



**Canadian Consortium for the Investigation of Cannabinoids**

**Annual Report | 2015**

## MESSAGE FROM THE EXECUTIVE DIRECTOR

As this year's Annual Report will attest, 2015 was a year of balance for the CCIC. The key issue has been one of sustainability, and the Board of Directors has been actively trying to find ways to guide the executive team in funding our research and educational activities. The first lesson is that we have found what I hope will be recognized as a balanced way to engage the new industry of licensed producers, to solicit and harness their support, but to remain independent of influence and bias. I place this issue at front and centre as we are all very much aware of the need for the CCIC to continue its programs such as the student funding competition and the annual CCIC symposium, and to continue to be a voice for clinical and basic research on cannabis and cannabinoids, but also to help guide and shape the landscape of therapeutic use and ensure good clinical practices. However, we must act with absolute academic freedom. Only you can judge whether we have succeeded, and to let us know if the balance we seek is being demonstrated.

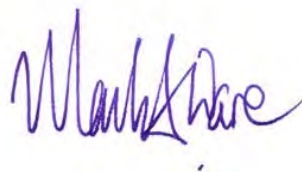
The second lesson of the year is that we can do a lot with a modest budget. Our two day conference in Toronto in April 2015 was, by all measures, a huge success, bringing together Canadian scientists, researchers, practitioners, industry and policy makers in discussing the risks and benefits of cannabinoids in medicine, in helping find and discuss the knowledge gaps, and in creating and sustaining a community of practice and investigation. We have supported many students in their lab research and travel to major scientific conferences, and we have represented the research and clinical community at national research priority workshops and federal forums. The CCIC-supported Quebec Cannabis Registry has drawn global interest and collaboration. Our efforts to support new



trial development through our clinical trial consulting projects have led to the launch of new clinical research studies. Our CCIC Podcast remains an active and engaged program with over 10,000 listeners over the year. We have published our first academic papers aimed at supporting clinical education and decision making. All these efforts continue with the unflagging support and engagement of Linda Ferguson and Daniel Ziemianski whom I thank personally on behalf of all of the CCIC. Without them, we would have nothing. When I look back on our accomplishments, it is remarkable that all this is done on a part time basis. I shudder to think what we could do if we were really well funded!

Thirdly and finally, we are acutely aware of how much more there is to do. Contributing to the national dialogue on cannabis research and education requires us to strive to remain balanced in promoting good clinical care, research on risks and benefits, developing and disseminating pragmatic and accurate information, and continuing our search for answers in the fascinating and complex endocannabinoid system.

Sustainability and balance, therefore, are our themes, and we ask all our members to help us grow in the right direction and to take advantage of the immense interest, both intellectually and commercially, in harnessing the cannabinoid system. We are on the cusp of major policy changes, and all of our collective experience and wisdom will be required to help shape the future.



Dr. Mark A. Ware



## THE CONSORTIUM

The CCIC first came together in the spring of 2000 as a result of initial funding from the CIHR under the leadership of Dr. Mary Lynch. Since that time the CCIC has grown to include basic science and clinical researchers and other health care practitioners. The CCIC has been consulted for Senate committee reports and regulatory guidelines for medical marijuana, and CCIC members have conducted and published research on cannabinoids.

The purpose of the Canadian Consortium for the Investigation of Cannabinoids (CCIC) is to promote evidence-based research and education concerning the endocannabinoid system and therapeutic applications of endocannabinoid and cannabinoid agents.

In June 2007 the CCIC became a federally incorporated non-profit organization to continue to further our understanding of cannabinoids. The need for educational initiatives has also become clear and the CCIC aims also to provide a credible source of information on cannabinoids for the public and health care practitioners.



