16-17 $ (All Partners)	Total $ Heart & Stroke	Total $ (All Partners)	Theme(s)
L'Abbé, Mary R.	University of Toronto	FoodSwitch: testing the effectiveness of a food information app to promote the selection of healthier foods.	**Ontario:** Lou, Wen-Yi Wendy W. **Quebec:** Dubé, Laurette	2015-2018	115,369	115,369	213,640	213,640	IV
Naylor, Patti-Jean	University of Victoria	Eat, play, live: a population intervention to promote nutrition guideline implementation in recreation facilities across three Canadian provinces.	**British Columbia:** Mâsse, Louise C. **Alberta:** Olstad, Dana **Nova Scotia:** Kirk, Sara; Langille, Jessie-Lee **Ontario:** Hanning, Rhona	2015-2018	99,930	99,930	299,630	299,630	IV
Vatanparast, Hassanali	University of Saskatchewan	The impact of Health-Start-Depart-Sante intervention on improving dietary intake of 3-5 year-old children attending childcare centers in Saskatchewan and New Brunswick.	**Saskatchewan:** Engler-Stringer, Rachel; Froehlich Chow, Amanda; Humbert, Margaret Louise; Muhajarine, Nazeem; Osgood, Nathaniel D.; Szafron, Michael **Quebec:** Bélanger, Mathieu	2015-2018	91,426	91,426	266,076	266,076	III, IV

Canadian Resuscitation Outcomes Consortium (CanROC)
Partner(s): The CIHR Institute of Circulatory and Respiratory Health and Heart & Stroke.
Total Initiative funding: $3,000,000
Total Heart & Stroke funding: $1,500,000

Description: The overall goal is to improve the outcomes of out-of-hospital cardiac arrest (OHCA) and trauma patients, both adult and paediatric. The plan is to create a Canadian version of ROC (CanROC) that is more national in breadth and that can stand alone to perform intervention studies in OHCA and major trauma, as well as to also collaborate with US-ROC and other international partners. The goal is to advance the capacity, competitiveness, and impact of resuscitation clinical research conducted in Canada.

Canadian Resuscitation Outcomes Consortium (CanROC)

Principal Investigator(s)	Institute	Project	Co-Investigator(s)	Term	16-17 $ Heart & Stroke	Total 16-17 $ (All Partners)	Total $ Heart & Stroke	Total $ (All Partners)	Theme(s)
Christenson, James M.	University of British Columbia	CanROC - Canadian Resuscitation Outcomes Consortium: Toward a National Resuscitation Clinical Research Network.	**British Columbia:** Ramanathan, Krishnan	2015-2020	150,000	150,000	750,000	750,000	IV
Morrison, Laurie J.	St. Michael's Hospital	CanROC - Canadian Resuscitation Outcomes Consortium: Toward a National Resuscitation Clinical Research Network.	**Ontario:** Nascimento, Barto; Scales, Damon; Hutchinson, Jamie; Dainty, Katie; Parker, Melissa; Dorian, Paul; Verbeek, Rick; Rizoli, Sandro; Cheskes, Sheldon; Brooks, Steve; Lin, Steve	2015-2020	-	300,000	-	1,500,000	IV
Stiell, Ian G.	Ottawa Hospital-Civic Campus	CanROC - Canadian Resuscitation Outcomes Consortium: Toward a National Resuscitation Clinical Research Network.	**Ontario:** Vaillancourt, Christian; Wells, George; Osmond, Martin	2015-2020	150,000	150,000	750,000	750,000	IV

Canadian Alliance for Healthy Hearts and Minds (CAHHM)
Partner(s): Canadian Partnership Against Cancer; Heart & Stroke.
Total Initiative Funding: $15,998,465
Total Heart & Stroke Funding: $1,999,852

Description: CAHHM is a pan-Canadian, multi-ethnic cohort (South Asian, Asian and African descent) study which will enroll predominantly healthy men and women between the ages of 35 to 69 years. CAHHM primarily aims to increase our understanding of the impact of the individual, socio-economic and other environmental factors leading to cardiac and vascular disease. The Heart & Stroke provides support to the overall initiative, and specifically includes an aboriginal component that would otherwise not be included.

Canadian Alliance for Healthy Hearts and Minds (CAHHM)

Principal Investigator(s)	Institute	Project	Co-Investigator(s)	Term	16-17 $ Heart & Stroke	Total 16-17 $ (All Partners)	Total $ Heart & Stroke	Total $ (All Partners)	Theme(s)
Anand, Sonia S.; Friedrich, Matthias; Tu, Jack	McMaster University	The Canadian Alliance for Healthy Hearts and Minds.	**Alberta**: Anderson, Todd; Smith, Eric **British Columbia:** McManus, Bruce **Nova Scotia:** Blanchard, Christopher **Ontario:** Jenkins, David; Moody, Alan; Roberts, Bob **Quebec:** Despres, Jean-Pierre; Tsoukas, Chris	2013-2017	360,332	2,840,678	1,999,852	15,998,465	II, IV

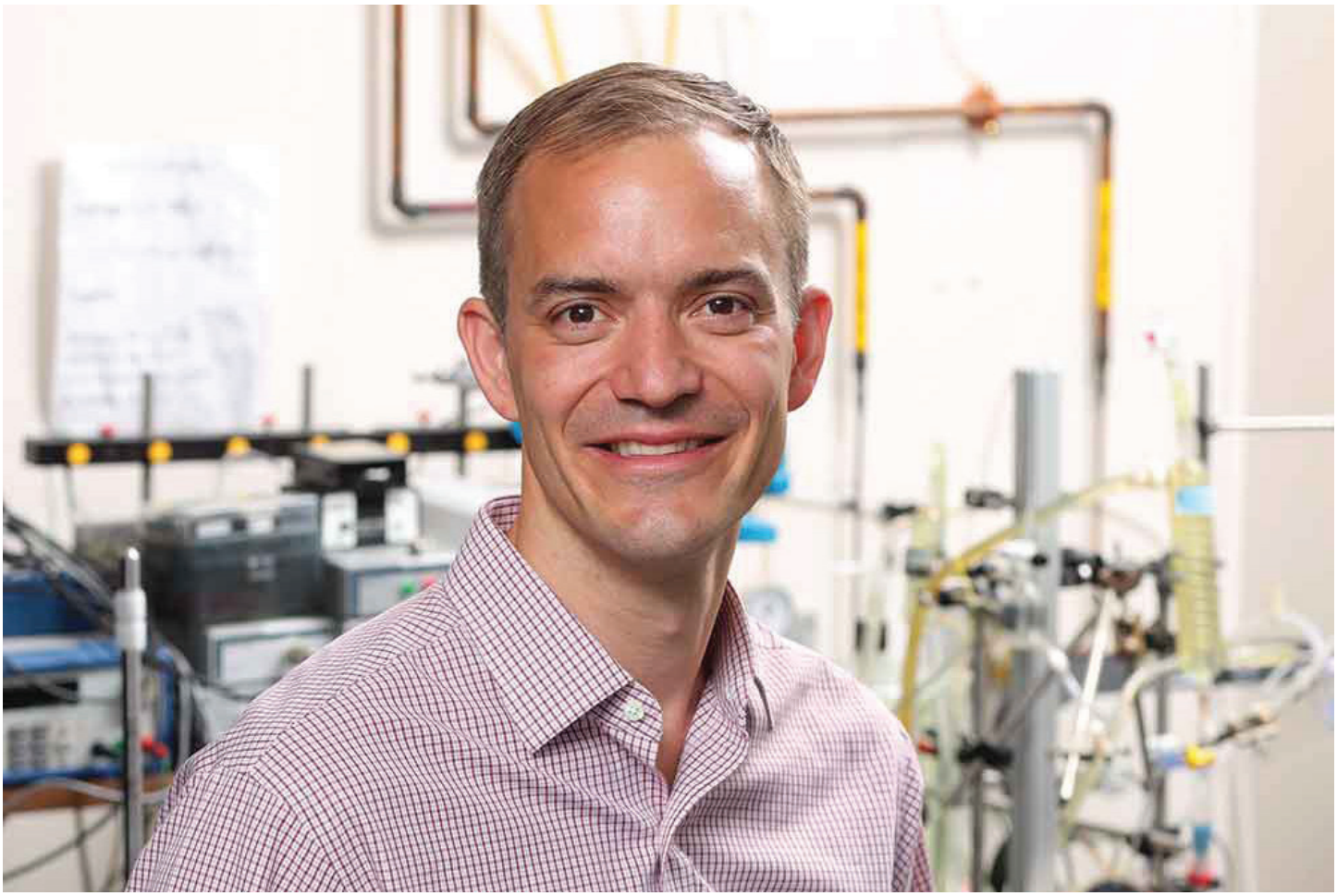
Emerging Network: Canadian Stroke Prevention Intervention Network (C-SPIN)
Partner(s): The CIHR Institute of Circulatory and Respiratory Health and the Institute of Aging; Heart & Stroke.
Total Initiative funding: $18,520,000
Total Heart & Stroke funding: $1,000,000

Description: The ultimate goal of an Emerging Network will be to generate new knowledge and bridge gaps between research and outcomes by contributing to one or more of the following: identifying key knowledge gaps, promoting national and international collaborations among scientists from all themes to address those gaps in a coherent fashion by sharing ideas, tools, methods, and scarce resources, accelerating translation of biomedical discoveries into clinical applications and best practices as well as; to the marketplace; developing, validating, and implementing an intervention that changes a significant aspect of practice; and evaluating outcomes to demonstrate impact. The Canadian Stroke Prevention Intervention Network (C-SPIN) stems from the necessity to develop relevant and integrated stroke-prevention strategies to reduce embolic strokes across Canada and address the specific challenges of our population.

Emerging Network: Canadian Stroke Prevention Intervention Network (C-SPIN)

Principal Investigator(s)	Institute	Project	Co-Investigator(s)	Term	16-17 $ Heart & Stroke	Total 16-17 $ (All Partners)	Total $ Heart & Stroke	Total $ (All Partners)	Theme(s)
Healey, Jeff S.; Sheldon, Robert S.	McMaster University	Canadian Atrial Fibrillation Stroke Prevention Intervention Network (CAF-SPIN).	**Alberta:** Wilton, Stephen; Sandhu, Roopinder; Quinn, Francis Russell; McRae, Andrew; Hill, Michael D.; Exner, Derek V. **British Columbia:** Krahn, Andrew D.; Andrade, Jason G.; Tang, Anthony S.L. **Nova Scotia:** Parkash, Ratika **Ontario:** Whitlock, Richard P.; Verma, Atul; Tobe, Sheldon W.; Thabane, Lehana; Sharma, Mukul; Redfearn, Damian Paul P.; Nieuwlaat, Robby; Morillo, Carlos A.; Meshkat, Nazanin; Ivers, Noah; Hart, Robert; Ha, Andrew C.T.; Graham, Ian D.; Goeree, Ron; Gladstone, David J.; Dolovich, Lisa R.; Connolly, Stuart J.; Atzema, Clare L.; Dorian, Paul; Birnie, David H. **Quebec:** Talajic, Mario; Philippon, François; Khairy, Paul; Huynh, Thao T.; Essebag, Vidal	2013-2019	200,000	4,240,000	1,000,000	18,520,000	II

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health



Appendix B

National Personnel Awards

Dr. T. Alexander Quinn (Dalhousie University) was the 2016-2017 McDonald Scholar, as well as a recipient of a 2016-2017 National New Investigator Award.

Doctoral Research Awards

Awardee	Supervisor(s)	Research Institution	Project	Keywords	Term	16-17 $*	Total $*	Theme(s)
Adnan, Areeba	Turner, Gary R.	York University	A brain-based approach to enhancing executive control in multi-modal mild cognitive impairment.	*Aging, goal management training, multi-modal mild cognitive impairment, rehabilitation, cerebrovascular health.*	2014-2018	21,000	73,500	II
Sun, Yao	Zehr, E. Paul	University of Victoria	Improving efficiency and efficacy of unilateral strength training after stroke.	*Rehabilitation, strength training, interlimb, cross-education, spasticity.*	2014-2017	21,000	63,000	I,II

Focus on Stroke Doctoral Research Awards

Awardee	Supervisor(s)	Research Institution	Project	Keywords	Term	16-17 $ Heart & Stroke*	Total 16-17 $ (All Partners)*	Total $ Heart & Stroke*	Total $ (All Partners)*	Theme(s)
Klarner, Taryn†	Zehr, E. Paul	University of Victoria	Can arm and leg cycling training improve walking ability after stroke?	*Walking, training intervention, neuromuscular adaptation, motor recovery, spasticity.*	2013-2017	10,500	10,500	42,500	52,500	I,II,III

Research Fellowships

Awardee	Supervisor(s)	Research Institution	Project	Keywords	Term	16-17 $*	Total $*	Theme(s)
Brazeau, Anne-Sophie	Dasgupta, Kaberi	McGill University	Does shared-diabetes risk imply 'shared' screening and 'shared' health behaviour change?	*Prediabetes, insulin resistance, cardiovascular risk factors, physical activity, eating behaviours.*	2014-2017	20,000	100,000	II,III,IV
Edwards, Jodi D.	Black, Sandra E.	Sunnybrook Research Institute	Relationship between amyloid burden and cognitive impairment in periventricular white matter disease.	*Post-stroke dementia, covert small vessel disease, transient ischemic attack, beta amyloid, amyloid PET imaging.*	2014-2017	6,667	80,000	I,II,IV
Klaiman, Jordan M.	Regnier, Michael	University of Washington	Investigation of 2-deoxy-ATP as a treatment for dilated cardiomyopathy.	*Dilated cardiomyopathy, 2-deoxy-ATP (daTP), muscle biomechanics, myofilament targeted therapy.*	2014-2017	3,333	80,000	I
Lalu, Manoj Mathew	Stewart, Duncan	Ottawa Hospital Research Institute	Therapeutic effects and mechanisms of mesenchymal stromal cell conditioned medium in sepsis.	*Sepsis induced cardiac dysfunction, mesenchymal stromal cells, exosomes.*	2014-2017	12,500	100,000	I

† This award has been partnered with CIHR Institute of Circulatory and Respiratory Health and Institute of Aging and/or Canadian Stroke Network.

* Amount shown represents stipend value only.

Industry-Supported Research Fellowship Awards

The Heart & Stroke wishes to thank Pfizer for their generous contributions to support the Heart & Stroke Research Program.

Heart & Stroke/Pfizer Canada Research Fellowship

Awardee	Supervisor(s)	Institute	Project	Keywords	Term	16-17 $ Heart & Stroke*	Total 16-17 $ (All Partners)*	Total $ Heart & Stroke*	Total $ (All Partners)*	Theme(s)
Kwiatkowska, Anna	Day, Robert	Université de Sherbrooke	Development of peptide-based PCSK9 inhibitors for the treatment of hypercholes-terolemia.	*Hypercholes-terolemia, PCSK9 inhibitors, protein-protein interactions, anexxin A2, H/DX-MS.*	2014-2017	3,333	3,333	40,000	80,000	I

*Amount shown represents stipend value only.

