



Canadian Consortium for the Investigation of Cannabinoids
Consortium Canadien pour l'Investigation des Cannabinoïdes

Annual Report | 2012

Cannabinoid research and education: Expanding the horizons



Message from the Executive Director

Dear colleagues

Looking back over 2012, it is clear that the CCIC has continued to build successfully on its mandate to promote cannabinoid research and education. To put this in a Canadian context, Health Canada has continued to develop and implement new medical cannabis regulations, and several CCIC members played important roles on the Expert Advisory Committee related to this regulatory change. The activities of the CCIC have extended over the border to the USA where the need for medical cannabinoid education is as critical as it is in Canada, with increasing numbers of states voting to develop medical marijuana programs. In Uruguay, the USA and in Canada, society is now flirting with the idea of legalizing cannabis altogether. The aims and mission of the CCIC remain as relevant as ever, if not even more so, given these tectonic shifts in policy on a global level.

The CCIC is only as good as its members who, as the 2012 report shows, are actively engaged in basic science research, clinical studies, knowledge transfer and policy building. We are governed by a strong and engaged Board of Directors, and I wish to thank Matt Hill our President and the other Executive members for their input at meetings and rapid feedback to the issues that arise all too frequently that require a response.

Looking forward, the CCIC anticipates having to respond to a tremendous appetite for more education, development of population-based research initiatives, and the engagement of a new industry of licensed cannabis producers under the new Marijuana for Medical Purposes Regulations here as well as in other regulatory environments abroad. The CCIC continues to strive to promote a balanced view of the scientific mechanisms and medical utility of cannabinoids, recognizing known risks and emerging benefits, and increasing realizing a responsibility to ensure that the public is fairly educated on cannabis issues at large. Monitoring the changing perspectives on cannabis and promoting a balanced discourse does not equate with endorsement of the drug, however; addressing abuses and health effects of cannabis use by adolescents, as well as abuses of the regulatory framework by organized crime and even by our own well-intentioned but misguided physicians, are equally important if difficult tasks we must face up to.

I invite the membership of the CCIC to engage, as always, in shaping the work we do and the world we live in. It is a privilege to work for the CCIC and I look forward to some very interesting times ahead!

Respectfully,



Dr Mark A. Ware
Executive Director, CCIC

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Mark Ware

Funding Competition Sub-Committee

Matthew Hill
Linda Parker
Mark Ware

Mission statement

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.

Organization

History

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.

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.



Dr. Mary Lynch (left) and Dr. Mark Ware (right) at the Cannabinoids and Pain 2012 Meeting

Outreach

In 2012 the CCIC continued to engage the healthcare community either through workshops, poster presentations or presence at the following conferences:

- Patients out of Time, April 26-28, 2012, Tucson, AZ, USA
- Canadian Pain Society, May 23-26, 2012, Whistler, BC, Canada
- 14th World Congress on Pain, Aug 27 - 31, 2012, Milan, Italy
- Family Medicine Forum, Nov 15-17, 2012, Toronto, ON, Canada



Linda Ferguson (left) and Mark Ware (right) at the Canadian Pain Society 2012 Annual Meeting

Symposium

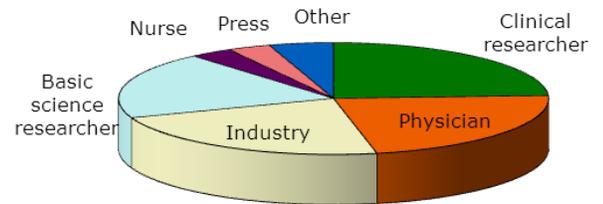
Cannabinoids and Pain 2012

The state of the art, the state of the science
Official Satellite Symposium of the 14th World Congress on Pain



The CCIC hosted a one-day Official Satellite Symposium of the 14th World Congress on Pain, the bi-annual conference of the International Association for the Study of Pain. Our event took place at the Melia Milano Hotel, Milan, Italy on Saturday August 28, 2012.

Participant Occupations



This event attracted 62 participants from 13 countries and a range of interests in cannabinoids in pain. This event featured world renowned expert speakers from Canada, the UK, Italy, and the Netherlands presenting up-to-date research and information on cannabinoids in pain from basic science, clinical and industry perspectives.

