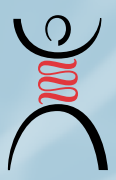
Crohn's and Colitis Foundation of Canada

Annual Report 2006–2007

Creating our Future

Celebrating our Present

Honouring our Past



Crohn's and Colitis
Foundation of Canada

Fondation canadienne des
maladies inflammatoires
de l'intestin

THE CROHN'S AND COLITIS FOUNDATION OF CANADA

The CCFC is a charitable foundation dedicated to raising funds that will support medical research into Crohn's disease and ulcerative colitis. As one of the world leaders in non-governmental, per capita funding of inflammatory bowel disease (IBD) research, the CCFC is committed to revolutionizing the research agenda in its mission to "Find the Cure".

Crohn's and Colitis Foundation of Canada

Fondation canadienne des maladies inflammatoires de l'intestin

CCFC National Board of Directors 2006 – 2007

MISSION: FIND THE CURE.

VISION

The Crohn's and Colitis Foundation of Canada (CCFC) believes that a cure will be found for Crohn's disease and ulcerative colitis. To realize this, the CCFC is committed, first and foremost, to raise increasing funds for medical research.

The CCFC also believes it is important to make all individuals with inflammatory bowel disease (IBD) aware of the Foundation, and educate these individuals, their families, health professionals and the general public about these diseases.

VALUES

In undertaking this vision, the CCFC believes:

- The greatest proportion of funds raised must be allocated to research;
- Collaboration with the medical community is imperative;
- Goals must be set and met throughout the organization;
- Participation by volunteers is crucial to our success;
- The success of the Foundation rests on the mutual respect of staff and volunteers;
- The national nature of the Foundation must be respected;
- All volunteers, members, supporters and employees have a right to contribute in an environment that asserts the personal worth and dignity of each individual.

MESSAGE FROM THE NATIONAL PRESIDENT

PAST, PRESENT AND FUTURE

Randy Sabourin,
National President

The theme of this year's Annual Report is particularly apt: Honouring our Past, Celebrating our Present and Creating our Future.

Honouring our Past means acknowledging the many contributions of our past National Executive Director, Michael J. Howorth. Renowned for his determination to find the cure for inflammatory bowel disease, Michael's 12 years of service placed the CCFC on the solid financial footing that enabled the creation of the CCFC Inflammatory Bowel Disease Research Institute (IBDRI). His death in November 2006 left a big void in the organization, but his spirit lives on as an inspiration to all of us.

In terms of **Celebrating our Present**, I wish to thank the Board and staff of the CCFC for rising to the challenge of a difficult year. Despite Michael's passing, the CCFC again increased its annual fundraising for, and funding of, top-notch, peer-reviewed IBD research. I salute the Board Directors who worked closely with me during the transitional period and specifically the CCFC staff that assumed much of the extra work load.

The Executive Council of the CCFC IBDRI and the many researchers funded by the CCFC also deserve kudos – accomplishments ranged from the discovery of a gene associated with ulcerative colitis to the launch of the GEM Study, which is intended to look at the genetic, environmental, and microbial underpinnings of Crohn's Disease.

Most of all I wish to thank the chapters, volunteers, donors, sponsors, and members of the CCFC. It is through your generous and ongoing support that we get ever closer to finding the cure for IBD. The CCFC currently funds, directly or indirectly via partnerships, more than 80 world-class researchers, and is, to the best of our knowledge, the number one per capita non-governmental funder of IBD research anywhere in the world.

And now for **Creating our Future**. I am very pleased to welcome Dr. Kevin Glasgow to the CCFC family. Kevin started as our new National Executive Director in late June 2007. His extensive healthcare and research leadership experience will help our organization achieve even greater heights of success in the upcoming months and years.

Concurrent with strengthening the staff, volunteer, donor, sponsor, and research bases of the CCFC, the Board of Directors will move forward with enhancing its governance activities over the course of the upcoming year. I know that when I step down as National President at the October 2007 AGM I will be leaving the CCFC in excellent hands.

It has been my privilege to serve as National President for the past two years, and I look forward to continuing to serve as Past President for 2007/08 and in other capacities for years to come.

Randy Sabourin
National President

Kevin W. Glasgow, MD
National Executive Director

MESSAGE FROM THE NATIONAL EXECUTIVE DIRECTOR

REVOLUTIONIZING RESEARCH

As the new NED, I am looking forward to building on the CCFC's considerable achievements to date. It's not every day that one has the opportunity to join a non-profit organization that has truly revolutionized a research agenda. The CCFC has done just that – it has established Canada as an IBD research leader and greatly strengthened national research capacity in the gastrointestinal field. And we are increasing our impact on the international stage, with the advent of the International Visiting Scientist Program and our recent co-sponsorship of the symposium "Assessing Environmental Risk Factors Affecting the Inflammatory Bowel Diseases" with the Crohn's and Colitis Foundation of America.