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

New Investigators

Awardee	Research Institution	Project	Keywords	Term	16-17 $*	Total $*	Theme(s)
Atzema, Clare L.	Institute for Clinical Evaluative Sciences	Atrial fibrillation in the emergency room: The AFTER study.	*Atrial fibrillation, emergency department, health services, clinical decision rule, arrhythmia.*	2013-2018	60,000	315,000	II,III,IV
Auger-Messier, Mannix	Université de Sherbrooke	Préservation de la contractilité et de la structure des cardiomyocytes dans l'insuffisance cardiaque.	*Insuffisance cardiaque, contractilité, sarcomere, dual-specificity phosphatases (DUSP), ArfGAP with dual PH domains (ADAPs).*	2014-2019	60,000	300,000	I
Brunham, Liam R.	University of British Columbia	Harnessing advances in genomics to improve the care of patients with cardiovascular diseases.	*Genetics, genomics, stem cells, lipids, atherosclerosis, cardiotoxicity, coronary artery disease, family history, prevention.*	2016-2017	65,000	65,000	I,II
Carrier, Marc	Ottawa Hospital Research Institute	Screening for occult cancer in patients with unprovoked venous thromboembolism.	*Venous thromboembolism, unprovoked thrombosis, deep vein thrombosis, pulmonary, randomized controlled trial.*	2012-2017	60,000	300,000	II,III,IV
Dowlatshahi, Dariush	Ottawa Hospital Research Institute	Predicting intracerebral hemorrhage expansion using the dynamic CT-angiography spot sign.	*Intracerebral hemorrhage, stroke, CT-angiography, hematoma expansion, critical care.*	2013-2018	60,000	300,000	I,II
Gauthier, Claudine	Concordia University	Quantitative MRI of cerebral vascular and metabolic health: cardiovascular risk factors, stroke and exercise.	*Cerebrovascular health, oxidative metabolism, quantitative MRI, cardiovascular disease, stroke, exercise.*	2016-2020	75,000	270,000	I,II
Lagace, Thomas A.	University of Ottawa Heart Institute	Regulation of circulating low-density lipoprotein cholesterol levels.	*Low-density lipoprotein receptor, PCSK9, cholesterol, protein-protein interaction, epidermal growth factor-like domain.*	2012-2017	60,000	300,000	I
Larrivée, Bruno	Université de Montréal	Targeting BMP signaling for the treatment of cardiovascular complications of diabetes.	*Angiogenesis, vascular biology, cell signalling, blood vessel morphogenesis, diabetes.*	2014-2019	60,000	300,000	I
Quinn, T. Alexander	Dalhousie University	Mechanisms and importance of mechano-electric coupling in arrhythmogenesis during acute regional ischemia.	*Cardiac, arrhythmias, ischemia, electrophysiology, mechanics.*	2016-2020	75,000	270,000	I
Rose, Robert A.	Dalhousie University	Natriuretic peptides regulate sinoatrial node function and arrhythmogenesis in heart disease.	*Natriuretic peptide, sinoatrial node, electrophysiology, arrhythmias, ion channels.*	2014-2019	60,000	315,000	I
Schmoelzer, Georg M.**	University of Alberta	Novel resuscitation to improve the recovery of asphyxiated newborns.	*Neonatal resuscitation, aphyxia, newborn, infants.*	2016-2020	5,000	260,000	I,II
Simpson, Jeremy A.	University of Guelph	Myocardial production of erythropoietin and hemoglobin variants.	*Cardiac, cytokines, hemoglobin, heart failure, erythropoietin, rodent.*	2013-2018	60,000	300,000	I

* Amount shown represents stipend value only.

**Joint title Alberta New Investigator and National New Investigator.

Awardee	Research Institution	Project	Keywords	Term	16-17 $*	Total $*	Theme(s)
Swartz, Richard H.	Sunnybrook Health Sciences Centre	DOC: screening depression, OSA, and cognition to identify high-risk stroke clinic patients.	*Stroke prevention, vascular risk factors, vascular cognition, cognitive impairment, post-stroke depression, obstructive sleep apnea.*	2014-2019	60,000	315,000	II,III,IV
Thiruganasambanda-moorthy, Venkatesh	Ottawa Hospital Research Institute	Improving syncope care in the emergency department and in the prehospital setting.	*Syncope, arrhythmia, risk-stratification, mortality, remote cardiac monitoring.*	2016-2020	65,000	260,000	II,III
Udell, Jacob A.***	Women's College Hospital	Disruptive innovation in heart disease research.	*Ischemic heart disease, heart failure, women, influenza, randomized registry trials.*	2016-2020	65,000	280,000	I,II,III,IV

Distinguished Clinician Scientist

Awardee	Research Institution	Project	Keywords	Term	16-17 $ Heart & Stroke*	Total 16-17 $ (All Partners)*	Total $ Heart & Stroke*	Total $ (All Partners)*	Theme(s)
Saposnik, Gustavo	St. Michael's Hospital	Efficacy of virtual reality exercises using Wii gaming technology in stroke rehabilitation: a multicentre randomized clinical trial (EVEREST multicentre).	*Stroke, clinical trial, outcomes research, virtual reality, rehabilitation.*	2012-2017	75,000	75,000	390,000	390,000	I,II,III
Wijeysundera, Harindra C.	Sunnybrook Research Institute	Evaluating therapeutic decision-making, outcomes and resource utilization in chronic stable angina: an interprovincial population-based study.	*Agina, quality of life, health care costs, variation in care, administrative database.*	2013-2018	75,000	75,000	375,000	375,000	II,III,IV

*Amount shown represents stipend value only.

***Joint title National New Investigator and Ontario Clinician Scientist Phase I.

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Appendix C

Grants-in-aid

Dr. Kim Connelly (St. Michael's Hospital) was funded in 2016-2017 through his Grant-in-Aid, awarded in 2015-2016.

British Columbia/Yukon

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Ambrose, Teresa; Field, Thalia S.; Davis, Jennifer; Madden, Kenneth M.; Hsiung, Ging-Yuek Robin; Tam, Roger; Best, John; Goldsmith, Charles H.	University of British Columbia	Reshaping the path of vascular cognitive impairment with resistance training.	*Exercise training, white matter lesions, executive functions, rehabilitation, small vessel disease.*	2015-2018	99,991	199,896	II
Bernatchez, Pascal N.; van Breemen, Cornelis; Seidman, Michael	St. Paul's Hospital	Aberrant endothelial mechano-sensing is a cause of early atherosclerosis and a pharmacological target.	*Nitric oxide, atherosclerosis, mechano-sensing, shear stress, caveolae.*	2015-2018	88,412	177,057	I
Choy, Jonathan C.; Unrau, Peter	Simon Fraser University	Regulation of graft arteriosclerosis by IL-6.	*Transplantation, graft arteriosclerosis, T cell, IL-6, cell death.*	2015-2018	84,666	169,332	I
Claydon, Thomas W.	Simon Fraser University	Molecular mechanisms of gating and drug binding in hERG cardiac potassium channels.	*Electrophysiology, cardiac excitation, ion channels, voltage clamp fluorimetry (VCF), lanthanide-based resonance energy transfer (LRET).*	2015-2018	92,300	184,100	I
Clee, Susanne M.	University of British Columbia	Identification of novel genes affecting body weight.	*Obesity, positional cloning, mouse genetics, food intake, metabolism.*	2014-2017	100,000	297,536	I
Eng, Janice J.; Mortenson, William B.; Yao, Jennifer	University of British Columbia	Use of a robotic exoskeleton to promote walking recovery after stroke.	*Rehabilitation, stroke, assistive technology.*	2015-2018	72,127	144,254	II,III
Fedida, David	University of British Columbia	Identification and characterization of molecular interactions between the subunits of the cardiac repolarizing current, IKs, studied using unnatural amino acid mutagenesis and mass spectrometry.	*Heart, potassium channels, repolarization, unnatural amino acid, mutagenesis.*	2014-2017	90,456	265,437	I
Hoodless, Pamela A.	British Columbia Cancer Agency	Regulatory networks in heart valve formation.	*Embryogenesis, atrioventricular canal, valve development, genomics.*	2014-2017	94,897	296,863	I
Hoppmann, Christiane A.; Murphy, Rachel; Linden, Wolfgang; Madden, Kenneth M.; Ashe, Maureen C.	University of British Columbia	Linked lives - a couples approach to health behaviors post stroke.	*Health behaviors, couples, stroke, prevention, social resources.*	2016-2019	87,640	87,640	II,IV

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Karsan, Aly	British Columbia Cancer Agency	Mechanisms of vascular development.	*Transcription factors, Meis1, hemogenic endothelium, vascular endothelium, gene-targeted mouse.*	2014-2017	93,000	279,000	I
Krahn, Andrew D.; Gardner, Martin J.; Hamilton, Robert M.; Gerull, Brenda; Talajic, Mario; Arbour, Laura T.; Healey, Jeff S.; Sanatani, Shubhayan; Spears, Danna; Laksman, Zachary; Bennett, Matthew T.; Klein, George J.	University of British Columbia	National long QT syndrome registry and biobank.	*Long QT syndrome, genetics, arrythmia.*	2014-2017	74,597	224,179	II
Krahn, Andrew D.; Klein, George J.; Philippon, François; Birnie, David H.; Simpson, Christopher S.; Gerull, Brenda; Talajic, Mario; Arbour, Laura T.; Healey, Jeff S.; Roberts, Jason D.; Lettre, Guillaume; Sanatani, Shubhayan; Hamilton, Robert M.; Tadros, Rafik; Angaran, Paul; Gardner, Martin J.; Laksman, Zachary; Chauhan, Vijay S.	Vancouver General Hospital	CASPER: Canadian genetic heart rhythm network.	*Arrhythmia, electrophysiology, cardiology, genetics, sudden death.*	2016-2019	78,889	78,889	I,II
Krassioukov, Andrei; Floresco, Stan; Rauscher, Alexander; Kozlowski, Piotr; Laher, Ismail; Ainslie, Philip; Phillips, Aaron	University of British Columbia	When are blood vessels "ready to rupture"? Cerebrovascular health following spinal cord injury: from animal models to clinical practice.	*Cerebral circulation, spinal cord injury, cognitive function, humans, animals.*	2016-2019	82,029	82,029	I,II,III
Luo, Honglin	St. Paul's Hospital-UBC	Molecular chaperones in viral cardiomyopathy.	*Molecular chaperones, alphaB-crystallin, viral cardiomyopathy.*	2016-2019	90,960	90,960	I

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
MacLeod, Kathleen M.	University of British Columbia	ROCK2 and obesity cardiomyopathy: mechanisms contributing to mitochondrial and contractile dysfunction.	*Obesity, cardiomyopathy, ROCK2, mitochondria, dynamics.*	2016-2019	84,230	84,230	I
McManus, Alison; Tremblay, Mark S.; Ainslie, Philip; Green, Daniel	University of British Columbia	Prolonged sitting and brain health in healthy weight and obese children.	*Sedentary behavior, sitting, cerebrovascular, exercise, children.*	2016-2019	51,575	51,575	I,II,IV
Menon, Carlo; Boyd, Lara A.	Simon Fraser University	Does haptic feedback via bimanual elbow robotic orthoses promote cortical function and recovery from stroke?	*Robotics, rehabilitation, upper extremities, stroke, biomedical research.*	2016-2019	69,382	69,382	I,II
Rhodes, Ryan E.; Gardner, Benjamin; Warburton, Darren E. R.; Blanchard, Chris M.; Carson, Valerie; Beauchamp, Mark R.	University of Victoria	Promoting family physical activity through habit formation: A randomized trial.	*Physical activity, children, parents, games, intervention.*	2016-2019	99,555	99,555	IV
Rodrigues, Brian B.	University of British Columbia	Endothelial cell-cardiomyocyte crosstalk in diabetic cardiomyopathy.	*Endothelial cell metabolism, cardiomyocyte metabolism, diabetes, vascular endothelial growth factor.*	2016-2019	82,500	82,500	I
Sanatani, Shubhayan; Lehman, Anna; Wilde, Arthur; Kannankeril, Prince; Krahn, Andrew D.	BC Children's Hospital	Understanding the risk of sudden death in families: cascade screening in CPVT.	*CPVT, sudden cardiac death, inherited arrhythmias, cardiac channelopathies, family screening.*	2015-2018	87,853	180,156	I,II,III,IV
Yang, Decheng	St. Paul's Hospital	Role of translation initiation factor DAP5 in viral myocarditis.	*Viral myocarditis, death-associated protein 5, protease inhibitor, selective translation, coxsackieviral pathogenesis.*	2016-2019	75,932	75,932	I,II

Alberta/Northwest Territories/Nunavut

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Ahmed, Sofia B.; Hemmelgarn, Brenda; Exner, Derek V.	University of Calgary	Vitamin D supplementation and cardiac autonomic tone in hemodialysis patients: a blinded, randomized placebo-controlled trial.	*Cardiac autonomic tone, vitamin D, hemodialysis, kidney, sudden cardiac death.*	2014-2018	29,230	90,390	II
Ballermann, Barbara J.	University of Alberta	Glomerular capillary integrity in the face of hypertension: CLIC-dependent control of the actin cytoskeleton.	*Hypertension, capillary, endothelial cell, glomerular, kidney.*	2016-2019	99,508	99,508	I
Barber, Philip A.; Lee, Ting-Yim; Frayne, Richard; Tuor, Ursula I.; Menon, Bijoy K.; Demchuk, Andrew M.; Goyal, Mayank	University of Calgary	Recanalization following Endovascular treatment and imaging of PErfusion, Regional inFarction and atrophy to Understand Stroke Evolution (REPERFUSE).	*Stroke, reperfusion injury, thrombectomy, MRI.*	2014-2018	62,935	197,505	I,II
Barber, Philip A.; Sajobi, Tolulope; Longman, Stewart; Coutts, Shelagh B.; Smith, Eric E.; Frayne, Richard	University of Calgary	Predementia neuroimaging of TIA (PREVENT) study.	*Transient ischemic attack, dementia risk, brain atrophy, vascular risk reduction, MRI.*	2016-2019	97,708	97,708	II
Beaulieu, Christian; Butcher, Ken; Emery, Derek J.	University of Alberta	Timing stroke in wake-up patients with unknown onset using sodium magnetic resonance imaging at 3T.	*Magnetic resonance imaging, stroke, wake up stroke, unknown onset stroke, sodium MRI.*	2016-2019	65,688	65,688	II
Braam, Geert Branko; Cupples, William A.	University of Alberta	Renal venous pressure, renal function and experimental heart failure.	*Renal venous pressure, renal hemodynamics, glomerular filtration, experimental heart failure.*	2014-2017	93,169	297,003	I