# THE BOARD OF DIRECTORS

## President of the Board

A John Clark, MD, FRCPC  
QEII Health Sciences Centre  
Halifax, NS

## President Elect

Linda Parker, PhD  
University of Guelph  
Guelph, ON

## Past President

Matthew Hill, PhD  
University of Calgary  
Calgary, AB

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University of British Columbia  
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Winnipeg, MB

Melanie Kelly, PhD  
Dalhousie University  
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QEII Health Sciences Centre  
Halifax, NS

Joel Singer, PhD  
University of British Columbia  
Vancouver, BC

Mark Ware, MBBS MRCP MSc  
McGill University  
Montreal, QC

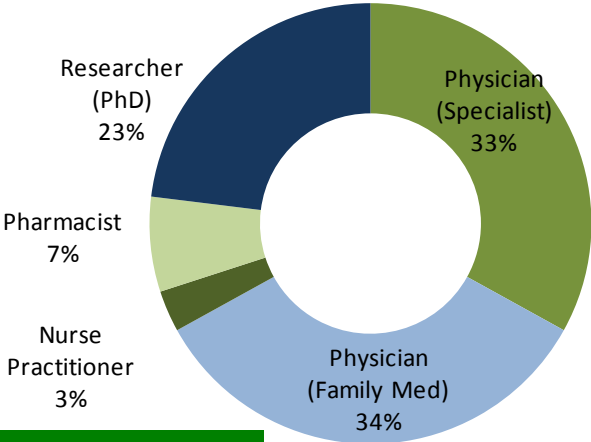
Colleen O'Connell, MD, FRCPC  
Stan Cassidy Centre for Rehabilitation,  
Fredericton, NB



# MEMBERS

The CCIC is a federally registered not-for-profit membership based organization. Involvement with the CCIC is divided into two categories; Members and Supporters. Members have voting rights and strict qualification criteria. As of December 2015 there were 246 ratified Members of the CCIC. A summary of the demographic information of CCIC Members up to, and including 2015, is presented below:

## Members' Professions



## Members' Provinces



ON	45%
BC	19%
QC	11%
AB	10%
NS	5%
NB	4%
MB	2%
NL	1%
SK	1%

## Supporters' Countries

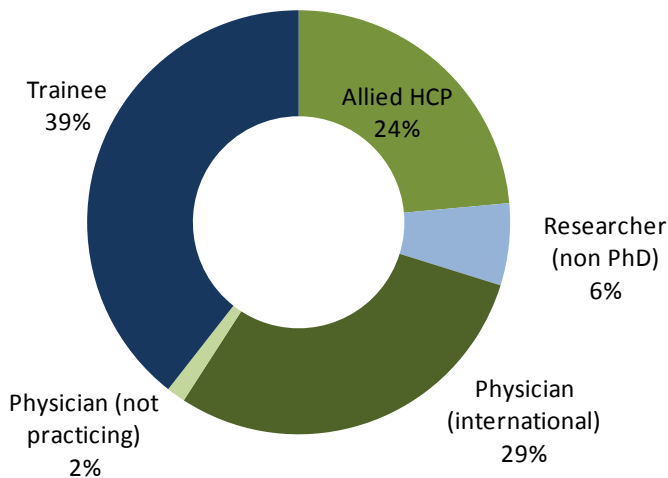


Map of World with Countries -  
Single Color by FreeVectorMaps.com

## SUPPORTERS

Supporters are sub-divided into Associates, and Observers. Supporters criteria are more widely accessible and enable individuals to have access to CCIC information and resources. As of December 2015 there were 214 Associates and 282 Observers. A summary of the demographic information of CCIC Supporters is presented below:

## Associates' Professions



## Observers' Professions

# OUTREACH

## PODCAST



The CCIC Podcasts are available for free download at the iTunes Store.

The 2015 podcasts received on average 2000 views, for a total podcast outreach of over 15000 views .

In 2015 the CCIC released nine Podcasts. Each podcast features an interview by Dr. Mark Ware of an international key opinion leader in the field of cannabis, cannabinoids, or endocannabinoids.