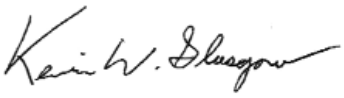
Domestic and international research partnerships are an important way of achieving maximal impact for each precious donated CCFC dollar. Building on existing partnerships with the Canadian Association of Gastroenterology and Canadian Institutes of Health Research, we will actively seek out new partnerships with government, industry, and other medical research foundations. The quest for the cure involves multiple stakeholders and is global in scope.

Along the path to achieving the cure, IBD research fosters improvements in treatment for Crohn's disease and ulcerative colitis. This is directly relevant to persons currently afflicted with IBD and the CCFC will increasingly seek ways to raise awareness of the importance of research – for today, as well as for tomorrow.

In the year ahead, the CCFC will position itself for further growth by strengthening capacity in communications and marketing, fundraising and development, scientific liaison and chapter/regional support

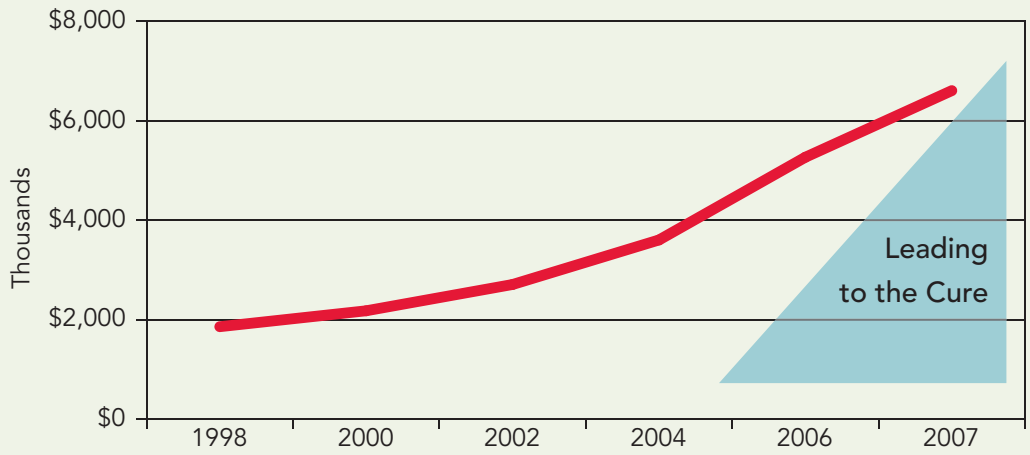
I wish to thank the Board of Directors for giving me this opportunity to serve the nearly 200,000 Canadians afflicted with IBD, and by extension their family, friends, and colleagues. I look forward to working with our great volunteers, sponsors, donors, and researchers and of course the CCFC staff across Canada who are the "engine" that keep this successful organization running smoothly.

Together, we will find the cure and make IBD history.



Kevin W. Glasgow, MD
National Executive Director

CCFC RESEARCH INVESTMENTS



REPORT FROM THE CHAIR OF THE IBD RESEARCH INSTITUTE

PURSUING THE CURE FOR IBD

Dr. Ken Croitoru
Chair IBD Research Institute

The funding provided by the Crohn's and Colitis Foundation of Canada (CCFC) remains the cornerstone of inflammatory bowel disease (IBD) research in this country. Along with many other partners, CCFC sponsored research continues to support world leaders in pursuing the cure of IBD.

The strength of IBD research is certainly on a major upswing and Canada is at the forefront of this effort. Looking toward the year ahead we at the CCFC IBD Research Institute will be looking at continuing to push our current research efforts to successful completion while exploring opportunities to develop new initiatives."

I am very pleased to report on some of the research highlights from the 2006 – 2007 year.

GRANT IN AID AWARDS

The Grant in Aid program continues to attract some of the best and brightest researchers across this country and encourages them to focus their efforts on IBD. In 2006, 22 applications were received and 13 were awarded. In keeping with the increasing interest in IBD research, the 2007 competition evaluated 32 applications and recommended 19 for funding.

OTHER RESEARCH AWARDS

Over and above the $5 million in support for the GIA's, CCFC also awarded 4 Innovations Grants and 4 Research Scientist Grants. In addition the CCFC awarded 5 Fellowship grants co-funded with the Canadian Association of Gastroenterology and CIHR and 11 new CCFC/CAG Student Scholarships Awards.

VISITING SCIENTIST PROGRAM

Under the auspices of the Visiting Scientist Program, Dr. Martin Storr, an internationally recognized scientist, arrived in Canada on July 1, 2006 to work with Dr. Keith Sharkey at the University of Calgary. Their collaboration resulted in enhanced understanding of IBD and in particular, the beneficial actions of cannabinoids in the treatment of IBD.

GEM PROJECT

2007 also marked the official launch of the multiyear GEM project, intended to examine the Genetic, Environmental and Microbial underpinnings of Crohn's disease. After review of the grant proposal by an international scientific review committee chaired by Dr. Cliff Ottaway and including international IBD experts, the CCFC awarded $5.5 million over six years, to the GEM project team in March. Since then the project team has been busy organizing the infrastructure with the goal toward recruiting study subjects in early 2008.