This was our first educational event held in Europe, and it was an update on the recent research following the success of the Cannabinoids and Pain Symposium, Official Satellite Symposium of the 13th World Congress on Pain in Montreal, August 2010.

To build upon this success, the CCIC will continue exploring ways to connect with the Canadian and international pain research community. We aim to continue showcasing emerging cannabinoid research combined with clinically focused topics and industry updates in future initiatives. We would like to thank the International Association for the Study of Pain (IASP) for this opportunity. We would also like to thank the participants, moderators, and presenters for their time and commitment to cannabinoid research and education.



Dr. Mark Ware moderates the industry panel discussion (left) and Dr. Paul Daeninck (right) presents at the Cannabinoids and Pain 2012 Meeting.

Education

The CCIC continued its commitment to engaging health care practitioners regarding therapeutic issues surrounding cannabinoids and the endocannabinoid system. In addition to maintaining our on-line resources, two Continuing Medical Education events were conducted in 2012 as part of our Accredited Cannabinoid Education initiative.

Cannabinoids in Medicine: A Primer for Healthcare Professionals

The first CME event took place in San Francisco, California at the University of California, San Francisco Laurel Heights Auditorium on October 24, 2014. This event attracted 130 attendees. The second event was held in Santa Monica, California at the Shutters on the Beach Hotel, on October 25, 2012. This event attracted 43 attendees.

These were jointly sponsored activities by the University of California, San Francisco and the CCIC. They were developed in conjunction with the Society of Cannabis Clinicians.

The objective was to present a balanced and expert overview on the clinical use of cannabinoids to an engaged audience of healthcare practitioners in mainstream hospital-clinical settings. The lectures focused on the clinical and practical therapeutic potential of cannabinoids and the endocannabinoid system.

We would like to thank our renowned speakers and steering committee members: Donald Abrams, Igor Grant, Jeffrey Hergenrather, Mary Lynn Mathre, Stephen Sidney, Donald Tashkin, and Mark Ware for their contributions towards the success of these events.



Cannabis in Medicine presenters, Dr. Jeffrey Hergenrather in San Francisco (above), and Dr. Don Tashkin in Santa Monica (below).

Funding Competition

The third annual CCIC Funding Competition awarded \$10 000.00 divided among six trainee members to support their cannabinoid research efforts. CCIC trainee members conducting basic science research on cannabinoids were eligible for this year's competition. We would like to thank all those who applied and acknowledge our 2012 recipients.

The Graduate Student Summer Research Support award provided \$5000.00 to encourage and support basic science cannabinoid research. This award is intended to support a graduate student for their summer term in pursuing basic science cannabinoid research. The Trainee Conference Support awards provided \$1000.00 to support five graduate students or post-doctoral researchers for their presentation of an abstract at a national or international conference.

Graduate Student Summer Research Support Award Recipient

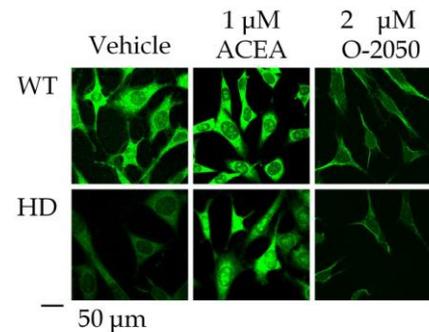
Robert Brad Laprairie

PhD student in the Department of Pharmacology at Dalhousie University

The Mechanism and Implications of Cannabinoid Agonist-Mediated Type 1 Cannabinoid Receptor Induction