Podcasts in 2015 featured:

Dr. Igor Grant

Dr. Steven Alexander

Prof. Raphael Mechoulam

Prof. Keith Sharkey

Dr. Donald Abrams

Dr. Matthew Hill

Dr. Jonathan Page

Dr. Lynda Balneaves

Dr. Ruth Ross

From January - June 2015 the CCIC Podcasts were supported by sponsorship received from CannTrust.





The CCIC continues to grow as a trusted source of online information about cannabinoids. The CCIC website ([www.ccic.net](http://www.ccic.net)) is a trusted source for research based information on cannabinoids, cannabis, and the endocannabinoids. Beyond [www.ccic.net](http://www.ccic.net) as our online hub, we are actively engaged online through Twitter, Facebook, and



Twitter: [ccictweeter](#): 477 tweets and 1553 followers



Facebook: over 200 CCIC page likes



YouTube: [CCICannabinoids](#): over 42 000 views

## Publications

The CCIC was actively engaged in research and knowledge translation initiatives in 2015. The following publications related to these initiatives include:

Ware, M. A., & Ziemianski, D. (2015). Medical education on cannabis and cannabinoids: Perspectives, challenges, and opportunities. *Clinical Pharmacology & Therapeutics*, 97(6), 548-550.

Ziemianski, D., Capler, R., Tekanoff, R., Lacasse, A., Luconi, F., & Ware, M. A. (2015). Cannabis in medicine: a national educational needs assessment among Canadian physicians. *BMC medical education*, 15(1), 1.

Ziemianski, D., & Ware, M. A. (2015). Canada's Marijuana for Medical Purposes Regulations: a synopsis for health professionals. *Journal of Hospital Administration*, 4(5), p79.

## RESEARCH

### Quebec Cannabis Registry

**Montreal, May 11<sup>th</sup> 2015** — The Research Institute of the McGill University Health Centre (RI-MUHC) and the Canadian Consortium for the Investigation of Cannabinoids (CCIC) have launched a registry for users of medical cannabis in Quebec that will allow physicians to better manage its use and monitor patient safety. This innovative project represents the world's first research database on the use of cannabis for medical purposes and places the province at the forefront of research in the field of medical cannabis. The registry was launched in response to a call by the *Collège des médecins du Québec (CMQ)* for guidelines on the use of medical cannabis in accordance with new government regulations.



As of April 1, 2014, cannabis can only be prescribed “within a research framework,” as it is not a medically recognized treatment.

“This registry has been developed to address the lack of research data on the safety and efficacy of cannabis,” states principal investigator Dr. Mark Ware, Director of Clinical Research of the Alan Edwards Pain Management Unit at the MUHC and associate professor in Family Medicine and Anesthesia at McGill University. “We need this database to help develop and answer future questions on the medical use of cannabis, such as who uses it, for what reasons, through which methods, and at what dose.”

The Quebec Cannabis Registry will be used to compile and store clinical data collected directly from patients who use medical marijuana. The data will be gathered from sites and clinics across Quebec, and each participant will provide data for four years after recruitment. Any licensed doctor practising in the province wishing to authorise cannabis for their adult patients can enrol participants in the registry.

Health Canada estimates that over 40,000 Canadians legally consume cannabis to relieve symptoms from such diseases as multiple sclerosis, HIV, cancer or epilepsy. “We need to improve our understanding of the real-world use of medical cannabis and to make these data available to other researchers and collaborators,” explains Dr. Ware. “This is the first registry of cannabis users that has been designed to stimulate research and to broaden our knowledge of this field. The registry will eventually help us better understand the possible risks and benefits related to the use of this product.”

“For the registry to succeed, Quebec physicians have to effectively become researchers, and patients have to consent to be research subjects,” explains Ware. “The data collected will not have any identifiable patient information in order to protect their privacy.” Anonymous questionnaire data will be entered into a secure electronic database that will be hosted and managed by the McConnell Centre for Innovative Medicine of the RI-MUHC at the Glen site.

Over the long term, this ten-year project will result in a research database that will be made available to the international scientific community.