ABSTRACTS AND PRESENTATIONS

In the 2006 –2007 year, two major research breakthroughs were reported in the media. CCFC co-funded researchers discovered important genetic links relating to ulcerative colitis and Crohn's Disease.

In addition, Canadian researchers were well represented at the annual Digestive Disease Week held in Washington, with over 103 abstracts from CCFC funded researchers and many more oral presentations during the week's events.

RESEARCH INVESTMENTS

Results of this magnitude have taken great effort and require ongoing support. In 1997 CCFC funding exceeded $1 million dollars; in the 2006 – 2007 fiscal year, the CCFC awarded over $6.6 million in research. This phenomenal growth in funding positions the CCFC amongst the highest non-governmental per capita funders in IBD research *in the world*.

This kind of commitment is surely a cause for celebration of past efforts, present investments and future successes!

Dr. Ken Croitoru,
Chair CCFC IBD Research Institute

FINDING THE CURE – GRANTS IN AID OF RESEARCH

Grants in Aid (GIA) of research are made annually after careful scrutiny by an expert Grants Review Committee. GIA's support scientists over a maximum of three years and $150,000 per year, allowing them to concentrate on their research rather than worrying about funds to support their work.

The reports that follow have been submitted by researchers who summarize the work that they have accomplished from 2004 to 2007. Canada is home to some of the world leaders in IBD research. Funding from the CCFC - provided by you - our donors and sponsors, has helped to make this possible.

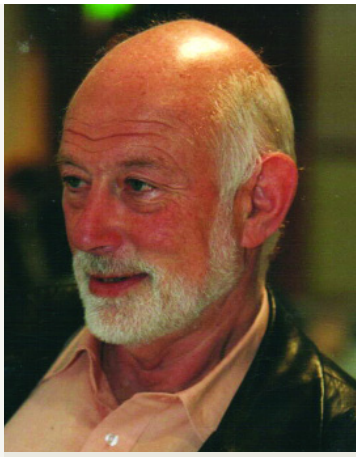
Dr. Kevan Jacobson, University of British Columbia

RESPONSE OF NEURO-ENDOCRINE CELLS TO INTESTINAL INFLAMMATION

Inflammatory bowel disease is a chronic recurrent intestinal inflammatory disorder that in adults has been associated with changes in the nervous system of the intestine. These changes likely lead to alteration in communication between nerves and cells such as those found in smooth muscle and blood vessels, immune cells and intestinal lining cells (epithelial cells). Such alterations in communication may lead to symptoms such as abdominal pain, cramps and diarrhea, or may exacerbate the intestinal inflammatory disease.

In colonic tissue sections from animal models of acute colitis, we have demonstrated rapid and significant loss on intestinal nerves associated with alteration in the propulsive function of the colon. Additionally, examination of colonic sections taken from children with Crohn's disease revealed that communication proteins called neuropeptides, including vasoactive intestinal peptide (VIP) and neuronal nitric oxide synthase (nNOS), were altered and increased in areas of colonic inflammation. Marked bowel wall thickening secondary to a marked increase in circular muscle thickness was also evident in association with the increases in VIP and nNOS containing nerves. Interestingly, we observed that the staining pattern of VIP and nNOS within intestinal nerves was somewhat different to that described in adult patients with IBD suggesting potential differences in nerve response in children and adult patients with IBD. The changes observed in animal models and children with IBD likely contribute to symptoms and may well play a role in perpetuating the inflammatory process. In this regard, we have also demonstrated that the nervous system that communicates between the brain and the gut modulates the intestinal inflammatory process during stress.

As well in our studies of animal models of infectious colitis, we have shown that the administration of VIP reduced the severity of the colitis. In addition to the well-known effect of VIP on the intestinal inflammatory process, we have observed that VIP attenuated the effects of the bacteria on intestinal epithelial cells, reducing damage, reducing leakiness of the intestine and preventing the bacteria from interacting with intestinal immune cells. Furthermore we have observed similar positive effects with the probiotic *Saccharamyces Boulardii*, which reduces the attachment of the bacteria to the intestinal lining cells. Further studies are underway to better understand the potential therapeutic benefits of VIP and *Saccharamyces Boulardii* in animal models of IBD.