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Butcher, Ken; Qureshi, Adnan; Beaulieu, Christian; Buck, Brian; Aviv, Richard; Jurasz, Paul K.; Casaubon, Leanne K.; Asdaghi, Negar; Dowlatshahi, Dariush; Coutts, Shelagh B.; Shuaib, Ashfaq; Demchuk, Andrew M.; Lanthier, Sylvain; Saposnik, Gustavo; Gladstone, David J.; Wilman, Alan H.; Jeerakathil, Thomas J.; Hill, Michael D.	University of Alberta	The intracerebral hemorrhage acutely decreasing arterial pressure trial II.	*Stroke, intracerebral hemorrhage, hypertension, ischemia, MRI.*	2014-2017	51,625	199,125	I,II
Chen, S.R. Wayne	University of Calgary	Molecular basis of cardiac ryanodine receptor Luminal Ca2+ activation and its role in arrhythmias.	*Cardiac arrhythmias and sudden death, Ca2+ release channel ryanodine receptor, ion channel structure and function, molecular biology and electrophysiology, single channel recordings and single cell Ca2+ imaging.*	2016-2019	96,564	96,564	I
Childs, Sarah J.	University of Calgary	Genetic mechanisms of blood vessel patterning into a branched network.	*Angiogenesis, arteriovenous malformation, endothelium, Rasa1.*	2016-2019	90,000	90,000	I
Colbourne, Frederick	University of Alberta	Use of therapeutic hypothermia for intracerebral hemorrhagic stroke.	*Stroke, hypothermia, neuroprotection, intracerebral hemorrhage, plasticity.*	2016-2019	71,605	71,605	I
Coutts, Shelagh B.; Hill, Michael D.; Goyal, Mayank; Demchuk, Andrew M.; Menon, Bijoy K.	Foothills Medical Centre	TEMPO-2 – a randomized controlled trial of TNK-tPA versus standard of care for minor ischemic stroke with proven occlusion.	*Stroke, thrombolysis, TIA, outcomes, randomized trial.*	2016-2019	92,330	92,330	II
Davenport, Margaret (Margie); Steinback, Craig D.; Khurana, Rshmi; Chari, Radha S.; Stickland, Michael K.; Davidge, Sandra T.	University of Alberta	Blood pressure regulation during hypertensive pregnancies.	*Pregnancy, sympathetic regulation, cardiovascular regulation, preeclampsia, vascular health.*	2016-2019	66,664	66,664	I

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Dyck, Jason R.B.	University of Alberta	The role of adipose tissue inflammation and lipolysis in the pathogenesis of heart failure.	*Heart failure, cardiac metabolism, insulin resistance, adipose tissue, lipolysis.*	2016-2019	75,000	75,000	I
Ezekowitz, Justin A.; Welsh, Robert C.; Kaul, Padma; Armstrong, Paul W.	University of Alberta	PROACT-4.	*Acute coronary syndrome, ambulance, troponin.*	2014-2017	52,801	233,537	II
Febbraio, Maria	University of Alberta	Periodontal disease mechanisms in atherosclerosis.	*CD36, toll like receptors, atherosclerosis, periodontal disease.*	2014-2017	84,999	253,595	I,II
Fedak, Paul	University of Calgary	Epicardial infarct repair: defining mechanisms to optimize therapy.	*Tissue engineering, extracellular matrix, cardiac remodeling.*	2015-2018	98,164	194,803	I
Fouad, Karim; Winship, Ian R.	University of Alberta	Promoting spinal plasticity to enhance recovery following stroke.	*Spinal cord, rehabilitation, chondroitin sulfate proteoglycans, recovery, stroke.*	2016-2019	68,560	68,560	I
Hammond, James R.; Plane, Frances	University of Alberta	SLC29A4 in cardiovascular function and dsysfunction.	*Transporters, adenosine, serotonin, cardioprotection.*	2016-2019	83,727	83,727	I
Jenne, Craig; Hollenberg, Morley D.	University of Calgary	The role of platelet activation in pathogen-induced coagulopathy.	*Infection, coagulation, platelets, imaging, intravascular.*	2016-2019	94,995	94,995	I,II
Kassiri, Zamaneh	University of Alberta	Role of TNF-alpha converting enzyme (TACE) in heart disease.	*Heart disease, myocardial infarction, pressure overload, TNF-alpha-converting enzyme (TACE), cardiac remodeling.*	2014-2017	90,942	262,826	I
Kassiri, Zamaneh	University of Alberta	Paradoxical role of matrix metaloproteinase-2 in aortic aneurysm.	*Aortic aneurysm, vascular extracellular matrix, smooth mucle cell, TGFbeta pathway.*	2014-2017	94,042	285,726	I
Kubes, Paul	University of Calgary	Role of platelets in sterile and infectious perturbations.	*Inflammation, neutrophils, platelets, vasculature, endothelium.*	2015-2018	74,982	149,964	I
McAlister, Finlay A.; James, Matthew T.; McMurtry, Michael Sean; Wiebe, Natasha; Sandhu, Roopinder; Tonelli, Marcello A.	University of Alberta	Exploring the interplay between renal function and outcomes in non-valvular atrial fibrillation.	*Clinical epidemiology, atrial fibrillation, health outcome research, stroke, risk prediction.*	2015-2017	71,073	136,111	II,III
Michelakis, Evangelos D.; Nagendran, Jayan	University of Alberta	Metabolic modulation of the human pulmonary hypertension lung.	*Metabolism, pulmonary hypertension, small molecules, biomarkers, translational research.*	2016-2019	97,809	97,809	I,II
Plane, Frances; DeLorey, Darren S.	University of Alberta	Calcium-activated potassium channels as targets for novel vascular drugs.	*Nitric oxide, calcium-activated potassium channel, endothelium, endothelial dysfunction, platelets.*	2016-2019	89,546	89,546	I

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Poulin, Marc; Anderson, Todd J.; Hanly, Patrick J.V.	University of Calgary	Role of intermittent hypoxia in the pathogenesis of obstructive sleep apnea.	*Obstructive sleep apnea, intermittent hypoxia, cerebrovascular regulation, stroke, endothelial dysfunction.*	2016-2019	84,014	84,014	I,II,III,IV
Proctor, Spencer D.	University of Alberta	Mechanisms that promote remnant lipoprotein retention in arterial tissue during atherogenesis and insulin resistance.	*Human atherosclerosis, remnant cholesterol, arterial retention, apolipoprotein B, proteoglycans.*	2014-2017	75,135	255,595	I,II
Schmoelzer, Georg M.	Royal Alexandra Hospital	Novel resuscitation techniques to improve the recovery of asphyxiated newborns.	*Neonatal resuscitation, cardio-pulmonary resuscitation, cerebral hemodynamics, hemodynamics.*	2015-2018	77,436	154,872	I
Schulz, Richard	University of Alberta	Matrix metalloproteinase-2 at the myocardial endoplasmic reticulum/ mitochondrial interface in cardiac ischemia/reperfusion injury.	*Matrix metalloproteinase, mitochondria-associated membrane, ischemia/ reperfusion injury, protease substrates/targets.*	2015-2018	86,623	167,998	I
Sykes, Brian D.; Hwang, Peter; West, Frederick	University of Alberta	Development of calcium sensitizers that target troponin.	*Heart failure, calcium sensitizers, drug development, ischemic heart disease, protein structure.*	2014-2018	66,000	192,000	I
West, Lori J.; Dijke, Ilona Esmeralda	University of Alberta	ABO-incompatible heart transplantation: pathways to tolerance.	*ABO blood group, heart transplantation, tolerance, B cell, neonate.*	2015-2018	84,500	169,000	I
Young, Howard S.	University of Alberta	Mechanisms of SERCA dysregulation in dilated cardiomyopathy.	*Calcium homeostasis, sarcoplasmic reticulum, dilated cardiomyopathy.*	2016-2019	86,000	86,000	I
Zhang, Dawei	University of Alberta	Molecular mechanism and physiological roles of MT1-MMP-mediated downregulation of LDL receptor.	*Lipoprotein metabolism, low density liporotein , low density liporotein receptor, atherosclerosis, matrix metalloproteinase.*	2016-2019	91,770	91,770	I

Saskatchewan

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Cayabyab, Francisco S.	University of Saskatchewan	Neurotoxicity through prolonged adenosine A1 receptor activation: cellular, synaptic plasticity, and behavioral implications in the rat hippocampus.	*Adenosine A1 receptors, AMPA receptors, serine/ threonine protein phosphatases, hippocampal neurotoxicity, learning and memory behaviour.*	2016-2019	63,500	63,500	I
Tomczak, Corey; Paterson, David Ian; Tan, Kiat; Eurich, Dean T.; Thompson, Richard B.; Brawley, Lawrence R.; Grace, Sherry L.	University of Saskatchewan	EVADE: Early Versus Standard Access CarDiac Rehabilitation to Counter Ventricular RemodEling Post-MI.	*Cardiac rehabilitation, early access cardiac rehabilitation, cardiac rehabilitation adherence, myocardial infarction, ventricular remodeling.*	2016-2019	75,096	75,096	II,III

Manitoba

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Dolinsky, Vernon W.	University of Manitoba	The regulation of cardiac mitochondrial homeostasis in heart failure by SIRT3.	*Metabolism, molecular biology, physiology, echocardiography, heart failure.*	2016-2019	95,234	95,234	I
Duhamel, Todd A.	St. Boniface G.H. Research Centre	Examining SERCA2a acetylation in the diabetic heart.	*Diabetic cardiomyopathy, calcium handling, acetylation, site directed mutagenesis, sirtuins.*	2016-2019	92,843	92,843	I
Garland, Allan; Sanmartin, Claudia; Fransoo, Randall; Forget, Evelyn L.; Wunsch, Hannah; Scales, Damon C.; Iwashyna, Theodore	University of Manitoba	Changes in work and earnings after heart attack and stroke.	*Myocardial infarction, stroke, income, employment status, outcomes research.*	2015-2018	74,000	173,000	III,IV
Hatch, Grant M.	University of Manitoba	Regulation of cardiolipin biosynthesis in the heart.	*Heart failure, phospholipid, gene therapy, cardiolipin, pulmonary hypertension.*	2014-2017	88,361	266,795	I
Jones, Peter J.H.; Aluko, Rotimi	University of Manitoba	Evaluating the anti-hypertensive properties of whole hemp seed protein and hemp seed protein hydrolysate derived bioactive peptide consumption.	*Hypertension, nutrition, dietary protein.*	2016-2019	79,999	79,999	I,II
Kauppinen, Tiina	University of Manitoba	The role of PARP-1 as a modulator of microglial responses in ischemic stroke.	*Microglia, cerebral ischemia, neuroinflammation, neurodegeneration, astrogliosis.*	2016-2019	100,000	100,000	I

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Kirshenbaum, Lorrie A.	University of Manitoba	Mechanisms of P53 mediated cell death in the heart.	*P53, apoptosis, heart failure, ventricular myocytes, cell culture.*	2014-2017	65,074	191,224	I
Ravandi, Amir	St. Boniface G.H. Research Centre	Role of oxidized phospholipids in myocardial ischemia and reperfusion injury.	*Lipidomics, oxidized lipids, oxidative stress, reperfusion injury, apoptosis.*	2014-2017	88,591	243,973	I
Stetefeld, Jörg	University of Manitoba	Rhodocetin- A snake venom lectin with dual platelet surface receptor binding profiles.	*Snake venom lectin rhodocetin, a2b1 integrin and GPIb surface receptor, platelet activation and aggregation, structural biology and integrated approach, structure-based drug design.*	2014-2017	92,500	277,500	I

Ontario

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Adeli, Khosrow	Hospital for Sick Children	Mechanisms of hepatic steatosis and VLDL overproduction in insulin resistance: role of the gut-brain-liver axis.	*Lipoproteins, glucagon like peptide, liver, brain, gut.*	2015-2018	93,000	186,000	I
Advani, Andrew	St. Michael's Hospital	HDAC6 in cardiorenal disease.	*Cardiorenal disease, diastolic dysfunction, chronic kidney disease, histone, acetylation.*	2014-2017	104,345	299,092	I
Alter, David A.; Grahn, Jessica; Trainor, Laurel; Goodman, Jack M.; Faulkner, Guy E.J.; Bartel, Lee; Marzolini, Susan; Oh, Paul; Stukel, Therese A.; Redelmeier, Donald A.	Institute for Clinical Evaluative Sciences	The efficacy of personalized audio-playlists with rhythmic auditory stimulation on exercise adherence in cardiac rehabilitation.	*Physical activity, adherence, music, cardiac rehabilitation, rhythmic auditory stimulation.*	2015-2018	97,585	197,539	II,IV
Anderson, Geoffrey M.; Abdel-Qadir, Husam M.; Lee, Douglas S.; Amir, Eitan; Thavendiranathan, Paaladinesh; Austin, Peter C.; Tu, Jack V.	University of Toronto	The impact and management of cardiovascular disease in Ontario women diagnosed with early stage breast cancer.	*Onco-cardiology, heart failure, coronary artery disease, breast cancer, competing risks.*	2016-2018	31,569	31,569	II,III,IV
Andrew, R. David	Queen's University	Higher brain susceptibility and lower brain resiliency to ischemic injury.	*Neurophysiology, neurons, ischemia, stroke, neuroprotection.*	2014-2017	78,683	231,249	I,II