“There is no doubt as to the RI-MUHC's leadership in the area of pain management. This growing field of research is perfectly in line with our drive for innovation,” says Dr. Vassilios Papadopoulos, Executive Director and Chief Scientific Officer for the RI-MUHC. “This registry will certainly be a springboard for new discoveries and will position researchers in Canada as world leaders.”



L'Institut de recherche  
du Centre universitaire de santé McGill  
The Research Institute  
of the McGill University Health Centre

## EDUCATION AND EVENTS

### Cannabinoids in Clinical Practice: Tour 2015

The Cannabinoids in Clinical Practice 2015 National CPD Program took place from February 17-23, 2015 in five cities across Canada. This program attracted over 150 healthcare professionals for three hour dinner CPD sessions in Vancouver, Calgary, Ottawa, Montreal and Halifax.

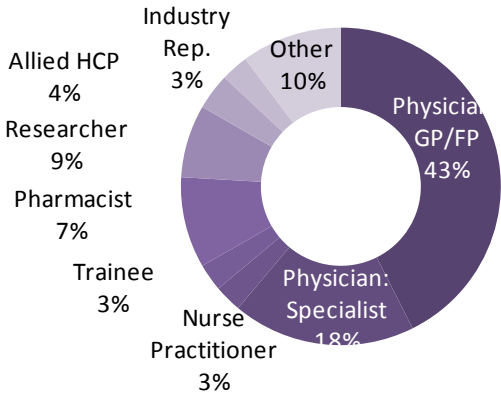


The accredited sessions focused on the science of the endocannabinoid system, risks, efficacy, and how to approach cannabinoids as an option in patient care.



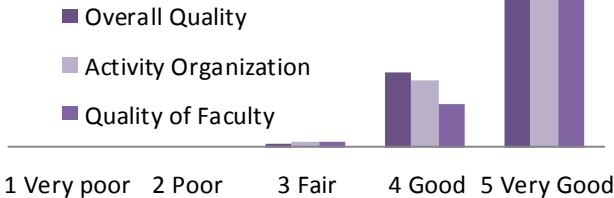
For their contribution to the success of the events, we would like to thank your expert faculty  
 Dr. William Barakett,  
 Dr. Lisa Bromley,  
 Dr. Stewart Cameron,  
 Dr. Pippa Hawley,  
 Dr. Lori Montgomery,  
 Dr. Mark Ware

**Participant Demographics**



We would also like to thank our Planning Committee,  
 Dr. Lynda Balneaves,  
 Dr. Paul Daeninck,  
 Dr. Ruth Dubin,  
 Dr. Bernard Le Foll,  
 Dr. Mark Ware.

**Rating of Overall Aspects of the Program**

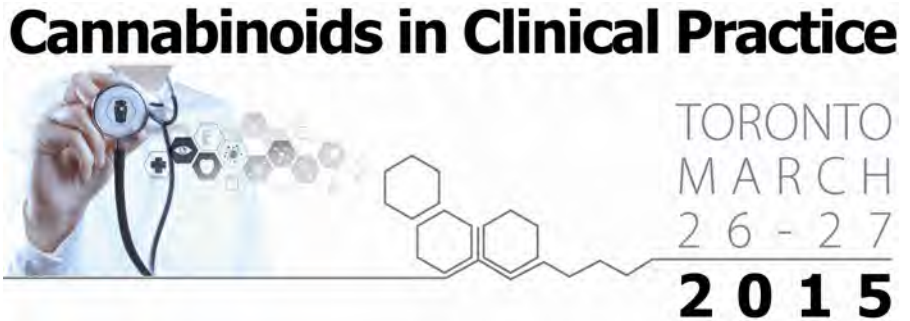


This program was supported in part by an educational grant from the Canadian Medical Cannabis Industry Association (CMCIA).



## EDUCATION AND EVENTS

The CCIC organized the Cannabinoids in Clinical Practice conference March 26-27, 2015 at the Sheraton Centre, Toronto, Ontario.