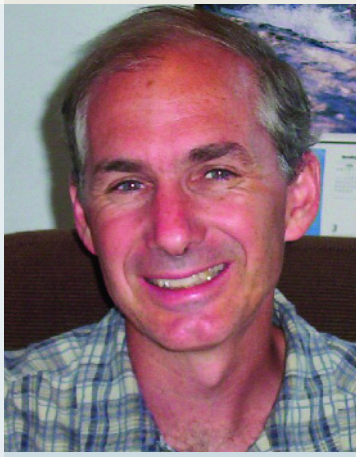
Dr. John Bienenstock, McMaster University

THE EFFECT OF NERVE GROWTH FACTOR AND PROBIOTICS

We originally proposed to assess the potential role of a molecule which promotes the growth of nerves in a model of colitis in mice. In addition we wished to test the effect of oral probiotics in this system. We have used both acute and chronic models of the administration of dextran sulphate in drinking water to mice. Initial experiments tried to assess the actual levels of nerve growth factor (NGF) in the tissues, but as others have reported, this proved to be extremely inconsistent. We therefore moved to insert the gene responsible for NGF into a bacterium which itself causes no damage to the host. We chose Lactococcus since this has been bioengineered before to make IL-10 (a down-regulatory anti-inflammatory molecule), has been successfully used in experimental models of colitis and is now being tested in humans. We have shown that NGF is synthesized and secreted by this bacterium in a major collaboration with Dr. L. Steidler, of the University of Cork, Ireland. We tested the organism in both acute and chronic colitis at a dosage known to work for the IL-10 and other delivery systems.

The end result of these studies has unfortunately completely failed to support the thesis that NGF delivered at close quarters to an inflamed colon was able to influence any of the immune and inflammatory parameters. We also tested the effect of a probiotic bacterium, L. *reuteri* on both of these models of colitis and were able to show pronounced inhibition of inflammation and inflammatory biomarker synthesis. This was not accompanied by up regulation of NGF.

The support of the Foundation has been greatly appreciated and we have derived a lot of information in spite of the fact that our high-risk project did not yield results that would have allowed us to translate them to the human condition. However, the experiments with probiotics were very successful and are interesting enough to be submitted for publication in the form of three papers.



Dr. Stephen Vanner, Queen's University

NOVEL PAIN MECHANISMS IN IBD

Abdominal pain can be one of the most debilitating symptoms of inflammatory bowel disease. Most of the available drugs for the treatment of pain have unwanted side effects such as drowsiness, impaired thinking and memory, and in some cases can even worsen the illness. My research program is designed to better understand the mechanisms which cause pain and to discover new targets which can better treat the pain and avoid the unwanted side effects of traditional medicines. In the past year we have studied a novel family of receptors found only on the pain sensing neurons, the TRP receptors. With our collaborators in the United States, we have shown that TRPV1 and TRPV4 are sensitized by inflammatory mediators and that this significantly lowers pain thresholds in the intestine. We also studied a novel type of inflammatory mediator found in mast cells, called proteases. We discovered that these mediators activated receptors on pain-sensing neurons in the gut and that this activation led to sustained excitability of these neurons. In molecular studies, we used sophisticated laser techniques to isolate individual pain sensing neurons from the inflamed intestine and quantitative molecular techniques to determine whether intestinal inflammation causes ion channels underlying the increased neuron excitability to increase in number or modifies the existing channels. We found that the sodium channel Nav 1.8 increases in number after established inflammation. Together, these studies describe several promising new targets to be considered for treating pain in IBD.

Dr. Mark Ropeleski, Queen's University

CELLULAR PROTECTION BY INTERLEUKIN-11

Interleukin-11(IL-11) is a secreted protein which protects the bowel lining and is a proposed therapy for IBD which is poorly understood. The first layer of the bowel lining is made up of intestinal epithelial cells. These epithelial cells carry out an important defensive barrier function and play a pivotal role in healing. We have addressed the topic of IL-11-mediated intestinal epithelial cellular protection from various standpoints. Our research team has developed a greater understanding of the intestinal epithelial genes, proteins and signaling pathways that are induced by IL-11 in the cells that line the intestines. We have learned how IL-11 activation of signaling pathways conveys increased protection to epithelial cells which line the bowel wall during periods of cellular stress such as is the case in IBD.

Significant inroads have been made into broadening our understanding of how IL-11 blocks the process of apoptosis which causes intestinal epithelial cells to die and weaken the intestinal epithelial barrier. We have identified novel anti-apoptotic (anti-cell death) effects of IL-11 in cell cultures and are currently determining whether similar effects occur in the DSS model of colitis as well as other models of intestinal inflammation which are well known to involve early epithelial injury and damage.

Findings are that IL-11 reduces DSS colitis and we are actively trying to find out how this occurs. The important findings of direct effects of IL-11 on cell death induced by agents such as Fas Ligand (which may be relevant to the pathogenesis and breakdown of the epithelial bowel lining in ulcerative colitis) has set the stage for ongoing work examining how IL-11 protects against the toxic effects of activated immune cells on the epithelial lining. This may involve the specific and paradoxical modulation of regulators of genes known as transcription factors such as NF-kB, as well as the induction of important proteins which block intestinal epithelial cell death during intestinal inflammation.