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Austin, Richard C.	St. Joseph's Hospital	Molecular and cellular basis of endoplasmic reticulum (ER) stress and its role in atherothrombotic disease.	*Atherosclerosis, vascular function, reactive nitrogen species, endoplasmic reticulum stress, endothelial cells and macrophages.*	2015-2018	93,450	185,400	I
Béïque, Jean-Claude	University of Ottawa	Synaptic mechanisms in post-stroke depression.	*Stroke, post-stroke depression, electrophysiology, synapses, optogenetics.*	2015-2018	92,860	184,220	I
Bendeck, Michelle P.	University of Toronto	N-cadherin and strategies to inhibit smooth muscle cell migration.	*Smooth muscle cell, cadherin, migration, polarity, therapeutic.*	2015-2018	96,875	192,250	I,II
Bergeron, Richard	Ottawa Hospital Research Institute	Glycine and brain ischemia.	*Synaptic transmission, glutamate, glycine, snitter patch, stroke.*	2016-2019	66,450	66,450	I
Bhatia, Rajan S.; Anderson, Geoffrey M.; Austin, Peter C.; Wijeysundera, Harindra C.; Dorian, Paul; Tu, Jack V.	Women's College Hospital	The relationship between low value cardiac testing, health utilization and quality of cardiovascular care.	*Cardiac imaging, echocardiography, appropriate use, quality improvement.*	2016-2018	59,065	59,065	III
Bolz, Steffen-Sebastian	University of Toronto	Correcting CFTR dysfunction normalizes microvascular reactivity and improves neurological outcome in subarachnoid hemorrhage.	*Subarachnoid hemorrhage, delayed ischemia, resistance arteries, cerebral blood flow, CFTR.*	2016-2019	71,047	71,047	I
Chakrabarti, Subrata	University of Western Ontario	Vasoactive and cardioactive factors in diabetic heart disease.	*Diabetes, heart, endothelial-mesenchymal transition, epigenetics, non-coding RNA.*	2016-2019	73,400	73,400	I
Chan, Vincent; Verma, Subodh; Leong-Poi, Howard M.; Chu, Michael W. A.; Mazer, David; Ruel, Marc	University of Ottawa Heart Institute	Randomized trial of mitral valve repair with leaflet resection versus leaflet preservation – multicenter study from the Canadian Mitral Researchers (CAMRA).	*Mitral valve, mitral regurgitation, echocardiography.*	2016-2019	41,200	41,200	II,III,IV
Chauhan, Vijay S.; Krishnan, Sridhar	University Health Network	Characterizing focal electrical sources and substrate in human atrial fibrillation.	*Atrial fibrillation, electrogram analysis, scar, catheter ablation, humans.*	2014-2017	74,874	222,314	I,II
Chauhan, Vijay S.; Wintersperger, Bernd; Yee, Raymond; Gollob, Michael H.; Healey, Jeff S.; Sapp, John L.; Krahn, Andrew D.	University Health Network	Electrocardiographic evaluation of ventricular arrhythmia vulnerability in hypertrophic cardiomyopathy.	*Cardiomyopathy, sudden death, electrocardiography, magnetic resonance imaging.*	2015-2018	98,789	194,819	I,II

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Chen, Joyce L.; Levin, Mindy; Schlaug, Gottfried; Edwards, Jodi D.; McEwen, Sara E.; Chen, Robert; Thiel, Alexander	Sunnybrook Research Institute	Towards a personalized approach to stroke motor recovery with transcranial direct current stimulation.	*Stroke, transcranial direct current stimulation, magnetic resonance imaging, motor rehabilitation, upper limb.*	2016-2019	64,464	64,464	II
Coles, John G.; Maynes, Jason	Hospital for Sick Children	Rescue of disrupted mechanotransduction as a new therapeutic strategy in human dilated cardiomyopathy.	*Gene therapy, integrin linked kinase, dilated cardiomyopathy, mouse models, SERCA2A.*	2014-2017	84,357	253,071	I
Connelly, Kim A.	St. Michael's Hospital	Identifying the role of silent information regulator (Sirt1) in ventricular remodeling using genetic ablation and pharmacological strategies.	*Heart failure, non histone lysine acetylation, smad, growth factors, silent information regulator 1.*	2015-2018	85,200	170,155	I
Corbett, Dale R.; Dancause, Numa	University of Ottawa	Removing the brakes on post-stroke behavioural recovery.	*Stroke recovery, animal models, behaviour, neuroplasticity, electrophysiology.*	2016-2019	87,335	87,335	I
Corrales-Medina, Vicente F.; Dwivedi, Girish; Zuckier, Lionel; Beanlands, Rob S.B.; de Kemp, Robert A.; Taljaard, Monica	Ottawa Hospital Research Institute	Vascular inflammation after acute pneumonia as measured by 18FDG-PET/CT scan.	*Myocardial infarction, stroke, pneumonia , PET/CT, elderly.*	2016-2018	79,689	79,689	II
Cregan, Sean P.	University of Western Ontario	Role of ATF4 and P53 family transcription factors in the regulation of neuronal cell death.	*Apoptosis, neuron, P53, ATF4, ischemia.*	2015-2018	85,400	170,800	I
Cunningham, Charles H.; Connelly, Kim A.; Wright, Graham	Sunnybrook Health Sciences Centre	Metabolic imaging of the hypertrophic heart.	*Heart failure, hypertrophy, metabolism, imaging, hyperpolarized MRI.*	2014-2017	78,125	239,625	I,II
Danckert, James A.; Ferber, Susanne; Black, Sandra E.; Roy, Eric A.	University of Waterloo	Working memory in spatial neglect: developing a novel theory and rehabilitation program.	*Spatial neglect, spatial working memory, rehabilitation.*	2014-2017	65,488	192,655	I,II
Davis, Darryl R.	University of Ottawa Heart Institute	Strategies to reverse the effect of hyperglycemia on cardiac stem cells.	*Cardiac stem cells, heart failure, diabetes.*	2014-2017	99,358	291,646	I
Dawson, John F.; Van Raay, Terence	University of Guelph	Hypertrophic cardiomyopathy: actin variants in the actomyosin interface.	*Hypertrophic cardiomyopathy, actomyosin interactions, baculovirus expression system, zebrafish model of disease, molecular causes of disease.*	2015-2018	73,300	146,600	I

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
de Azeredo Coutinho, Thais; Nagpal, Sudhir; Wells, George A.; Dennie, Carole J.; Dick, Alexander; Chan, Kwan-Leung; Boodhwani, Munir; Beauchesne, Luc M.	University of Ottawa Heart Institute	Predictors of disease progression in thoracic aorta aneurysms: role of arterial stiffness and hemodynamics.	*Thoracic aortic aneurysm, arterial stiffness, hemodynamics, aneurysm growth, magnetic resonance imaging.*	2016-2019	81,246	81,246	I,II
Douketis, James D.D.; Mackay, Elizabeth; Lee, Agnes Y. Y.; Bell, Benjamin; Syed, Summer; Blostein, Mark D.; Gross, Peter L.; Kassis, Jeannine; Carrier, Marc; Spencer, Fred; Solymoss, Susan; Schulman, Sam; Shivakumar, Sudeep	McMaster University	Perioperative new oral anticoagulant study.	*New oral anticoagulants, perioperative, laboratory testing.*	2014-2017	68,150	238,598	II
Dowlatshahi, Dariush; Chakraborty, Santanu; Demchuk, Andrew M.; Hogan, Matthew J.; Aviv, Richard; Stotts, Grant; Momoli, Franco G.	Ottawa Hospital Research Institute	Predicting intracerebral hemorrhage expansion using the dynamic CT-angiography spot sign.	*Cerebral hemorrhage, stroke, diagnosis, critical care.*	2014-2017	54,004	159,290	I,II
Drangova, Maria; Gillies, Elizabeth; Pickering, J. Geoffrey	University of Western Ontario	Dual energy micro-CT for 3D angiography and cardiovascular histology.	*Micro-CT, atherosclerosis, dual energy, myocardial infarction.*	2014-2017	100,298	299,848	I
Drucker, Daniel J.	Samuel Lunenfeld Research Institute	Cardiovascular biology of dipeptidyl peptidase-4.	*Diabetes, gut peptides, cardiomyocytes.*	2014-2017	82,080	246,240	I
Eikelboom, John W.A.; O'Donnell, Martin J.; Pogue, Janice M.; Moayyedi, Paul; Bosch, Jackie J.; Connolly, Stuart J.	McMaster University	INTERBLEED-Pilot: a study of risk factors for GI bleeding and of cardiovascular outcomes after GI bleeding.	*Bleeding, myocardial infarction, stroke, death.*	2015-2017	76,625	151,250	II
Epelman, Slava	University Health Network	Precise functional characterization of macrophage and dendritic cell subsets during viral myocarditis.	*Viral, myocarditis, macrophage, dendritic cell, IRF8.*	2015-2018	99,821	199,642	I
Feldman, Ross D.	University of Western Ontario	Estrogen regulation of vascular remodelling: role of GPER.	*Estrogen, vascular biology, aldosterone.*	2015-2018	94,582	189,164	I

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Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Figeys, Daniel; Mayne, Janice E.	University of Ottawa	Molecular mechanisms of PCSK9 regulation.	*Proprotein convertase 9, low density lipoprotein receptor, hypercholesterolemia, protein interactions, proteomics.*	2016-2019	92,939	92,939	I
Finestone, Hillel M.; Sveistrup, Heidi; Fergusson, Dean A.; Levac, Danielle; Bilodeau, Martin	Elisabeth Bruyère Hospital	Does virtual reality exercise improve sitting balance ability and function after stroke?	*Stroke, rehabilitation, virtual reality, balance, exercise.*	2014-2017	69,998	229,497	II,III
Flynn, Lauren; Hess, David A.; Amsden, Brian G.	University of Western Ontario	Co-delivery of adipose-derived stem cells and SDF-1/HGF-1 in ligand grafted, in situ setting gels for the treatment of peripheral arterial disease.	*Tissue engineering and regenerative medicine, peripheral vascular disease, cell and drug delivery vehicles, therapeutic angiogenesis, adipose-derived stem cells.*	2015-2018	89,500	179,000	I
Friedberg, Mark K.	Hospital for Sick Children	Septal insertion injury mediates adverse ventricular-ventricular interaction in right ventricular pressure and volume loading.	*Ventricular-ventricular interactions, right ventricular afterload, right ventricular preload, rabbit, fibrosis.*	2016-2019	82,029	82,029	I
Garg, Amit; Walsh, Michael W.; Mustafa, Reem; Wald, Ron; Oliver, Matthew J.; Sood, Manish M.; Presseau, Justin; Grimshaw, Jeremy M.; McIntyre, Christopher; Iliescu, Eduard; Jain, Arsh K.; Devereaux, Philip J.; Dixon, Stephanie; Sontrop, Jessica; Al-Jaishi, Ahmed; Acedillo, Rey; Pandeya, Sanjay; Wodchis, Walter P.; Nesrallah, Gihad; Goluch, Richard	London Health Sciences Centre	Major cardiovascular outcomes with personalized dialYsate TEMPerature (MY TEMP): A registry-based cluster randomized control trial.	*Hemodialysis, major cardiovascular events, individualized dialysate temperature.*	2016-2019	92,020	92,020	II,III
Gramolini, Anthony O.	University of Toronto	Phospholamban mutations, sarcoplasmic reticulum calcium defects and cardiomyopathy.	*Excitation contraction coupling, calcium, cardiomyocyte.*	2014-2017	93,152	270,441	I,II
Gros, Robert; Prado, Marco A.M.	Robarts Research Institute	The protective role of the cholinergic system in the heart.	*Genetically modified mice, cholinergic tone, cardiac dysfunction, hemodynamic measurements, ECG telemetry.*	2016-2019	72,500	72,500	I
Haas, Tara L.; Birot, Olivier; Ellis, Christopher	York University	Angiogenic regulators in peripheral limb ischemia.	*Angiogenesis, microcirculation, oxygen transport, ischemic muscle, shear stress.*	2015-2018	94,858	182,002	I,II

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Hamilton, Jill K.; Zinman, Bernard; Retnakaran, Ravi R.; Parkinson, John; Hanley, Anthony J.G.; Comelli, Elena	Hospital for Sick Children	Cardiometabolic risk, obesity and the microbiome: development over the first two years of life in children exposed to gestational diabetes in utero.	*Cardiometabolic risk, obesity, intestinal microbiota, gestational diabetes, child.*	2014-2017	111,380	263,562	I,II,IV
Hegele, Robert A.	Robarts Research Institute	Genomics and phenomics of hypertriglyceridemia and cardiometabolic syndrome.	*Lipoproteins, triglycerides, metabolic syndrome, human genetic variation, atherosclerosis.*	2015-2018	95,300	189,104	I,II,III,IV
Heximer, Scott P.	University of Toronto	Defining novel mechanisms in the pathogenesis of bradyarrhythmias and sick sinus node syndrome.	*SAN function, RGS proteins, parasympathetic signaling, autorhythmicity, autophagy.*	2015-2018	74,976	149,952	I
Huff, Murray W.	University of Western Ontario	Regulation of dyslipidemia and insulin resistance by flavonoids: relationship to atherosclerosis.	*Dyslipidemia, flavonoids, insulin signalling, mouse model of insulin resistance, atherosclerosis.*	2014-2017	90,792	272,376	I
Husain, Mansoor	University Health Network	Mechanisms of action of the cardioprotective metabolite GLP-1(28-36).	*Glucagon-like peptide-1, soluble adenylate cyclase, cardioprotection, coronary artery smooth muscle cells, mitochondrial metabolism.*	2016-2019	86,093	86,093	I
Ikura, Mitsuhiko; Stathopulos, Peter	University Health Network	Mechanistic studies on store-operated calcium entry in heart and stroke.	*Calcium signaling, protein structure, membrane biology, NMR, crystollography.*	2016-2019	74,600	74,600	I
Janssen, Ian M.; McIsaac, Michael	Queen's University	The active play study.	*Physical activity, cardiovascular risk factors, children, determinants of health.*	2014-2017	98,165	293,495	IV
Johri, Amer M.; Heyland, Daren K.; Spence, John	Queen's University	Effect of Carnitine supplementation On progression of carotid plaque in the Metabolic syndrome (ECoM Study).	*Atherosclerosis, metabolic syndrome, three-dimensional carotid ultrasound, plaque, obesity.*	2014-2017	99,385	266,504	I,II,III,IV
Kapral, Moira K.; Tu, Jack V.; Swartz, Richard H.; Silver, Frank L.; Manuel, Douglas G.; Hall, Ruth; Jin, Albert Y.; Austin, Peter C.	Toronto General Hospital	Measuring and improving stroke care in rural Ontario.	*Stroke, rural health, registries, administrative data.*	2016-2018	91,704	91,704	II,III
Kassner, Andrea; Narang, Indra; Janzen, Laura; Shroff, Manohar M.; deVeber, Gabrielle A.	Hospital for Sick Children	MRI assessment of cerebral vascular injury in obese children with obstructive sleep apnea.	*Obstructive sleep apnea, vascular, neuroimaging, MRI, stroke.*	2015-2018	82,580	168,538	II
Khan, Zia A.	University of Western Ontario	Regulation of vascular stem cell differentiation and plasticity.	*Vascular stem cells, vasculogenesis, blood vessels, stem cell plasticity, cell differentiation.*	2015-2018	77,800	155,600	I