The cannabinoid receptor (CB1) is expressed at highest levels in the striatum, compared to other sites in the central nervous system. Activation of CB1 inhibits dependent neurotransmitter release and increases expression of pro-survival genes. Treatment of non-neuronal cells with cannabinoids increases CB1 mRNA levels. Huntington's disease (HD) neurodegenerative disorder characterized by cognitive behavioural, and motor control deficits. HD is caused by expression of one copy of the huntingtin gene containing expanded CAG repeat, which codes for mutant huntingtin protein (mHtt). mHtt causes specific transcriptional dysregulation, ATP deficit, and eventual cell death. CB1

mRNA levels are lower in human HD patients relative to controls, and in the striatum of adult HD mice relative to age-matched wild-type controls, prior to other pathogenic changes. We hypothesized that cannabinoid treatment could increase CB1 levels and improve cellular viability in a cell culture model of HD. We found that CB1 mRNA and protein levels were increased in a cell culture model of HD following treatment with several cannabinoids. This increase was cannabinoid dose dependent and mediated by activated CB1 receptors signalling through Akt and NF- κ B. CB1 levels were increased in mHtt-expressing cells, but this induction was attenuated in the presence of mHtt. Treatment of HD cells with cannabinoids improved cell viability, increased cellular ATP production, and increased cellular viability. Cannabinoid treatment may represent a viable means of improving cellular health in HD. We are currently exploring cannabinoid mediated changes in CB1 expression



CB₁ protein levels are decreased in Huntington's disease (HD) striatal neurons relative to wild-type (WT) neurons. CB₁ levels are induced following treatment with the CB₁ agonist ACEA. This induction is blocked by treatment with the CB₁ antagonist O-2050.

Funding Competition continued

Trainee Conference Support Award Recipients

Bashashati Mohammad, University of Calgary

The Localization and Function Of Diacylglycerol Lipase (Dagl) in The Gastrointestinal Tract

Presented at: the International Cannabinoid Research Symposium (ICRS) 2012

Martin Sticht, University of Guelph

The Role of Intravisceral Insular Cortex 2ag in Conditioned Nausea Behavior in Rats

Presented at: the International Cannabinoid Research Symposium (ICRS) 2012

Ryan McLaughlin, University of British Columbia / McGill University

CRH Mediates the Effect of Glucocorticoids on Endocannabinoid Signaling in the Amygdala

Presented at: the International Cannabinoid Research Symposium (ICRS) 2012

Gabrielle Willems, Wilfrid Laurier University

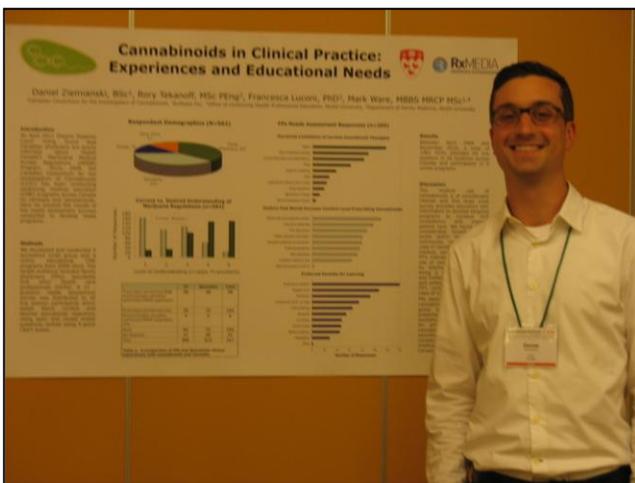
C-Fos Immunoreactivity in the Rat Brain Following the Reinstatement of Extinguished Morphine Preference by a Priming Dose of Delta-tetrahydrocannabinol (THC) in Animals Perinatally Exposed to THC

Presented at : Society for Neuroscience's Neuroscience 2012

Julie Desroches, Université de Montréal

Involvement of the Cannabinoid System in the Peripheral and Spinal Antinociceptive Effects of Morphine

Presented at: Cannabinoids and Pain 2012: Official Satellite Symposium of the 14th WCP and the 14th World Congress on Pain



Daniel Ziemianski presents a research poster (left) and Julie Desroches discusses her poster with Dr. Mary Lynch and Dr. Pierre Beaulieu (right), both at the Cannabinoids and Pain 2012.