Dr. Katherine Siminovitch, Mount Sinai Hospital

FUNCTIONAL ROLES OF THE CARD15 PROTEIN

Our research program is aimed at defining the genetic basis of inflammatory bowel disease (IBD) and the molecular steps that link genetic predisposition to expression of disease. One of the genes now known to be involved in Crohn's disease (CD) codes for a protein known as CARD15. The CARD15 protein is present in various types of blood cells and plays an important role in allowing these cells to regulate the host response to bacteria. Many patients with CD express an atypical or variant form of CARD15, but the mechanisms whereby this abnormality predisposes to CD are not well understood. To address this issue and define the molecular pathways leading to CD, we used several strategies to screen for new binding partners to CARD15. We have now identified one such protein, a so-called "adaptor" protein that, like CARD15, is expressed in blood cells. We have shown that this adaptor binds both CARD15 and a protein expressed on the cell surface. These interactions appear to allow CARD15 to move to the cell surface so that it can recognize and bind bacterial components. Our data suggest that this

Dr. W. Ford Doolittle, Dalhousie University

ARCHAEAL MICROBIOTA IN IBD

Our study compared the microbial communities in intestinal biopsies of healthy individuals and IBD patients, using a DNA based approach, to determine whether there are differences that could be correlated with disease. We examined two microbial domains – Archaea and Bacteria, in Crohn's disease as well as ulcerative colitis patients.

It was previously hypothesized that archaea may play a role in IBD. However we could not detect presence of archaea in any of the IBD patients and they were only present in one non-inflamed control biopsy. It therefore appears that although they are known to be found in some individuals, methanogenic archaea were either absent from or unable to adhere to the tissues of all our research volunteers, both healthy and with IBD. This means that while a possible protective role for archaea in maintaining intestinal health cannot be rejected, their involvement as causative agents of mucosal inflammation in IBD appears unlikely.

Our survey of bacteria indicated that while ulcerative colitis patients seem to exhibit a bacterial flora broadly similar to healthy individuals, Crohn's disease patients had a significant decrease in members of the bacterial phylum (group) Firmicutes. It appears that at least some Crohn's disease patients have an inherent deficiency in firmicutes, which is probably not a by-product of inflammation, since it was observed in non-inflamed as well as inflamed tissues. Many species recovered in this study, as well as other members of the firmicutes can ferment dietary carbohydrates to butyric acid. This short chain fatty acid is known to possess potent anti-inflammatory properties. Thus, a deficiency in firmicutes could predispose some individuals to subsequent intestinal inflammation. Whether this alteration in flora is the result of host genotype, environmental factors (such as nutrition) or both, requires further investigation.

The fact that tissue-associated flora of ulcerative colitis patients is broadly similar to that of healthy individuals, and significantly different from that of Crohn's disease patients may indicate that beyond its obvious role in fuelling inflammation, the commensal flora has a profoundly different role in the etiology of these diseases. Furthermore, since the differences in microflora between Crohn's disease and ulcerative colitis appear relatively large and well defined, this study should be followed by microbiota analyses of a large group of patients to establish their generality in multiple ethnic backgrounds, and nutritional regimes. These differences could be used in the future to diagnose cases of indeterminate colitis and perhaps even identify people with potential Crohn's disease susceptibility before they become symptomatic.

pathway is impaired in the presence of the abnormal CARD15 protein expressed by many CD patients. Thus the changes in the CARD15 protein found in CD may impair CARD15 function by disrupting CARD15 capacity to move to the cell membrane and bind various microbes. In addition, our data suggest that the pathway regulating CARD15 movement to the cell membrane intersects with another pathway implicated in CD, a pathway triggered by a membrane protein known as OCTN1. Studies are now underway in our lab to establish the mechanisms whereby intersection of the CARD15 and OCTN1 pathways influence CARD15 and global cell function. Using newly awarded funds from the CCFC, our group is now also studying several other potential CARD15 binding proteins to further identify the mechanisms whereby expression of CARD15 variants confers risk for CD. These data will not only improve understanding of the cause(s) of CD, but will also define new molecular pathways of potential relevance to therapy of CD.

Dr. Bruce Vallance, University of British Columbia

MECHANISMS OF INTESTINAL SUSCEPTIBILITY TO BACTERIAL PATHOGENS

IBD is a complex disease, and while the exact causes are unknown, we hypothesize that IBD develops in susceptible individuals because they suffer from genetically driven impairments in the protective epithelial and mucus barriers that line their intestines. As a result of these impairments, bacterial products are able to leak out of the intestine and stimulate the immune system causing chronic inflammation. Through CCFC funding, we are using a model of infectious colitis caused by the bacterial pathogen *Citrobacter rodentium* to explore the mechanisms that control mucosal barrier function and to study how disruption of these barriers can lead to intestinal inflammation and disease.

We have recently shown that a specific part of the immune system, called innate immunity, plays a critical role in promoting epithelial barrier function in the intestine. In the absence of innate immune signalling, the epithelial cells that line the intestine do not proliferate normally, nor are they able to repair injury. As a result, mice lacking innate signalling suffer significant intestinal epithelial cell damage during C. *rodentium* infection, leading to mucosal ulcerations and a leaky epithelial barrier that aggravates inflammation and disease. We have also recently shown that once inflammation in the intestine begins, it reduces the production of mucus, another critical protective barrier in the intestine. We hypothesize that the loss of normal mucus levels might play an important role in perpetuating colitis, by allowing more bacterial products to escape the intestine and worsen bacterial driven inflammation. In support of this idea, we and others have recently found that mice lacking a normal intestinal mucus barrier develop spontaneous colitis, and are far more susceptible to bacterial induced colitis. Taken together, these studies highlight the important role of mucosal barriers in protecting the intestine, and highlight the diverse roles of inflammation and immune responses in both promoting and disrupting these barriers.