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Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Ko, Dennis T.; Jackevicius, Cynthia A.; Stukel, Therese A.; Tu, Jack V.; Austin, Peter C.	Institute for Clinical Evaluative Sciences	Comparative effectiveness of cardiac drugs post-myocardial infarction.	*Acute myocardial infarction, comparative effectiveness evaluation, anti-platelet therapy, lipid lowering medication, generic medication.*	2014-2017	62,586	178,566	II,III
Kuebler, Wolfgang M.	St. Michael's Hospital	HMGB1 promotes pulmonary hypertension by triggering inflammation and autoimmunity.	*Pulmonary hypertension, vascular remodelling, HMGB1, B cells, autoimmunity.*	2016-2019	95,901	95,901	I
Kutryk, Michael J.B.	St. Michael's Hospital	Surface modification of implantable materials for novel therapeutic applications.	*Antibody immobilization, regional drug delivery, vascular prostheses, material functionalization.*	2015-2018	82,070	157,709	I
Lagace, Thomas A.	University of Ottawa Heart Institute	Regulation of the PCSK9 binding interaction with LDL receptor.	*Low-density lipoprotein receptor, PCSK9, low-density lipoprotein cholesterol, protein-protein interaction, plasma clearance.*	2015-2018	90,978	175,398	I,II
Le Gal, Grégoire; Anderson, David R.; Tan, Melanie; Huisman, Menno; Kahn, Susan; Kovacs, Michael J.; Ramsay, Timothy O.; Rodger, Marc A.; Wells, Philip S.	Ottawa Hospital Research Institute	Clinical predictors for venous thromboembolism in patients with a history of thrombosis.	*Deep vein thrombosis, pulmonary embolism, anticoagulants, recurrence, clinical decision rule.*	2014-2017	76,654	235,312	II
Le Gal, Grégoire; Kearon, Clive; Righini, Marc; Rodger, Marc A.; De Wit, Kerstin; Ramsay, Timothy O.; Wells, Philip S.; Anderson, David R.; Shivakumar, Sudeep; Kahn, Susan	Ottawa Hospital Research Institute	Age-adjusted D-dimer cutoff levels to rule out deep vein thrombosis. (The ADJUST-DVT Study).	*Deep vein thrombosis, diagnostic strategy, D-dimer, age.*	2015-2018	83,467	172,071	II
Lee, Warren L.	St. Michael's Hospital	Molecular mechanisms of LDL transcytosis.	*Atherosclerosis, LDL cholesterol, endothelial transcytosis, cell biology, animal models.*	2016-2019	87,613	87,613	I
Leong-Poi, Howard M.	St. Michael's Hospital	Ultrasound-targeted MicroRNA therapy for aortic aneurysm.	*Aortic aneurysm, microRNA, gene therapy, microbubbles, smooth muscle cells.*	2016-2019	89,957	89,957	I
Lewis, Gary	Toronto General Research Institute	CNS-mediated effects of insulin and GLP-1 on intestinal and hepatic lipoprotein particle production in humans.	*Lipoprotein, insulin, GLP-1, intestine, brain.*	2015-2018	91,356	180,212	I,II

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Li, Ren-Ke	University Health Network	A new growth factor, CNPY2, to induce angiogenesis after cardiac ischemia.	*Ischemic cardiomyopathy, angiogenesis, gene therapy, growth factor, cardiac function.*	2015-2018	88,371	176,733	I
Li, Ren-Ke; Weisel, Richard D.	University Health Network	Feasibility of a conductive polymer biomaterial to resynchronize the infarcted heart.	*Myocardial infarction, cardiac conduction, conductive biomaterial, tissue engineering, cardiac function.*	2014-2017	82,764	244,292	I
Lok, Charmaine E.; Moist, Lousie; Tomlinson, George; Farkouh, Michael, E.	Toronto General Hospital	PISCES-Pilot: Protection against Incidences of Cardiovascular Events Study with daily fish oil supplementation in dialysis patients - Pilot study in satellite dialysis.	*Satellite dialysis, omega-3, cardiovascular events, hemodialysis.*	2015-2018	98,850	197,979	II
Marsden, Philip A.	University of Toronto	Post-transcriptional regulation of endothelial gene expression.	*RNA interference, endothelium, atherosclerosis, transcription, hypoxia.*	2016-2019	89,445	89,445	I
Martino, Tami A.	University of Guelph	Role of CLOCK in heart disease.	*Cardiovascular disease, myocardial infarction, circadian rhythms, physiology, molecular biology, immune.*	2015-2018	96,239	192,680	I,II
McGlade, Jane	Sunnybrook Health Sciences Centre	Examination of the novel angiopoietin peptide mimetic vasculotide as a treatment for atherosclerosis and ischemia.	*Tie2, artherosclerosis, ischemia, limb disease, myocardial infarction.*	2014-2017	63,930	223,790	I
Mehta, Sanjay; Gill, Sean E.	Victoria Hospital	Mechanisms and regulation of microvascular endothelial cell apoptosis in sepsis.	*Sepsis, microvascular, endothelial cell, apoptosis, microRNA.*	2016-2019	86,450	86,450	I
Mequanint, Kibret	University of Western Ontario	Engineered human vascular tissues as platforms for preclinical testing.	*Engineered vascular tissues, pre-clinical model, elastin, vascular smooth muscle phenotype, notch signaling.*	2015-2018	82,458	164,916	I
Musselman, Kristin; Rumney, Peter; Yang, Jaynie; Manns, Patricia J.	University Health Network	Functional electrical stimulation to improve upper extremity function in young children with perinatal stroke: a proof of concept study.	*Functional electrical stimulation, perinatal stroke, rehabilitation, arm function.*	2016-2019	96,444	96,444	II
Nemer, Mona	University of Ottawa	Transcription networks in cardiac hypertrophy.	*Cardiac hypertrophy, heart failure, gene regulation, transcription factors, vasoactive hormones.*	2014-2017	88,499	261,497	I
Nemer, Mona	University of Ottawa	Mechanisms of TBX5 action in the heart.	*Holt-oram syndrome, transcription regulation, heart development, animal models of disease, TBX proteins.*	2014-2017	90,271	270,813	I
Ni, Heyu	St. Michael's Hospital	Apolipoprotein A-IV and platelet function: novel links with thrombosis, inflammation, and atherosclerosis.	*Apolipoprotein A-IV, platelets and integrins, thrombosis and hemostasis, atherosclerosis, inflammation.*	2015-2018	80,750	162,649	I

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Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Pare, Guillaume; Yusuf, Salim; Shoamanesh, Ashkan; Hart, Robert; Sharma, Mukul; O'Donnell, Martin J.	McMaster University	Genetic determinants of early stroke – a population study from INTERSTROKE.	*Stroke, genetics, next-generation sequencing.*	2015-2018	67,200	129,600	I,II
Park, David S.	University of Ottawa	Mechanisms of delayed death in stroke.	*Stroke, neuronal death, cell cycle, in vivo, ischemia.*	2015-2018	75,802	151,604	I
Parker, Thomas G.	St. Michael's Hospital	S100A1 and A6 proteins in pulmonary vascular pathophysiology: intracellular, extracellular, and cell-lineage specific mechanisms of action.	*S100 proteins, pulmonary hypertension, cell signalling.*	2014-2017	98,958	285,647	I
Radisic, Milica; Keller, Gordon	University of Toronto	Mobilizing epicardial cells for enhanced integration of human cardiac patches.	*Regenerative medicine, epicardium, stem cells, tissue engineering, biomaterials.*	2016-2019	83,360	83,360	I
Rand, Margaret L.	Hospital for Sick Children	The procoagulant surface of activated platelets: development and persistence in vitro and in vivo.	*Platelets, thrombosis, procoagulant activity, phosphatidylserine.*	2014-2017	94,803	276,281	I
Rayner, Katey	University of Ottawa Heart Institute	Exosomal microRNAs as mediators of cell-cell communication in atherosclerosis.	*MicroRNA, macrophage, atherosclerosis.*	2016-2019	99,429	99,429	I
Reid, Robert D.; Grace, Sherry L.; Pipe, Andrew L.; Kingsbury, Kori J.; Chessex, Caroline; Manuel, Douglas G.; Blanchard, Chris M.; Mark, Amy E.; Mullen, Kerri-Anne; Harris, Jennifer M.; Krahn, Murray D.	University of Ottawa Heart Institute	Ecologically Optimizing exercise maintenance in men and women Post-Cardiac Rehabilitation: a randomized controlled trial of efficacy with economics (ECO-PCR).	*Physical activity, cardiac rehabilitation, maintenance/ adherence, coronary artery disease.*	2014-2017	23,592	274,825	II,III,IV
Roy, Eric A.; Black, Sandra E.; Park, Norman W.; Staines, W. Richard; Hebert, Deborah; Schweizer, Tom A.; Graham, Simon J.	University of Waterloo	Neuropsychological profiles and neuroanatomic correlates of limb apraxia.	*Movement neuroscience, apraxia, neuropsychology, motor control, cognitive deficits.*	2014-2017	72,375	235,550	I,II,III,IV

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Salbach, Nancy M.; Kelloway, Linda; Moineddin, Rahim; Zee, Joanne; Cameron, Jill; Tee, Alda; Howe, Jo-Anne; Wodchis, Walter P.; Bayley, Mark T.; Jaglal, Susan B.; Hunter, Susan	University of Toronto	Increasing access to community-based task-oriented exercise programs through healthcare-recreation partnerships to improve function post-stroke: feasibility of a 2-group RCT protocol.	*Stroke, community, task-oriented training, healthcare-recreation partnership, everyday function.*	2016-2019	79,713	79,713	II,III
Saposnik, Gustavo; Bayley, Mark T.; Mamdani, Muhammad M.; McIlroy, William; Teasell, Robert W.; Thorpe, Kevin E.; Laupacis, Andreas; Dukelow, Sean	St. Michael's Hospital	Efficacy of Virtual Reality Exercises using Wii gaming technology in STroke rehabilitation: a multicentre randomized clinical trial (EVREST multicentre).	*Stroke rehabilitation, virtual reality, motor function, ischemic stroke, clinical trial.*	2014-2017	33,174	162,884	II,III
Scott, Ian C.	Hospital for Sick Children	Live analysis of CCM mechanism and progression in a zebrafish CCM3 model.	*Intracranial hemorrhage, cerebral cavernous malformation, vascular integrity, stroke, zebrafish.*	2014-2017	93,000	275,000	I
Scott, Ian C.; Wilson, Michael	Hospital for Sick Children	Dissecting the gene regulatory network of cardiac lineage specification and regeneration.	*Cardiac stem cells, zebrafish, genomics, regeneration, developmental biology.*	2016-2019	73,000	73,000	I
Sharpe, Simon J.; Pomès, Régis; Keeley, Fred W.	Hospital for Sick Children	Linking structural and functional consequences of sequence polymorphisms in human tropoelastin with susceptibility to late-onset vascular diseases.	*Vascular diseases, elastin structure and function, structural biology, arterial elasticity, genetic risk factors for disease.*	2015-2018	91,279	182,558	I
Sheffield, William P.	McMaster University	Targeting factor XIa for improved antithrombotic therapy.	*Coagulation, thrombosis, coagulation factor XI, protease nexin 2, aptamers.*	2015-2018	61,392	121,602	I
Simmons, Craig; Yau, Terrence M.	University of Toronto	The roles of C-type natriuretic peptide in aortic valve disease.	*C-type natriuretic peptide, calcific aortic valve disease, fibrosis, hemodynamics, bicuspid aortic valve.*	2015-2018	96,287	192,407	I
Simpson, Jeremy A.; Brunt, Keith R.	University of Guelph	Reduced infarct size and preserved cardiac function by a novel reactive pharmacological intervention after infarction.	*Interventional pharmacology, myocardial infarction, heart failure, mouse.*	2016-2019	91,771	91,771	I,II
Slack, Ruth S.	University of Ottawa	Regulation of Opa1 to maintain mitochondrial energy metabolism and survival after stroke.	*Stroke, cell death, mitochondria.*	2014-2017	90,705	272,115	I
Sorisky, Alexander	Ottawa Hospital Research Institute	Adipose progenitor cell responses to nutrient stress and macrophages.	*Obesity, adipose progenitor, macrophage, high glucose, inflammation.*	2014-2017	77,405	276,215	I,II

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Steinman, David A.; Mendes Pereira, Vitor; Radovanovic, Ivan	University of Toronto	Hemodynamic predictors of cerebral aneurysm wall vulnerability.	*Aneurysm, stroke, hemodynamics, rupture risk, brain surgery.*	2016-2019	87,750	87,750	I,II
Stewart, Alexandre F.R.	University of Ottawa Heart Institute	Mechanisms of coronary artery calcification risk conferred by 9p21.3 genetic variants.	*Atherosclerosis, arterial calcification, gene regulation, primary human aortic smooth muscle cells, transgenic mouse models.*	2016-2019	72,580	72,580	I
Storey, Kenneth B.	Carleton University	Suspended animation: hypometabolic hearts in a model of primate torpor.	*Primate hibernation, regulation of hypometabolism, signal transduction & metabolic regulation, anti-apoptosis, epigenetic, microRNA control of gene expression.*	2014-2017	60,475	201,775	I
Teasell, Robert W.; Speechley, Mark; Viana, Ricardo	Lawson Health Research Institute	A temporal analysis of stroke rehabilitation evidence.	*Stroke, rehabilitation, evidence-based, randomized controlled trial, intervention.*	2015-2017	28,825	55,450	II,III,IV
Thiruganasambandamoorthy, Venkatesh; Krahn, Andrew D.; Sheldon, Robert S.; Graham, Ian; Sivilotti, Marco; Taljaard, Monica; Calder, Lisa; Wells, George A.; Stiell, Ian G.	Ottawa Hospital Research Institute	Risk Stratification of adult Emergency Department Syncope patients to predict short-term serious adverse events after discharge (RiSEDS study) Phase II.	*Syncope, arrhythmia, death, risk-stratification, emergency department.*	2015-2018	81,272	162,535	II,III
Tremblay, Mark S.; Larouche, Richard; Trudeau, Francois; Faulkner, Guy E.J.	Children's Hospital of Eastern Ontario	Active transportation, independent mobility, and physical activity among school children: a multi-site study.	*Active transportation, physical activity, independent mobility, social-ecological model, moderators.*	2015-2018	91,418	131,481	IV
Trigatti, Bernardo L.	McMaster University	Role of the multisubunit adaptor protein, PDZK1, in leukocytes in atherosclerosis development and HDL induced plaque regression.	*HDL, PDZK1, atherosclerosis, regression, macrophage.*	2015-2018	84,036	168,072	I
Trigatti, Bernardo L.	McMaster University	Targeting interleukin-15 to reduced experimental atherosclerosis in mice.	*Interleukin 15, interleukin 15 receptor, inflammation, atherosclerosis, coronary artery disease.*	2016-2019	96,274	96,274	I
Tuana, Balwant S.	University of Ottawa	The role of E2F6 in dilated cardiomyopathy.	*Heart failure, dilated heart, hypertrophy, transcription, remodeling.*	2014-2017	92,000	270,000	I