Research

The CCIC is committed to the advancement of basic and clinical research on the endocannabinoid system and therapeutic applications of cannabinoids. Our ongoing commitment to research included in 2012 the following initiatives:

Cannabis in Medicine: A National Needs Assessment for Canadian Physicians

The CCIC is actively engaged in research in continuing medical education. In parallel with the ongoing Accredited Cannabinoid Education (ACE) initiatives we are working to identify, quantify and understand the attitudes, experiences and educational needs of healthcare professionals surrounding the use of cannabis for therapeutic purposes. To build upon surveys conducted with the ACE event attendees CCIC staff collaborated with researchers from McGill University, Office of Continuing Health Professional Education, the University of British Columbia Division of Continuing Professional Development, and the Université du Québec en Abitibi-Témiscamingue to develop and conduct a national needs assessment for Canadian healthcare professionals focused on Canadian Physicians.

Results are currently being analyzed with the aim of submitting for publication in 2013. Results of this survey were used to inform the content development for 2013 educational events. We aim to build upon this initiative by expanding the scope beyond physicians into the allied healthcare professional community.

The CCIC supported the following ongoing research projects

A Scoping Study to Determine the Current State of Knowledge on the Outcomes of Cannabinoid Use for Medicinal Purposes – Measures of Functionality.

James Henry, PhD, Department of Psychiatry and Behavioural Neuroscience, McMaster University, Hamilton Canada

Questionnaire on patterns of cannabis/marijuana use among persons admitted to a Palliative Care Program.

Paul Daeninck, MD, FRCPC, MSc, Faculty of Medicine, University of Manitoba, Winnipeg Canada

The CCIC received support for the following ongoing research project

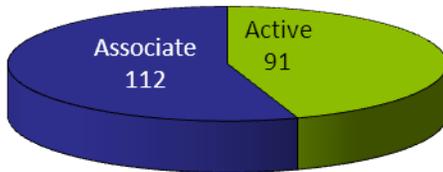
Cannabinoids and sleep architecture (CASA): a pilot study of the effects of nabilone on sleep.

Mark Ware, MBBS MRCP MSc, Canadian Consortium for the Investigation of Cannabinoids

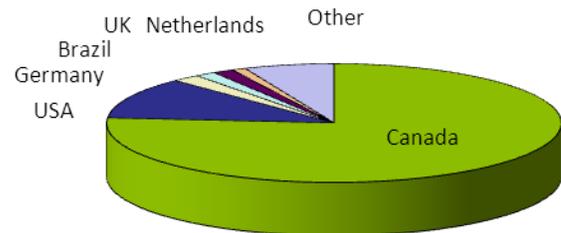
Membership

The CCIC welcomed 11 new Active and 21 new Associate members in 2012, bringing our total number of members to 203. Some characteristics of our members are shown below:

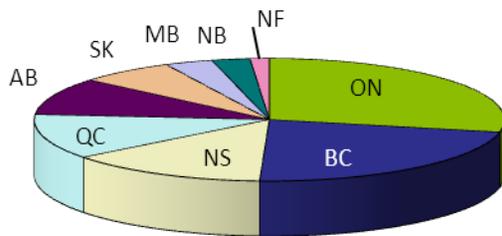
Consortium Members



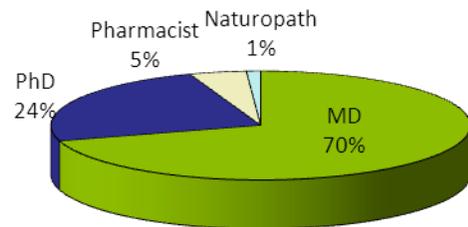
Member Countries



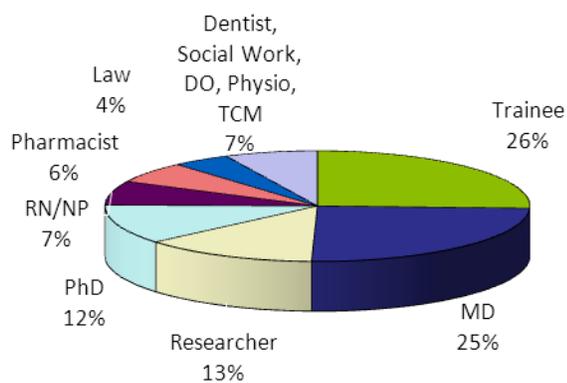
Canadian Member Provinces



Active Member Professions

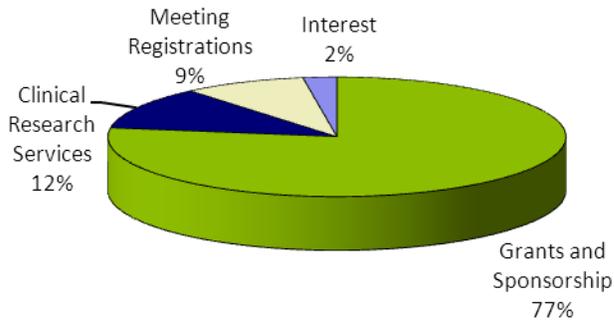


Associate Member Professions



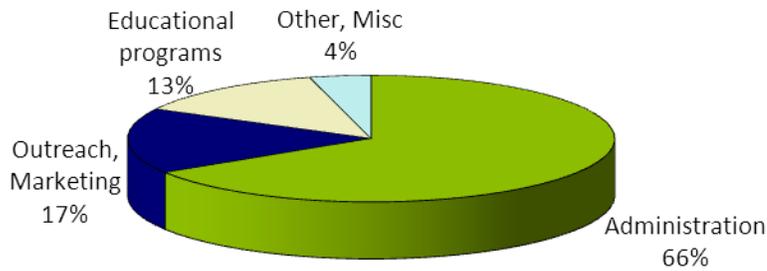
Financial Statements

2012 Revenue



Revenue		
Grants and Sponsorship	\$154,939.00	77%
Clinical Research Services	\$23,220.00	12%
Meeting Registrations	\$17,404.00	9%
Interest	\$4,769.00	2%
Educational Poster	\$644.00	0%
	\$200,976	

2012 Expenses



Expenditures		
Administration	\$171,161	66%
Outreach, Marketing	\$43,351	17%
Educational programs	\$34,278	13%
Other, Miscellaneous	\$10,551	4%
	\$259,341	

CCIC Executive Team

Dr. Mark Ware
Executive Director

Marc Wayne
Director of Business Development

Linda Ferguson
Research Coordinator

Daniel Ziemianski
Education Coordinator

Tanya Blasbalg
US Education Liaison



From left to right, Linda Ferguson, Mark Ware, Daniel Ziemianski and Mark Wayne.

Tanya Blasbalg joined the CCIC team in 2012. Tanya earned her graduate degree in human nutrition and biochemistry at the medical school of Columbia University. She spent two years as a fellow at the National Institutes of Health, where she managed a comprehensive clinical trial and served as a medical writer or editor on more than a dozen papers for peer-reviewed journals. She has eight years of experience in medical education as a scientific director, medical writer/editor, and subject matter expert. She has worked in both promotional and CME arenas writing training modules, educational websites, white papers, executive summaries, and competitive analyses. She hopes to use the skills she has developed in traditional medical education towards continuing the CCIC's balanced, evidence-based approach and expanding our educational initiatives for healthcare professionals in the United States.



Partners and Collaborators

Throughout 2012, the CCIC worked with numerous organizations. They include the University of California San Francisco Office of Continuing Medical Education, the International Association for the Study of Pain, the Society of Cannabis Clinicians, the International Cannabinoid Research Society, the Quebec Pain Research Network, Carters Professional Corporation, Samson Belair Deloitte & Touche Inc. We thank them all for their contributions to our ongoing success.

Acknowledgements

The CCIC would like to thank, with special recognition, the following organizations for their support or collaboration in 2012:



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



University of California
San Francisco

advancing health worldwide™



SOCIETY OF CANNABIS CLINICIANS



Acknowledgements continued

The CCIC would also like to thank the following organizations for their initiative specific support in 2012:





Canadian Consortium for the Investigation of Cannabinoids
Consortium Canadien Pour l'Investigation des Cannabinoïdes

Offices:

3777 Cote-des-Neiges, Suite 208
Montreal, QC, Canada
H3H 1V8
Tel: 514-934-1934 ext 44362

26 Westwood Drive
Pointe-Claire, QC, Canada
H9S 4Y5
Tel: 514-695-6333

Email: info@ccic.net

Web: www.ccic.net