Dr. John Wallace, University of Calgary

LIPOXINS AS A THERAPEUTIC TARGET IN IBD

A great deal of research, including that from our laboratory, has focused on identifying the chemical mediators that drive inflammatory responses. The notion is that if we can block the production of those chemicals, or prevent them from acting on cells within the inflamed intestine (such as through the use of monoclonal antibodies), we should be able to reduce the inflammation and give the intestine a chance to heal. In recent years, an alternative approach has been considered, based on the discovery that the body makes a number of chemical mediators that exert anti-inflammatory actions. The lipoxins are one such group of mediators. In our studies funded by the CCFC, we undertook to determine if lipoxin production was elevated in inflamed intestinal tissue in mice, to learn something about the regulation of lipoxin production and, finally, to see if we could use lipoxins to treat experimental colitis. Indeed, we observed that lipoxins were produced in only very small amounts by healthy intestinal tissue, but when damage was induced to the intestine, lipoxin levels increased markedly.

Blocking the ability of lipoxins to exert their anti-inflammatory actions resulted in a worsening of the tissue injury and inflammation. Conversely, treatment of rats or mice with lipoxins resulted in a profound reduction of the symptoms of colitis and of the damage to the colon. These studies were done in collaboration with researchers at Harvard University and at the University of Perugia (Italy). These studies led directly to trials of lipoxins in human IBD, which are ongoing. We are now continuing our research on lipoxins and other natural anti-inflammatory substances through ongoing support from the CCFC. Specifically, we are translating our experimental studies in rats and mice to studies in patients. Our goal is to identify safer and more effective anti-inflammatory therapies for IBD. Ultimately, it may be possible to modulate the body's own production of lipoxins and other anti-inflammatory mediators so as to prevent bouts of colitis

A GLIMPSE INTO THE FUTURE OF IBD RESEARCH
GRANTS IN AID OF RESEARCH 2007

Never resting on the laurels of past achievements, the CCFC forges on to support the next wave of IBD research. Here are the GIA awards that will commence in 2007 and carry through until 2010.

NAME	TITLE OF RESEARCH
Ahmad, Ali Centre Hospitalier Universitaire, Hôpital Ste-Justine	Role of NK receptors and their ligands in the immunopathogenesis of Crohn's disease ***M&M Meat Shops Grant in Aid of Research (Legacy Grant)***
Boudreau, François Université de Sherbrooke	Role of transcriptional effectors of the TGFB superfamily during intestinal inflammatory response
Buret, Andre G. University of Calgary	Disruptions of epithelial integrity in the pathogenesis of IBD: The effects of C. *jejuni*.
Chadee, Kris University of Calgary	Role of prostaglandin E(2) in modulating epithelial barrier function
De Buck, Jeroen Marc Daniel University of Calgary	Proteomic identification of human and animal *Mycobacterium avium subsp. paratuberculosis* strains by mass spectrometry
Faure, Christophe Hôpital Ste-Justine	Regulation and role of PSA-NCAM in enteric nervous system in TNBS-induced colitis
Fedorak, Richard University of Alberta	NMR metabolomic analysis to Identify IBD and the microbe-genotype relationship
Girardin, Stephen University of Toronto	New insights into the detection of peptidoglycan by Nod2/CARD15: implications for Crohn's disease
Jacobson, Kevan University of British Columbia	Intestinal barrier responses, neuropeptides and IBD
Krause, Denis University of Manitoba	Role of *Bacteroides spp.* and *Escherichia coli* in inflammatory bowel disease
Macpherson, Andrew James McMaster University	Mechanisms of normal intestinal lamina propria CD4 responses that ensure mutualism with commensal intestinal bacteria
McLeod, Robin Mount Sinai Hospital	Post-operative recurrence in paediatric Crohn's disease: Influence of molecular factors
Ropeleski, Mark Queen's University	Intestinal epithelial anti-apoptotic signalling and healing: novel roles for IL-11 in inflammation
Saleh, Maya McGill University	Caspase-12, Crohn's disease and the inflammasome
Sherman, Philip Hospital for Sick Children	Role of probiotics in the management of experimental inflammatory bowel diseases ***Fay Shapiro Cutler Grant in Aid of Research (Legacy Grant)***
Siminovitch, Katherine Mt Sinai Hospital	Characterization of susceptibility genes/molecules for inflammatory bowel disease
Vallance, Bruce University of British Columbia	Goblet cell mediators and their impact on mucosal protection and susceptibility to colitis
Vanner, Stephen Queen's University	Novel pain mechanisms in IBD
Wallace, John University of Calgary	Resolution of colitis: A Translational Study

THE MICHAEL J. HOWORTH
GENETICS, ENVIRONMENTAL, MICROBIAL PROJECT

In 2006 – 2007, the CCFC was very proud to announce the launch of the Michael J. Howorth Genetics, Environmental and Microbial (GEM) project. GEM, named in honour of the previous CCFC National Executive Director, is a $5.5 million research investment over six years. During this time, researchers will investigate the theory that early genetic and environmental interactions set the stage for events that will eventually cause Crohn's disease.