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Tulloch, Heather E.; Collins, Barbara; Wells, George A.; Awad Shimoon, Nesrine; Quinlan, Bonnie; Duchesne, Lloyd James; Lemay, Michel R.; McHugh, Tara-Leigh	University of Ottawa Heart Institute	Neurocognitive outcomes after out-of-hospital cardiac arrest.	*Cardiac arrest, neurocognitive, quality of life, psychosocial outcome, heart attack.*	2015-2018	52,829	104,919	II,IV
Tymianski, Michael	Toronto Western Hospital	Developing the "EpiPen" of acute stroke and stroke recovery.	*Stroke, PSD-95, Neuroprotection, NMDA receptor, Src Kinase.*	2016-2019	94,067	94,067	I
Udell, Jacob A.; Redelmeier, Donald A.; Dayan, Natalie; Laskin, Carl A.	Women's College Hospital	Investigation of Notable Failed Endeavours at Reproductive Treatment and Ischemic Long-term Events (INFERTILE) study.	*Fertility therapy, risk factors, cardiovascular disease, women's health, pregnancy.*	2015-2017	78,575	150,334	II,III,IV
Vasconcelos, Sara S. Nunes	University Health Network	Arterio-venous specification during adult neovascularization.	*Neovascularization, vessel maturation, artery and vein specification, endothelium, diabetes.*	2014-2017	102,850	296,700	I
Verma, Atul; Ha, Andrew C.T.; Healey, Jeff S.; Birnie, David H.; Wijeysundera, Harindra C.	Southlake Regional Heath Centre	Evaluation of "real-world" clinical and economical outcomes of catheter-based atrial fibrillation ablation: insights from a prospective, population-based registry.	*Atrial fibrillation, catheter-based ablation, registry, real-world outcomes, economic analysis.*	2016-2018	65,838	65,838	II,III
Wang, Jing	Ottawa Hospital Research Institute	Targeting the aPKC-CBP pathway for neurovascular regeneration after stroke related brain injury.	*ET-1 induced focal ischemic stroke, neurogenesis, angiogenesis, histone acetylation, CBP phosphorylation.*	2016-2019	89,934	89,934	I
Weitz, Jeffrey I.	Hamilton General Hospital	Prevention of clotting on mechanical heart valves.	*Mechanical heart vales, thromboembolism, factor XII, factor Xa, thrombin.*	2016-2019	75,000	75,000	I
Wells, James W.	University of Toronto	Nature of the signalling complex between cardiac muscarinic receptors and G proteins.	*G protein-coupled receptors, transmembrane signalling, oligomers and co-operativity, drug-receptor interactions, protein-protein interactions.*	2014-2017	92,570	273,847	I
Wen, Shi Wu; Leader, Arthur; Taljaard, Monica; Graves, Erin; Gaudet, Laura; Sprague, Ann; Walker, Mark C.	Ottawa Hospital Research Institute	Congenital heart disease in infants born to mothers conceived by assisted reproductive technology: a record linkage study with Ontario registries.	*Congenital heart disease, assisted reproductive technology, ovulation stimulation, obesity, epidemiology.*	2015-2017	65,264	147,680	II,III,IV

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Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Whitlock, Richard P.; Connolly, Stuart J.; Casanova, Amparo; Belley-Cote, Emilie; Yusuf, Salim; Hanif, Hasib; Eikelboom, John W.A.; Lamy, Andre; Healey, Jeff S.; Devereaux, Philip J.	McMaster University	Left atrial appendage study (LAAOS) III.	*Left atrial appendage, atrial fibrillation, cardiac surgery, stroke, non-CNS systemic embolism.*	2016-2019	100,000	100,000	II
Wijeysundera, Harindra C.; Wong, William Wai Lun; Pelletier, Marc P.; Knudtson, Merril L.; Bainey, Kevin; Ko, Dennis T.; Austin, Peter C.; Tu, Jack V.; Hoch, Jeffrey S.; Asgar, Anita; Lauck, Sandra B.; Potter, Brian; Rodes Cabau, Josep; Wood, David A.; Nadeem, Syed; Webb, John	Sunnybrook Health Sciences Centre	Improving triage and informing capacity needs for patients with severe aortic stenosis undergoing transcatheter aortic valve implantation (TAVI): a pan - Canadian evaluation.	*Aortic stenosis, transcatheter aortic valve implantation (TAVI), wait-time management, predictive models, discrete event modelling.*	2016-2019	77,495	77,495	II,III
Woo, Minna	Toronto General Research Institute	Molecular dissection of the role of NAFLD in atherosclerosis.	*Atherogenesis, insulin resistance, inflammation, IGF-1, JAK-STAT pathway.*	2016-2019	81,166	81,166	I
Wu, Lingyun (Lily)	Laurentian University of Sudbury	The mechanisms for endogenous fructose accumulation and the related vascular complications.	*Fructose, aldolase B knockout mice, vascular remodeling, hypertension, Akt.*	2016-2019	95,000	95,000	I
Zandstra, Peter W.	University of Toronto	Accelerating the development of regenerative biologics for myocardial infarction using functional human microtissues.	*Myocardial infarction, human pluripotent stem cell derived cardiomyocytes, engineered cardiac micro-tissue model, cardiomyocyte survival and proliferation screening, targeted protein delivery.*	2014-2017	94,500	277,500	I

Quebec

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Afilalo, Jonathan; Joseph, Lawrence; Stevens, Louis-Mathieu; Graham, Michelle M.	Sir Mortimer B. Davis Jewish General Hospital	Optimal revascularization strategy in patients undergoing aortic valve replacement.	*Aortic valve replacement, coronary artery bypass, revascularization, outcomes, coronary artery disease.*	2015-2018	97,298	195,746	II
Allen, Bruce	Institut de cardiologie de Montréal	MAP kinase-activated protein kinases (MKs) mediate distinct detrimental effects of p38 MAP kinase activation in heart.	*Protein kinase, p38 MAP kinase, hypertrophy, fibrosis, signal transduction.*	2014-2017	76,680	223,611	I
Anand-Srivastava, Madhu B.	Université de Montréal	Natriuretic peptide receptors in cardiovascular physiology and pathology.	*Natriuretic peptide receptors A and C, knockout mice, G proteins, hypertension, cell proliferation.*	2015-2018	94,124	186,748	I
Beaudoin, Jonathan; Couet, Jacques; Arsenault, Marie; Mathieu, Patrick; Pibarot, Philippe	Institut universitaire de cardiologie et de pneumologie de Québec	Role and mechanisms of mitral leaflet remodeling in functional mitral regurgitation.	*Mitral regurgitation, cardiac imaging, animal models, heart failure, valvular heart disease.*	2015-2018	85,566	163,632	I
Boivin, Benoit	Institut de cardiologie de Montréal	Understanding PTP1B regulation of microRNA-mediated gene silencing in cardiac hypertrophy.	*Cardiac hypertrophy, signalling, transgenic, protein phosphatase, gene silencing.*	2015-2018	93,295	182,454	I
Bonnet, Sébastien; Provencher, Steeve; Couture, Christian	Institut universitaire de cardiologie et de pneumologie de Québec	Role for DNA damage signalling in pulmonary arterial hypertension.	*Pulmonary arterial hypertension, integrative studies, gene therapy, animal model.*	2014-2017	72,629	211,606	I,II
Bossé, Yohan; Mathieu, Patrick; Pibarot, Philippe	Institut universitaire de cardiologie et de pneumologie de Québec	Multidimensional genomic profiling to elucidate the molecular mechanisms underpinning calcific aortic valve stenosis.	*Calcific aortic valve stenosis, genomics, epigenetics, microRNA, gene expression.*	2015-2018	99,960	199,783	I,II
Bourque, Charles W.; Prager-Khoutorsky, Masha	Montreal General Hospital	Role of osmoreceptor gain in salt-sensitive hypertension.	*Vasopressin, salt-sensitive hypertension, osmoregulation, cytoskeleton, BDNF.*	2016-2019	72,634	72,634	I
Bousette, Nicolas	Montreal Heart Institute	The protective role of Perilipin-2 in diabetic cardiomyopathy.	*Diabetes, lipotoxicity, ER stress, lipids, apoptosis.*	2014-2017	99,408	298,224	I
Brambati, Simona; Marcotte, Karine; Desautels, Alex; Descoteaux, Maxime; Rochon, Elizabeth A.; Leonard, Carol L.	Institut universitaire de Geriatrie de Montreal	Dynamics of language recovery in post-stroke aphasia: a longitudinal neuroimaging study.	*Aphasia, magnetic resonance imaging, language recovery, brain plasticity, diffusion MRI.*	2016-2019	94,716	94,716	II,III
Chalifour, Lorraine E.; Chevrier, Jonathon; Leask, Richard	Lady Davis Institute for Medical Research	Bisphenols, phthalates and recovery post-myocardial infarction.	*Bisphenol and phthalate exposure, myocardial infarction model, monocyte and macrophage characterization, cardiac structure/function analyses.*	2016-2019	81,480	81,480	I,II

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Couet, Jacques; Arsenault, Marie; Laplante, Mathieu	Institut universitaire de cardiologie et de pneumologie de Québec	Modulating mTOR activity in aortic stenosis.	*Heart valve disease, heart hypertophy, mTOR, aortic stenosis, pressure overload.*	2015-2018	89,777	179,554	I
Dehaes, Mathieu; Lodygensky, Gregory	Université de Montréal	Bedside monitoring of pre- and postoperative brain metabolic needs in neonatal d-transposition of the great arteries.	*Congenital heart disease, neurodevelopmental outcome, cerebral oxygen metabolism, brain abnormality and injury, near infrared spectroscopy.*	2016-2019	90,535	90,535	I,II
Fiset, Céline	Université de Montréal	Influence of pregnancy on the automaticity of the heart.	*Pregnancy, cardiac arrhythmias, sinoatrial node, cardiac automaticity, heart rate.*	2016-2019	94,128	94,128	I
Gallagher, Anne; Carmant, Lionel; Poirier, Nancy Claire	Université de Montréal	Impact of early intervention on neurodevelopmental outcome in CHD.	*Congenital heart disease, early multidisciplinary intervention, neurodevelopmental outcome.*	2016-2019	45,346	45,346	II
Hébert, Terence; Tanny, Jason	McGill University	The role of the RNA polymerase II elongation complex in cardiac hypertrophy and heart disease.	*Cardiac hypertrophy, heart failure, transcription elongation, RNA polymerase, G protein signalling.*	2015-2018	98,000	196,000	I
Henderson, Melanie; Barnett, Tracie A.; Benedetti, Andrea; Bigras, Jean-Luc; Friedrich, Matthias G.; Gray-Donald, Katherine A.; Lavoie, Jean-Claude; Levy, Emile; Mathieu, Marie-Eve; Nuyt, Anne Monique; Van Hulst, Andraea A.	Hôpital Sainte-Justine	Determinants of cardiovascular disease among youth with type 1 diabetes - a pilot study.	*Cardiovascular disease, pediatrics, type 1 diabetes mellitus, epidemiology.*	2016-2017	80,903	80,903	I,II
Larrivée, Bruno	Hôpital Maisonneuve-Rosemont	Targeting BMP signalling for the prevention of vascular retinal dysfunctions.	*Vascular dysfunctions, diabetes, vascular biology, molecular biology, experimental models of diabetes.*	2016-2019	74,357	74,357	I
Levin, Mindy; Feldman, Anatol	McGill University	Corticospinal contribution to spasticity and disordered motor control.	*Hypertonicity, modulatory system, upper limb, stroke, TMS.*	2014-2017	58,867	177,661	I,II
Marette, André	Institut universitaire de cardiologie et de pneumologie de Québec	Cardioprotective action of PDX in obese diabetic mice.	*Diabetes, obesity, cardiac dysfunction, aortic stenosis, omega 3 fatty acids.*	2015-2018	92,964	185,928	I
Mathieu, Patrick; Pibarot, Philippe; Marette, André; Paquin, Jean-Francois	Institut de cardiologie de Québec	Inhibition of ectonucleotide pyrophosphatase / phosphodiesterase-1 with a novel quinazolin-derived compound in order to prevent the progression of aortic stenosis.	*Calcific aortic valve disease, aortic stenosis, ectonucleotidase, pharmacological treatment, animal model.*	2014-2017	97,925	287,775	I

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Mourad, Walid M.; Hassan, Ghada S.; Merhi, Yahye	CHUM	Novel functions of CD154 in atherothrombosis.	*CD154, receptors, bidirectional cell/cell signaling, tools for blocking CD154 interactions, atherothrombosis.*	2016-2019	88,000	88,000	I
Nattel, Stanley	Montreal Heart Institute	Molecular control of cardiac repolarization and the substrate for lethal ventricular arrhythmias.	*Remodeling, proarrhythmia, sudden death, ion channels, cell calcium.*	2015-2018	79,600	157,565	I
Nattel, Stanley	Montreal Heart Institute	Nuclear-delimited signaling in arrhythmogenic cardiac remodeling.	*Remodelling, atrial fibrillation, gene regulation, calcium handling, ion channels.*	2016-2019	94,488	94,488	I
Noiseux, Nicolas; Roy, Denis C.; Larose, Eric; Yau, Terrence M.; Stevens, Louis-Mathieu; Mansour, Samer; Der Sarkissian, Shant	Hôtel-Dieu du CHUM	Optimizing cell therapy for cardiovascular disease: a translational approach to the next generation clinical trials.	*Stem cell, cell therapy, pharmaco-optimization, cell viability, new chemical entity.*	2016-2019	83,269	83,269	I,II
Nuyt, Anne Monique; Luu, Thuy Mai; Thebaud, Bernard	Hôpital Sainte-Justine	Endothelial progenitor cells impairment and activation of the renin angiotensin system as mechanism for cardiovascular disease after preterm birth: a translational approach.	*Cardiovascular diseases, preterm birth, endothelial progenitor cells, renin angiotensin system, translational approach.*	2016-2019	81,688	81,688	I,II
Parent, Lucie	Institut de cardiologie de Montréal	Unraveling the complex interactions between the auxiliary Cavalpha2delta subunit and the cardiac L-type calcium channel.	*Arrhythmias, ion channel, genetic diseases, calcium cycling, structure.*	2015-2018	84,695	168,519	I
Reinhardt, Dieter	McGill University	Role of plasma and cellular fibronectin in blood vessel function.	*Extracellular matrix, fibronectin isoforms, vascular smooth muscle cells, conditional knockout mouse models, cardiovascular diseases.*	2016-2019	93,355	93,355	I
Sapieha, Przemyslaw S. (Mike); Mallette, Fred	University of Montreal	Modulation of neuronal stress for vascular regeneration.	*Angiogenesis, ER stress, vascular regeneration, retina.*	2016-2019	96,995	96,995	I
Schmitz, Norbert; Deschenes, Sonya; Burns, Rachel	McGill University	Poor sleep and mental health: independent or overlapping risk factors for heart diseases? A community based study in Quebec.	*Mental health, epidemiology, sleep, heart disease, community study.*	2016-2018	78,000	78,000	II,IV
Sébire, Guillaume	Université de Sherbrooke	Rôle de la réponse inflammatoire maternofoetale dans la physiopathologie des accidents vasculaires cérébraux (AVC) périnatals.	*Accident vasculaire cerebral, cytokines, inflammation gestationnelle, vasculoprotection, neuroprotection.*	2014-2017	80,849	222,047	I,II,IV