This two-day event presented practical evidence-based education on cannabinoids in clinical practice. Participants benefited from presentations by nationally renowned experts including key researchers and stakeholders. This event assisted Canadian health care professionals with the safe and effective use of cannabinoids in clinical practice.

200 participants from across Canada attended this event. The exhibit hall featured thirteen booths from national and international companies and organizations.

We would like to thank The event steering committee: Dr. Bernard Le Foll (Chair); Dr. Mark Ware (Co-Chair); Dr. Lynda Balneaves, Dr. Paul Daeninck, and Dr. Ruth Dubin,. The faculty: Dr. Lynda Balneaves, Dr. Lisa Bromley, Mr. Todd Cain (Health Canada), Dr. Sharon Cirone, Dr. Paul Daeninck, Dr. Ruth Dubin, Dr. Benedikt Fischer, Dr. Matthew Hill, Dr. Robert Mann, Dr. Jason McDougall, Dr. Jamie Meuser, Dr. Jonathan Page, Dr. Ruth Ross, Dr. Mark Ware.

We would also like to thank the event sponsors and exhibitors.



This accredited event included the following sessions:

- ✓ Fundamentals of cannabinoids
- ✓ Overview of the endocannabinoid system
- ✓ Clinical experience and research into the use of a synthetic cannabinoid (nabilone) in PTSD subjects
- ✓ Cannabinoids and mental health concerns
- ✓ Moderated Discussion: Cannabinoids & Mental health
- ✓ Preclinical and Clinical Use of Cannabinoids to Manage Joint Inflammation and Pain
- ✓ Cannabinoids and Cancer Therapy: What's the evidence?
- ✓ Cannabinoids for chronic pain: a review of the clinical evidence
- ✓ Cannabis and youth
- ✓ Cannabis and driving: Evolving evidence on risks
- ✓ Pharmacovigilance and medical cannabis: learning as we go
- ✓ CFPC's Clinical Guidance Document for Family Physicians
- ✓ Talking to Patients about Cannabis for Therapeutic Purposes
- ✓ Using resources & having discussions with colleagues
- ✓ Canadian landscape update from Health Canada
- ✓ Cannabis Control Policy – Recent Issues and Developments
- ✓ Patient case interactive discussions

This continuing education event was held under the auspices of Continuing Professional Development, Faculty of Medicine, University of Toronto and the Canadian Consortium for the Investigation of Cannabinoids.



UNIVERSITY OF TORONTO  
FACULTY OF MEDICINE  
Continuing Professional Development

## FUNDING AWARD RECIPIENTS

### Research Support Award for Clinical/Social Science (\$5000)

Samantha Shiplo, MSc Student,  
University of Waterloo, Waterloo, Ontario

Samantha Shiplo is a MSc student in the School of Public Health and Health Systems at the University of Waterloo under the supervision of Dr. David Hammond. Samantha's research focuses on Canadian medical marijuana regulations. Her thesis aims to examine medical marijuana users' current trends regarding patterns of use and modes of delivery. The modes of delivery among medical users—whether marijuana is smoked, consumed, or vapourized—may have important implications for potential therapeutic efficacy as well as health risks. Although smoking remains the most common mode of delivery for marijuana, anecdotal evidence suggests that the use of alternative and innovative modes of delivery is on the rise. Overall, the study seeks to understand how and why current medical marijuana users select modes of delivery, forms of marijuana, and sources of obtaining marijuana with the potential to inform current and future marijuana policies.



Shiplo, S. (2015). Marijuana Use in Canada: Patterns of Use Among Medical Marijuana Users.

Support to the CCIC for the 2015 Clinical / Social Science Research Support award was received from CanniMed Ltd.