The research team, led by Dr. Ken Croitoru (McMaster University), includes eminent researchers Dr. Anne Griffiths (University of Toronto), Dr. Mark Ropeleski (Queen's University) and Dr. Paul Moayyedi (McMaster University) as well as investigators from each of the major IBD research centres across Canada.

The results of the GEM project will provide new insights into the cause of Crohn's disease. These findings could in turn lead to the development of therapies that will prevent the onset of disease and potentially, lead to a cure. A future, free of Crohn's disease, is closer now than ever before.

THE PAST IS THE FOUNDATION FOR OUR FUTURE

In November 2006 our previous CCFC National Executive Director, Michael J. Howorth, succumbed to cancer. This was a great loss to all who knew him, both on a personal and professional level. Michael led the CCFC for over twelve years, building it into a strong and dynamic Foundation. Under his leadership, the CCFC established an outstanding reputation as a charitable organization dedicated to funding research in inflammatory bowel disease. In fact, under Michael's stewardship, the CCFC became one of the world's highest per capita funders (non-governmental) in IBD research. His spirit and dedication are honoured every day as the CCFC drives forward in its mission to find the cure.

Michael J. Howorth

Karen Mazar

Kevin W. Glasgow, MD

While the Board conducted the recruitment process for a new NED, Karen Mazer, National Director of Fundraising, stepped into the breach and kept the CCFC on course. Coping admirably with her additional responsibilities, Karen carried on the mission of the CCFC and ensured that many of the objectives set for the fiscal year were met and exceeded. We owe Karen a debt of gratitude for her commitment and wish her well in her future endeavours.

CCFC staff across Canada also deserve thanks for their extraordinary efforts during this past year. Transition can be a challenge and staff rose to the occasion with grace and strength.

Without a doubt, the talent of all these individuals as well as volunteers, donors, sponsors and researchers make the Foundation the exceptional organization that it is. The efforts of the past have laid a firm foundation upon which to build even greater accomplishments in the future.

With that in mind, the National Board of Directors was very pleased to welcome Dr. Kevin Glasgow to the helm of the CCFC at the end of June 2007. Dr. Glasgow, our new NED, comes with an impressive array of credentials. His knowledge and experience will enable the CCFC to rise to new heights as a world-class organization intent on revolutionizing the IBD research agenda.

In the year ahead, Dr. Glasgow will help strengthen the CCFC's capacity in:

- Communications and marketing to build bridges of understanding between the technical world of research and the world of volunteers who toil so diligently to raise funds
- Fundraising and development to facilitate the ways and means for individuals and organizations to donate to IBD research
- Scientific partnerships between the CCFC Inflammatory Bowel Disease Research Institute (IBDRI) and other research-related entities to better leverage our research investments
- Chapter and regional support to ensure that our volunteer base is continually nurtured in the areas of recruitment, retention and recognition

As the 2006 – 2007 year drew to a close, all those involved with the CCFC were aware that an era had ended and a new one was beginning. While we will always treasure the contributions made by those who came before, it is with great anticipation that we look to the future and renew our commitment to the CCFC's mission, "Find the Cure". Thank you for being a part of that commitment.

FINANCIAL HIGHLIGHTS

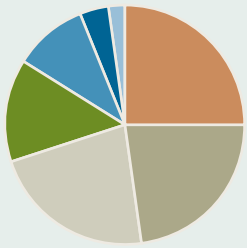
The CCFC is one of the world's leaders in non-governmental, per capita funding of IBD research. Your support underpins this funding; your generosity spurs on the pursuit to find the cure.

Fundraising proceeds in the 2006 – 2007 year totalled over $11 million, with net proceeds topping $8.3 million. This was an incredible demonstration of dedication that once again surpassed previous years' totals. The portion received from donations, corporate sponsorship and galas/dinners was 70%. The remaining 30% was derived from events such as Heel 'n' Wheel-a-Thon, golf tournaments, other sporting events and many fun activities ranging from fashion shows to Fall Fundraisers.

Because of your support, the CCFC was able to dedicate $6.6 million to research last year. More Grants in Aid awards were made *than in any previous year* and support continued for many research projects under Innovations, Summer Students and Research Scientists. Significantly, the increased funding allowed the CCFC to launch the Michael J. Howorth Genetics, Environmental and Microbial (GEM) project. GEM is a $5.5 million commitment that will span six years and produce significant data related to the factors that contribute to the development of Crohn's disease.