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Servant, Marc	Université de Montréal	Studying the involvement of IkappaB kinase (IKK)beta in vascular remodeling events.	*Abdominal aortic aneurysm, chronic inflammation, protein kinase, target identification and validation, mouse model.*	2016-2019	90,000	90,000	I
Shrier, Alvin; Glass, Leon M.; Essebag, Vidal	McGill University	Transition to tachycardia.	*Arrhythmia, dynamics, heterogeneities, fluorescent imaging, tissue culture.*	2015-2018	48,225	107,076	I,II
Thanassoulis, George; Tsimikas, Sotirios	Research Institute of the McGill Unversity Health Centre	The lipoprotein(a), oxidized phospholipid and lipoprotein-associated phospholipase A2 pathway in aortic valve calcification.	*Valve disease, lipoproteins, phospholipids, molecular and genetic epidemiology.*	2015-2018	58,950	139,264	I,II
Thiel, Alexander; Ostry, David; Kuceyeski, Amy; Vahdat, Shahabeddin	Institut Lady Davis	Robot-assisted modulation of post-stroke motor-network connectivity: from basic science to clinical application.	*Stroke recovery, robot assisted therapy, functional connectivity, structural connectivity.*	2016-2019	59,652	59,652	I,II,III
Thorin, Eric; Lesage, Frédéric	Institut de Cardiologie de Montreal	Pulse pressure-dependent regulation of cerebrovascular endothelial function through age and cardiovascular diseases.	*Cerebral arteries, cerebral circulation, brain imaging, aging, pulse pressure.*	2015-2018	87,771	175,542	I
Vohl, Marie-Claude; Tchernof, André; Perusse, Louis	Université Laval	A study of genetic and epigenetic factors influencing obesity-related metabolic complications.	*Metabolic syndrome, obesity, genetics, epigenetics, adipose tissue.*	2014-2017	84,500	253,500	I,IV

Nova Scotia

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Bedard, Karen J.; Saric, Tomo; Rose, Robert A.	Dalhousie University	Using patient derived cells to study heritable arrhythmogenic right ventricular cardiomyopathy.	*Arrhythmogenic right ventricular cardiomyopathy, induced pluripotent stem cells, RNAseq, genetics, cardiac myocytes.*	2016-2019	97,500	97,500	I,II,IV
Eskes, Gail A.; Krigolson, Olave; Boe, Shaun G.; Westwood, David A.; Newman, Aaron J.	Dalhousie University	The behavioural and neural mechanisms in prism adaptation treatment for spatial neglect.	*Spatial neglect, prism adaptation, event related brain potentials (ERPs), stroke.*	2016-2019	63,324	63,324	I,II
Parkash, Ratika; Huynh, Thao T.; Kaczorowski, Janusz A.; Graham, Ian; Atzema, Clare L.; Dorian, Paul; Connolly, Stuart J.; Healey, Jeff S.	Queen Elizabeth II Health Sciences Centre	Canadian Community Utilization of Stroke Prevention study - focusing on Emergency Department care (C-CUSP ED).	*Stroke, atrial fibrillation, emergency department, clinical trial.*	2016-2019	89,805	89,805	II,III,IV

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Pasumarthi, Kishore Babu S.	Dalhousie University	Molecular and functional characterization of cardiac progenitor cells.	*Cardiac progenitor cells, cell proliferation and differentiation, cell transplantation, donor cell and drug interactions, cardiomyogenic pathways.*	2015-2018	93,350	185,200	I
Robertson, George S.	Dalhousie University	Mitochondrial calcium uptake and targeted therapeutics.	*Neuroprotection, mitochondria, calcium, CREB, synergism.*	2015-2018	89,610	179,220	I
Sapp, John L.; Deyell, Marc W.; Ha, Andrew C.T.; Coyle, Douglas A.; Sarrazin, Jean-Francois; Gula, Lorne J.; Tang, Anthony S.L.; Stevenson, William G.; Parkash, Ratika; Hruczkowski, Tomasz; Rivard, Lena; Nery, Pablo B.; Amit, Guy; Kuriachan, Vikas; Wells, George; Nair, Girish M.; Essebag, Vidal	Queen Elizabeth II Health Sciences Centre	Ventricular tachycardia antiarrhythmics or ablation in structural heart disease 2 pilot study.	*Ventricular tachycardia, cardiac arrhythmia, catheter ablation, antiarrhythmic drug therapy.*	2016-2018	93,650	93,650	II,III
Waisman, David M.	Dalhousie University	Defining the physiological function of S100A10 with the S100A10 knockout mouse.	*S100A10, plasminogen, stroke, fibrinolysis, plasmin.*	2014-2017	80,736	232,208	I

Newfoundland

Principal Investigator and Co-Investigator(s)	Research Institution	Project	Keywords	Term	16-17 $	Cumulative $ to 2017	Theme(s)
Woods, Michael; McGowan, Ross	Memorial University of Newfoundland	Identification of novel genes causing intracranial aneurysms.	*Intracranial aneurysms, gene discovery, next generation sequencing, zebrafish model organism.*	2015-2018	95,913	187,576	I,II

Themes I: Basic Biomedical II: Clinical III: Health Services/Systems IV: Social, Cultural, Environmental and Population Health

Appendix D

Research Chairs and Professorships

Dr. Andrew Krahn (University of British Columbia) is The Sauder Family/ Heart and Stroke Foundation Chair in Cardiology. Dr. Krahn was also funded in 2016-2017 through the Grant-in-Aid program and is a member of CoMPASS.

Research Chairs and Professorships

Research Chairs	Title	Type	Province
Krahn, Andrew University of British Columbia	The Sauder Family/ Heart and Stroke Foundation Chair in Cardiology	Cardiology	British Columbia/Yukon
Lear, Scott St. Paul's Hospital/ Simon Fraser University	Pfizer/ Heart and Stroke Foundation Chair in Cardiovascular Prevention Research	Cardiovascular Prevention Research	British Columbia/Yukon
Wang, Yu Tian University of British Columbia	Heart and Stroke Foundation Chair in Stroke Research	Stroke	British Columbia/Yukon
Becher, Harald University of Alberta	Heart and Stroke Foundation Chair in Cardiovascular Research	Cardiolgy	Alberta/Northwest Territories/Nunavut
Demchuk, Andrew University of Calgary	Heart and Stroke Foundation Chair in Stroke Research	Stroke	Alberta/Northwest Territories/Nunavut
Kelly, Michael University of Saskatchewan	Saskatchewan Clinical Stroke Research Chair	Clinical Stroke	Saskatchewan
Katz, Alan University of Manitoba	Manitoba Research Chair in Primary Prevention	Primary Prevention	Manitoba
Anand, Sonia McMaster University	Heart and Stroke Foundation / Michael G. DeGroote Chair in Population Health Research	Population Health	Ontario
McGillion, Michael McMaster University	Heart and Stroke Foundation / Michael G. DeGroote Chair in Cardiovascular Nursing	Cardiac Nursing	Ontario
Goodman, Shaun University of Toronto	Heart and Stroke Foundation Polo for Heart Chair	Cardiology	Ontario
Mital, Seema Hospital for Sick Children	Heart and Stroke Foundation / Robert M. Freedom Chair in Cardiovascular Science	Cardiology	Ontario
Pickering, Geoffrey University of Western Ontario	Heart and Stroke Foundation / Barnett-Ivey Chair at the Robarts Research Institute	Cardiology	Ontario
Tobe, Sheldon Northern Ontario School of Medicine	Heart and Stroke Foundation / NOSM Chair in Aboriginal and Rural Health	Aboriginal and Rural Health	Ontario
Weitz, Jeffrey McMaster University	Heart and Stroke Foundation / J. Fraser Mustard Chair in Cardiovascular Research	Cardiology	Ontario
Yusuf, Salim McMaster University	Heart and Stroke Foundation / Marion W. Burke Chair in Cardiovascular Disease	Cardiology	Ontario
Cox, Jafna Dalhousie University	Heart and Stroke Foundation Chair Endowed Chair in Cardiovascular Outcomes Research	Cardiology	Nova Scotia

Professorships	Title	Type	Province
Humphries, Karin University of British Columbia	UBC/Heart and Stroke Foundation Professorship in Women's Cardiovascular Health	Women's Cardiovascular Health	British Columbia/Yukon
Teal, Philip University of British Columbia	The Sauder Family/ Heart and Stroke Foundation Professorship in Clinical Stroke Research	Clinical Stroke	British Columbia/Yukon
Chen, Wayne University of Calgary	Heart and Stroke Foundation/Libin Cardiovascular Institute Professorship in Cardiovascular Research	Cardiology	Alberta/Northwest Territories/Nunavut
Butcher, Ken University of Alberta	Heart and Stroke Foundation Professorship in Stroke Research	Stroke	Alberta/Northwest Territories/Nunavut
Hill, Michael University of Calgary	Heart and Stroke Foundation/Hotchkiss Brain Institute Professorship in Stroke Research	Stroke	Alberta/Northwest Territories/Nunavut
Menon, Bijoy K. University of Calgary	The Heart and Stroke Foundation/University of Calgary Professorship in Brain Imaging	Stroke	Alberta/Northwest Territories/Nunavut
Schmoelzer, Georg University of Alberta	The Heart and Stroke Foundation/University of Alberta Professorship in Neonatal Resuscitation	Neonatal Resuscitation	Alberta/Northwest Territories/Nunavut

Typically, Research Chairs and Professorships are funded via an endowment from the provincial Foundations listed as well as endowments from other sources.

Appendix E

Provincial Personnel Awards

Centre: Dr. Ada Tang (McMaster University) was funded in 2016-2017 through her Clinician Scientist Award, awarded in 2013-2014.

Alberta/Northwest Territories/Nunavut

New Investigator Awards

Awardee	Research Institution	Project	Term	16-17 $	Total $
Gordon, Grant	University of Calgary	Parallel control of the micro-vasculature by astrocytes and neurons.	2014-2017	60,000	180,000
Schmoelzer, Georg M.**	University of Alberta	Novel resuscitation to improve the recovery of asphyxiated newborns.	2016-2020	60,000	260,000
Ussher, John R.	University of Alberta	The role of pyruvate dehydrogenase in FoxO1/3-driven diabetic cardiomyopathy.	2015-2018	60,000	180,000
White, James A.	Foothills Medical Centre	MRI allocation of pacing targets in cardiac resynchronization therapy (MAPIT-CRT).	2014-2017	60,000	180,000

**Joint title Alberta New Investigator and National New Investigator.

British Columbia/Yukon

Robert Hayden Research Fellowship

Awardee	Research Institution	Project	Term	16-17 $	Total $
Kearns, Mark J.	University of British Columbia	Sternal closure technique in patients at high-risk of developing sternal wound complications: a study of cardiac surgery patients in British Columbia.	2015-2019	50,000	150,000

Manitoba

Sanofi Canada - Heart and Stroke Foundation Manitoba Award in Cardiology

Award: $10,000

Awardee	Research Institution
McIntyre, William Finlay	University of Manitoba

Dr. Dexter Harvey Award

Award: $5,000

Awardee	Research Institution
MacDonald, Laura	University of Manitoba

Ontario

Career Investigator Awards

Awardee	Research Institution	Project	Term	16-17$	Total $
Austin, Peter C.	Institute for Clinical Evaluative Sciences	Statistical methods for cardiovascular research.	2013-2018	83,000	415,000
Bolz, Steffen-Sebastian	University of Toronto	Translating molecular mechanisms governing microvascular behaviour - a bench to bedside strategy.	2013-2018	83,000	415,000
Drangova, Maria	Robarts Research Institute	Cardiac imaging for therapy guidance and pre-clinical research studies.	2012-2017	83,000	415,000
Nanthakumar, Kumaraswamy	Toronto General Hospital	Human ventricular fibrillation, refibrillation, and cardiac arrest: mechanisms & modulation.	2013-2018	83,000	415,000
Rodger, Marc A.	The Ottawa Hospital	Venous thrombosis and thrombophilia.	2013-2018	83,000	415,000
Sweeney, Gary	York University	Cardiac remodelling by adipokines: mechanisms and pathophysiological significance in heart failure.	2012-2017	83,000	415,000
Yang, Burton B.	Sunnybrook Health Science Centre	The roles of microRNAs in regulating cell activities and angiogenesis.	2012-2017	83,000	415,000

Clinician Scientist

Awardee	Research Institution	Project	Term	16-17$	Total $
de Azeredo Coutinho, Thais	University of Ottawa Heart Institute	Exploring the role of arterial stiffness in sex differences of cardiovascular diseases.	2016-2021	52,500	280,000
Epelman, Slava	University Health Network	Distinct mononuclear phagocyte subsets mediate cardiac tissue injury and repair.	2015-2019	70,000	280,000
Johri, Amer M.	Queen's University	Carotid artery plaque quantification to assess progression of atherosclerosis.	2014-2018	70,000	280,000
Le Gal, Gregoire	The Ottawa Hospital Research Institute	Improving the diagnostic management of venous thromboembolism.	2015-2018	80,000	240,000
Tang, Ada	McMaster University	Exercise and cardiovascular health after stroke.	2013-2017	70,000	280,000
Udell, Jacob A.***	Women's College Hospital	Disruptive innovation in heart disease research.	2016-2020	5,000	280,000