Jonathan Simone, PhD Student  
Brock University, St. Catherines, Ontario

The endogenous cannabinoid system is widely implicated in the regulation of emotional behaviours, and in particular, fear and anxiety behaviours. How the endogenous cannabinoid system regulates different types of fear (innate and conditioned), however, is not well known. Further, despite known sex-differences in the endogenous cannabinoid system and in the neural systems subserving fear, there is a paucity of knowledge regarding how the endogenous cannabinoid system regulates fear in females. My research aims to investigate how the endogenous cannabinoid system regulates innate and conditioned fear in both male and female rats. The findings from my research have the potential to lead to translational, therapeutic applications given the high prevalence of anxiety disorders, especially in females.



Simone, J. J., Malivoire, B. L., & McCormick, C. M. (2015). Effects of CB1 receptor agonism and antagonism on behavioral fear and physiological stress responses in adult intact, ovariectomized, and estradiol-replaced female rats. *Neuroscience*, 306, 123-137.

Simone, J. J., Green, M. R., Hodges, T. E., & McCormick, C. M. (2015). Differential effects of CB1 receptor agonism in behavioural tests of unconditioned and conditioned fear in adult male rats. *Behavioural brain research*, 279, 9-16.

# FUNDING AWARD RECIPIENTS

## Conference Support Awards (\$1500 each)

### **Ahmad, Tasha. Doctoral Student, University of Western Ontario**

Cannabinoid Transmission In The Basolateral Amygdala Bi-Directionally Controls The Motivational Properties Of Opiates Via Functional Excitatory Inputs To The Nucleus Accumbens Shell. Poster Presentation at the International Cannabinoid Research Society 2015, Wolfville, Nova Scotia, Canada.

### **Cairns, Elizabeth. Doctoral Student, Dalhousie University**

Actions of the Ago-PAM GAT211 and its Enantiomer GAT229 on Intraocular Pressure and Retinal Ganglion Cell Loss in the Nee Mouse Model of Ocular Hypertension. Presentation at the International Cannabinoid Research Society 2015, Wolfville, Nova Scotia, Canada.

### **Carroll, Chris. Master's Candidate, University of British Columbia**

Cannabis And Aggression: The Importance Of Cannabis Use Motives And Subtypes Of Aggression. Poster Presentation at the International Cannabinoid Research Society 2015, Wolfville, Nova Scotia, Canada.

### **Doenni, Vienna Maria. Doctoral Student, University of Calgary**

Early Life Inflammation With Lps Affects Endocannabinoid Mediated Social Behaviour In Adolescence. Presentation at the International Association for Cannabinoid Medicines (IACM) 8th Conference on Cannabinoids in Medicine, Sestri Levante, Italy.

### **Gray, Megan. Post-Doctoral Student, University of Calgary**

Corticotropin-Releasing Hormone Mediates Suppression Of Anandamide In The Medial Prefrontal Cortex And Amygdala. Poster Presentation at the Gordon Research Conferences: Cannabinoid Function in the CNS, Lucca (Barga), Italy.



**Morena, Maria. Post-Doctoral Student, University of Calgary**

Emotional Arousal-Dependent Activation Of The Endocannabinoid System Differentially Modulates Anxiety Behavior In Rats. Poster Presentation at the Gordon Research Conferences: Cannabinoid Function in the CNS, Lucca (Barga), Italy.

**Porter, Ross. Master's Student, Dalhousie University**

Using A Zebrafish Model To Screen The In-Vivo Cell-Specific Actions Of Cannabinoid 2 Receptor Ligands In Systemic Inflammation. Poster Presentation at the International Cannabinoid Research Society 2015, Wolfville, Nova Scotia, Canada.

**Sticht, Martin. Doctoral Student, University of Guelph**

2-Arachidonoylglycerol Mediates The Anti-Nausea Effects Of The Visceral Insular Cortex Endocannabinoid System In Rats. Oral Presentation at the International Cannabinoid Research Society 2015, Wolfville, Nova Scotia, Canada.