***Joint title National New Investigator and Ontario Clinician Scientist Phase I.

Mid-Career Investigator

Awardee	Research Institution	Project	Term	16-17$	Total $
Alter, David A.	Toronto Rehabilitation Institute	Characterizing the adherence phenotypes of populations with cardiovascular disease: applications for health services research and interventions.	2013-2017	80,000	320,000
Birnie, David H.	University of Ottawa Heart Institute	Comprehensive program of patient orientated research in cardiac arrhythmia.	2013-2017	80,000	320,000
Booth, Gillian L.	St. Michael's Hospital	Population-based strategies for reducing the burden of cardiovascular disease due to diabetes.	2013-2017	80,000	320,000
Chauhan, Vijay S.	Toronto General Research Institute	Electrical sources and substrate in human atrial fibrillation.	2015-2019	80,000	320,000
Chen, Hsiao-Huei	Ottawa Health Research Institute	A systems approach to stroke recovery.	2014-2018	80,000	320,000
Eikelboom, John	McMaster University	Mechanisms and treatment of antithrombotic drug failure.	2015-2019	80,000	320,000
Fowler, Robert A.	Sunnybrook Health Science Centre	Improving end-of-life care for Canadians with heart disease and stroke.	2013-2017	80,000	320,000
Gollob, Michael H.	University Health Network	Novel molecular targets and mechanisms of human atrial fibrillation.	2013-2017	80,000	320,000
Healey, Jeff S.	Hamilton Health Sciences	Detection and treatment of sub-clinical atrial fibrillation to prevent stroke.	2013-2017	80,000	320,000
Ko, Dennis T.	Institute for Clinical Evaluative Sciences	Using big data to improve identification, prevention and management of cardiovascular diseases.	2016-2020	80,000	320,000
Lee, Douglas S.	Institute for Clinical Evaluative Sciences	Program of research on outcomes, treatment and evaluation of care in the spectrum of HF (PROTECT-HF).	2016-2020	80,000	320,000
Lok, Charmaine E.	Toronto General Hospital	A program of cardiovascular health improvement in chronic and endstage kidney disease.	2014-2018	80,000	320,000
Park, David S.	University of Ottawa	Deciphering the mechanisms of stroke injury.	2016-2020	80,000	320,000
Retnakaran, Ravi R.	Mount Sinai Hospital	The early natural history and pathophysiology of cardiometabolic disease in mother and child.	2014-2018	80,000	320,000
So, Derek Y.F.	University of Ottawa Heart Institute	Reassessment of anti-platelet therapy using individualized strategies - the RAPID program.	2016-2020	80,000	320,000
St. Lawrence, Keith S.	University of Western Ontario	Developing non-invasive optical techniques to detect cerebral ischemia in critical-care patients.	2013-2017	80,000	320,000
Steinman, David A.	University of Toronto	Hemodynamic and geometric risk factors: turning theory into practice.	2013-2017	80,000	320,000
Wu, Lingyun	Lakehead University	Methylglyoxal metabolism and vascular remodeling.	2013-2017	80,000	320,000

Summer Student Scholarship

Awardee	Award Name	Supervisor	Research Institution	16-17 $
McClure, Graham	Evelyn McGloin Scholarship	Whitlock, Richard	McMaster University	5,000
Dowhos, Krista	HSF-TD scholarship*	Tobe, Sheldon	Northern Ontario School of Medicine	12,000
Motalo, Oksana	HSF-TD scholarship*	Tobe, Sheldon	Northern Ontario School of Medicine	12,000
Thomas, Sean C.	HSF-TD scholarship*	Kumar, Andreas	Northern Ontario School of Medicine	12,000
Wang, Peter	Miriam Neveren Scholarship	Pal, Raveen	Queen's University	5,000
Nantsios, Alex	Hannah Pherril Scholarship	Davis, Darryl	University of Ottawa	5,000
Khairandish, Arash	Irwin Bernick Scholarship (shared)	Leung, General	University of Toronto	2,500
Chaudry, Rushi	Dr. Jack V. Tu Scholarship (shared)	Meineri, Massimiliano	University of Toronto	2,500
Lee, Albert	Dr. Jack V. Tu Scholarship (shared)	Sussman, Marshall	University of Toronto	2,500
Patridge, Arun	HSF Summer Medical Scholarship	Hickey, Edward	University of Toronto	5,000
Kwong, Jonathan	HSF Summer Medical Scholarship	Verbeek, Richard	University of Toronto	5,000
Cheng, Sunny	R. John and Agnes M. Adams Scholarship (shared)	Whitehead, Shawn	Western University	2,500
Pignanelli, Mike	R. John and Agnes M. Adams Scholarship (shared)	Spence, David	Western University	2,500
Muzlera, Carlos	HSF Summer Medical Scholarship	Hegele, Robert	Western University	5,000

*Shared Award
* The HSF-TD Scholarship supports a three month research project with funding of $12,000.

Newfoundland and Labrador

Awardee	Research Institution	16-17$
Graduate Scholarship	Memorial University of Newfoundland	1,500
Keith Griffiths Memorial Scholarship	Memorial University of Newfoundland	1,500
Undergraduate Nursing Award in Cardiovascular Health	Memorial University of Newfoundland	1,500
Undergraduate Nursing Award in Stroke	Memorial University of Newfoundland	1,500
Heart and Stroke Foundation (NL) MD Research Award	Memorial University of Newfoundland	4,000

Appendix F

Other Provincial Initiatives

Dr. Céline Fiset (Université de Montréal) was a recipient of the Heart & Stroke Awards for Excellence in Research, Groupe Jean-Coutu (PJC) Inc. Award as well as a recipient of a 2016-2017 Grant-in-Aid.

British Columbia/Yukon

Heart & Stroke-UBC Cardiology Research Partnership: Cardiology Academic Practice Plan (CAPP)

As part of its mandate to support innovative research and its application to improve the health of Canadians, Heart & Stroke in BC & Yukon, has partnered with the University of British Columbia's Division of Cardiology to support research by early career cardiologists.

Grant: $200,000

Principal Investigator	Research Institution
Davis, Margot	Vancouver General Hospital
Deyell, Marc	St. Paul's Hospital
Grewal, Jasmine	St. Paul's Hospital
Ong, Kevin	St. Paul's Hospital
Ramanathan, Krishnan	St. Paul's Hospital
Saw, Jacqueline	Vancouver General Hospital
Sedlak, Tara	Vancouver General Hospital
Taylor, Carolyn	St. Paul's Hospital
Tsang, Michael	Vancouver General Hospital
Wood, David	Vancouver General Hospital

Manitoba

Primary Prevention Challenge Grant

Principal Investigator	Research Institution	Project	Term	16-17 $	Total $
Duhamel, Todd	University of Manitoba	Developing the ENCOURAGE app to support physical activity promotion in diverse workplaces.	2015-2017	40,000	80,000
Madden, Shoni	Green Action Centre	Completing the picture: mapping how children fit into the transportation landscape.	2015-2017	40,000	80,000

Quebec

Heart & Stroke in Quebec Awards for Excellence in Research

Awards for excellence highlighting the outstanding contribution of researchers.

Principal Investigator	Award	Research Institution	Project	16-17 $
Bourque, Charles	John J. Day M.D. Award	McGill University	Role of osmoreceptor gain in salt-sensitive hypertension.	10,000
Fiset, Céline	Groupe Jean-Coutu (PJC) Inc. Award	Université de Montréal / Montreal Heart Institute	Influence of pregnancy on the automaticity of the heart.	50,000
Larrivée, Bruno	Louise Rousselle Trottier Award	Hôpital Maisonneuve-Rosemont	Targeting BMP signalling for the prevention of vascular retinal dysfunctions.	10,000
Martel, Catherine	Jacques de Champlain Foundation Award	Université de Montréal / Montreal Heart Institute	Lymphatic vessel function in atherosclerosis.	10,000
Noiseux, Nicolas	Tony Molluso Award	CHUM	Optimizing cell therapy for cardiovascular disease: a translational approach to the next generation clinical trials.	10,000
Schmitz, Norbert	Henry and Berenice Kaufmann Foundation Award	McGill University	Poor sleep and mental health: independent or overlapping risk factors for heart diseases? A community based study in Quebec.	10,000
Servant, Marc	RBC Royal Bank award	Université de Montréal	Studying the involvement of IkappaB kinase (IKK)beta in vascular remodeling events.	20,000

Training bursaries for PhD students in Cardiovascular and Stroke Research

Partnership between the Fonds de recherche du Québec en santé (FRQS) and the Heart & Stroke in Quebec. The partners offer training bursaries for PhD students working with researchers receiving a Grant-in-Aid from the Heart & Stroke in Quebec.

Principal Investigator	16 -17 $
Boukadi, Mariem	6,666

Bursaries in partnership with FRQS for new investigators in Cardiovascular and Stroke Research

Partnership between the Fonds de recherche du Québec en santé (FRQS) and the Heart & Stroke in Quebec. The partners offer bursaries for new investigators.

Principal Investigator	16 -17 $
Beaudoin Jonathan	24,354

Nova Scotia

Dr. Gregory Ferrier Award

Award: $5,000

Awardee	Research Institution	Project
Sapp, John L.	Queen Elizabeth II Health Sciences Centre	Ventricular tachycardia antiarrhythmics or ablation in structural heart disease 2 pilot study.

BrightRed Student Research Award

Award: $5,000

Awardee	Research Institution
Allen, Brittney	Dalhousie University
Legere, Stephanie	Dalhousie University
Nichols, Matthew	Dalhousie University
O'Brien, Myles	Dalhousie University
Whitehouse, Christiane	Dalhousie University

Appendix G

Research Committee Members

Dr. Shelagh Coutts was a member of the Scientific Review Committee Leadership team in 2016-2017 and was a recipient of a 2016-2017 Grant-in-Aid.

2016-2017 Council on Mission: Priorities, Advice, Science and Strategy (CoMPASS)

Kim Raine, PhD, Co-Chair
University of Alberta

Mary Lewis, Co-Chair
Heart & Stroke

Rob Beanlands, MD
University of Ottawa Heart Institute

Sandra E. Black, O.Ont., MD
Sunnybrook Research Institute

Roy Cameron, PhD
Homewood Health Centre

James Christenson, MD
Vancouver General Hospital

Mary Collins
BC Healthy Living Alliance

Jafna Cox, MD
Queen Elizabeth II Health Sciences Centre

Jonathon Fowles , PhD
Acadia University

David Hammond, PhD
University of Waterloo

Terry Hébert, PhD
McGill University

Moira Kapral , MD
University Health Network

Andrew Krahn , MD
Vancouver General Hospital

Mary L'Abbé, PhD
University of Toronto

Kelly Lendsay,
Aboriginal Human Resource Council

Peter Liu, MD
University of Ottawa Heart Institute

Michael McGillion, PhD
McMaster University

Gary Newton , MD
Mount Sinai Hospital

Philippe Pibarot , DVM, PhD
Université Laval

J. Geoffrey Pickering, MD, PhD
Robarts Research Institute

Andrew Pipe, CM, MD, LLD, DSc
University of Ottawa Heart Institute

Catherine Praamsma
Health Canada

Jeffrey Reading, PhD
Dalla Lana School of Public Health Institute for Indigenous Health

Mike Sharma, MD
McMaster University

Eldon R. Smith, O.C., MD
University of Calgary

Eric Smith , MD
University of Calgary

John C. Spence, PhD
University of Alberta

St-Pierre, Julie, MD, PhD
Université de Sherbrooke

Glen Tibbits, PhD
Simon Fraser University

Jack V. Tu, MD, PhD
Institute for Clinical Evaluative Sciences

Christian Vaillancourt , MD
Ottawa Hospital Research Institute

Thomas Warshawski, MD
University of British Columbia

Glenda Yeates
Former Deputy Minister, Health Canada

2016-2017 Scientific Review Committee Leadership

Glen F. Tibbits, PhD, Chair
Simon Fraser University

Gary Newton, MD, Vice Chair
Mount Sinai Hospital

Clinical cardiovascular and cerebrovascular research: mechanistic studies and clinical trials / health services research A
Ratika Parkash, MD, Chair
Queen Elizabeth II Health Sciences Centre

Derek So, MD, Deputy Chair
University of Ottawa Heart Institute

Clinical cardiovascular and cerebrovascular research: mechanistic studies and clinical trials / health services research B
Jeff Healey, MD, Chair
McMaster University

Shelagh Coutts, MD, Deputy Chair
Foothills Medical Centre

Integrative studies: genetic manipulations / imaging / bioengineering
Howard M. Leong-Poi, MD, Chair
St. Michael's Hospital

Pascal Bernatchez, PhD, Deputy Chair
St. Paul's Hospital

Basic science stroke / neurophysiology / neuroregulation
James Eubanks, PhD, Chair
Toronto Western Hospital

Roger Thompson PhD, Deputy Chair
University of Calgary

Molecular, biochemical and cellular physiological approaches to cardiovascular health and disease, vascular disorders A
J. Geoffrey Pickering, MD, PhD, Chair
Robarts Research Institute

Robert Rose, PhD, Deputy Chair
Dalhousie University

Cardiac arrhythmias, cardiac mechanics, electrophysiological approaches to cardiovascular health and disease, ischemia related disorders B
Terry Hébert, PhD, Chair
McGill University

Scott Heximer, PhD, Deputy Chair
University of Toronto

Cardiovascular complications associated with obesity/diabetes, metabolism, and cardiac development/remodeling C
Jason R.B. Dyck, PhD, Chair
University of Alberta

Ross Feldman, MD, Deputy Chair
Memorial University of Newfoundland

Molecular basis of cardiac and vascular function
Stéphanie Lehoux, PhD, Chair
McGill University

Jonathan Lytton, PhD, Deputy Chair
University of Calgary

Thrombosis / lipids and lipoproteins / fundamental nutrition research
Gordon Francis, MD, Chair
St. Paul's Hospital

Marc Carrier, MD, Deputy Chair
Ottawa Hospital, General Campus

Health services and public health, health behaviour; health psychology
Alexander Clark, PhD, Chair
University of Alberta

Kathryn King-Shier, PhD, Deputy Chair
University of Calgary

Senior Personnel
Rob Beanlands, MD, Chair
University of Ottawa Heart Institute

Richard Frayne, PhD, Deputy Chair
University of Calgary

Emerging Research Leaders Initiative
Grant Pierce, PhD, Chair
St. Boniface Hospital Research Centre

Micheal Czubryt, PhD, Deputy Chair
St. Boniface Hospital Research Centre

Canadian Alliance for Healthy Hearts and Minds Initiative
Robert D. Reid, PhD, Chair
University of Ottawa Heart Institute

Budget Review Committee
Eric Accili, PhD, Chair
University of British Columbia

Richard Frayne, PhD, Deputy Chair
University of Calgary

Appendix H

Definition of Health Research Themes

The four themes of health research as defined by the Canadian Institutes of Health Research are:

I. Basic Biomedical
Research with the goal of understanding normal and abnormal human function, at the molecular, cellular, organ system and whole body levels, including the development of tools and techniques to be applied for this purpose; developing new therapies or devices which improve health or the quality of life of individuals, up to the point where they are tested on human subjects. Studies on human subjects that do not have a diagnostic or therapeutic orientation.

II. Clinical
Research with the goal of improving the diagnosis and treatment (including rehabilitation and palliation) of disease and injury; improving the health and quality of life of individuals as they pass through normal life stages. Research on, or for the treatment of, patients.

III. Health Services/Systems
Research with the goal of improving the efficiency and effectiveness of health professionals and the health care system, through changes to practice and policy. Health services research is a multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviours affect access to health care, the quality and cost of health care, and ultimately our health and well-being.

IV. Social, Cultural, Environmental and Population Health
Research with the goal of improving the health of the Canadian population, or of defined sub-populations, through a better understanding of the ways in which social, cultural, environmental, occupational, and economic factors determine health status.

To find more information about heart disease, stroke, how to live a healthy life, as well as how you can offer much needed support in your community, visit

heartandstroke.ca

Heart &Stroke™