**Whyte, Lauren. Post-Doctoral Student, University of Toronto**

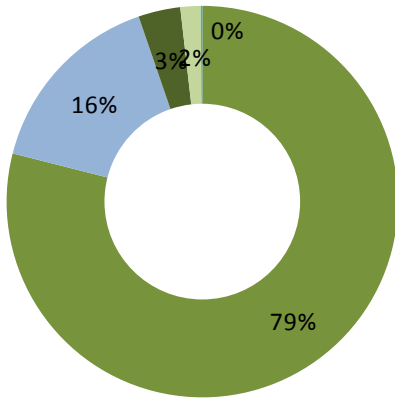
GPR55 Regulates Steroid Hormone Levels In Male Mice And Offers Protection Against Age Related Bone Loss. Oral Presentation at the International Cannabinoid Research Society 2015, Wolfville, Nova Scotia, Canada.  
Pharmacological Profiling Of Lysophosphatidylinositol Species And Gpr55 Antagonists Using Cellular Impedance Analysis. Poster Presentation at the International Cannabinoid Research Society 2015, Wolfville, Nova Scotia, Canada.

**Wills, Kiri. Doctoral Student, University of Guelph**

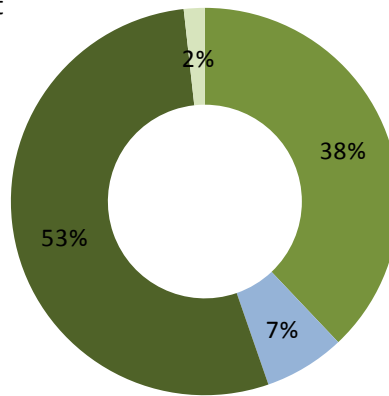
Inhibition Of Monoacylglycerol Lipase Systemically And In The Central Amygdala And Visceral Insular Cortex Prevents The Aversive Properties Of Acute Morphine Withdrawal In Rats. Poster Presentation at the International Cannabinoid Research Society 2015,



# FINANCIAL STATEMENTS



- Grants and Sponsorship
- Meeting Registrations
- Clinical Research Services
- Education Program Services
- Interest



- Administration
- Outreach, Marketing
- Educational Programs
- Other, Misc

## Revenue

Source	Amount	Percent
Grants and Sponsorship	\$396,580.00	79%
Meeting Registrations	\$79,172.00	16%
Clinical Research Services	\$17,445.00	3%
Education Program Services	\$8,405.00	2%
Interest	\$649.00	0%
<b>Total</b>	<b>\$502,251</b>	

## Expenditures

Source	Amount	Percent
Administration	\$195,125	38%
Outreach, Marketing	\$34,726	7%
Educational Programs	\$275,517	54%
Other, Misc	\$8,979	2%
<b>Total</b>	<b>\$514,347</b>	

## OFFICE

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## STAFF



Dr. Mark A. Ware

Executive Director



Linda Ferguson

Research Coordinator



Daniel Ziemianski

Education Coordinator

## ACKNOWLEDGEMENTS

The CCIC would like to thank the following organizations for their initiative specific support in 2015:

Aphira Inc.

Canadian Cannabis Clinics

Cannabinoid Medical Clinic

CannTrust

MedReleaf Corp.

Organigram Inc.

Tweed Inc.

Bedrocan Canada Ltd.

Canadian Medical Cannabis  
Industry Association

CanniMed Ltd.

MariCann Inc.

Mettrum Ltd.

Tilray

Vapormed GmbH & Co. KG



The CCIC would like to thank the Louise and Alan Edwards Foundation for a Knowledge Translation Educational Grant



Throughout 2015, the CCIC worked with numerous organizations; we would like to thank the following for their contributions to our ongoing success:

Research Institute of the McGill  
University Health Centre



McGill University, Continuing Professional Development



CHPE/FCPS

University of Toronto, Continuing Professional Development Faculty of Medicine



UNIVERSITY OF TORONTO  
FACULTY OF MEDICINE  
Continuing Professional Development

International Cannabinoid Research Society



Quebec Pain Research Network

Drache Aptowitzer LLP

Samson Belair Deloitte & Touche