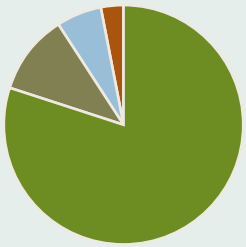
NET FUNDRAISING PROCEEDS RAISED IN 2006–2007: **$8,323,903**

Where do the Proceeds Come From?



Donations	25%
Galas and Dinners	23%
Corporate Support	22%
Heel 'n' Wheel-a-Thon	14%
Other	10%
Sports Events	4%
Gaming	2%

How Does the Foundation Spend the Funds?



Program Research	80%
Administration	11%
Volunteer Services	6%
Education	3%

CELEBRATING THE SUCCESSES OF OUR VOLUNTEERS

In spite of the turmoil of the past year our volunteers, sponsors, donors and members surpassed themselves, raising an unprecedented $11.3 million in monies for IBD research. Building upon the knowledge and experience gained from previous years, our partners dedicated themselves to increasing funding revenues over last year – and they did it!

There is a saying that track record is an indicator of future success. As IBD research accelerates towards a cure, financial support becomes even more crucial. Our volunteers have proven in the past that they are ready, willing and able to meet the challenges in front of them. With that kind of track record, the future of research is assured of much-needed support in the quest to eliminate inflammatory bowel disease.

M&M MEAT SHOPS CHARITY BBQ DAY

How high can they go? When M&M Meat Shops are involved, the sky is truly the limit. This year's M&M Meat Shops Charity BBQ Day raised a staggering $1.91 million, bringing the 19-year total to over $14.5 million!

And somehow, in the process, M&M Meat Shops always manage to generate fun and laughter along with donations. This is a winning combination that reflects the generosity of spirit accompanying the huge efforts made on behalf of IBD research.

Thank-you Mac Voisin, James Petrozzi, Gary Decatur and your team of franchisees and staff. Your generosity and support of IBD research is greatly appreciated.

2007 THE GROCERY FOUNDATION/CCFC SUPERGALA

Our heartfelt appreciation goes out to The Grocery Foundation for their incredible work in making the The Grocery Foundation/CCFC SuperGala an unparalleled success. SuperGala proceeds are divided evenly between The Grocery Foundation and CCFC. The Grocery Foundation is truly a force of nature, with their mandate to raise money for Ontario children who are physically, intellectually or economically challenged.

Half of the nearly $3 million raised this year at SuperGala goes towards IBD research. The CCFC is incredibly grateful to be partnered with The Grocery Foundation. Their help over the past 10 years has enabled us to profoundly increase the body of research knowledge from whence will spring the cure.

Special thanks to co-chairs Simon Zucker (Simon Zucker & Associates), Don Crombie (Advantage CKN Inc.) and committee members: John McNeil (The Grocery Foundation), David Houlden, John Tavolieri (Loblaw Companies); Anthony Longo and Pat Pessotto (Longo Brothers Fruit Markets); James Petrozzi (M&M Meat Shops); Don Lebovitz (Promotivate International); S. Deleo de Leonardis, Craig Gilpin and Ken Keelor (Sobeys); Domenic Calce and Paul Del Duca (A&P Canada Co.) & Michael Burrows.

HEEL 'N' WHEEL-A-THON

A mainstay of CCFC fundraising efforts, the Heel 'n' Wheel-A-Thon is an annual success story. This event, held in 70 locations all across Canada, occurs because of the efforts of local volunteers who plan, coordinate, telephone, visit and meet over many months. In a day and age where time is scarce and competition for donor dollars is fierce, HNW volunteers managed to raise over $1.62 million – this is a14% increase in revenues over last year!

Thank-you to all volunteers who worked so hard on behalf of the HNW events in their communities. Your efforts are making a huge difference in funding research that will find the cure for IBD.

ALL THAT GLITTERS GALAS

There is a light spreading across the country that sparkles with the dedication and commitment of the volunteers who put together Galas in an effort to raise money for IBD research.

This past year, the CCFC was honoured by the energy and efforts of volunteers who held these elegant events in Montreal, Toronto and Winnipeg. Raising over $1.16 million in total, the All That Glitters Galas are an incredible testimony to people who are willing and able to devote their considerable talents to raising funds for research.

Our thanks go out to all the volunteers who shed their light on creating the spectacular All That Glitters Galas.

FALL FUNDRAISERS

As the summer of 2006 waned, activities around the Fall Fundraisers ramped up. Across Canada, golf tournaments, auctions, dinners, dances, scrapbooking, skating and Brunches at Home raised over $266,000!

Every event, large and small, contributed to the fun and the fundraising that made for another record-breaking year. Thank-you to everyone who helped make the Fall Fundraisers 2006 – 2007 such an outstanding success.

Our most sincere thanks to all of our 2006-2007 supporters.

National Corporate Sponsors

Our corporate sponsors show an outstanding commitment to our Foundation. We extend our gratitude for their invaluable support.

Platinum:

M&M Meat Shops

Silver:

McNeil Consumer Healthcare (Imodium Brand)

Bronze:

Axcan Pharma Inc.
Procter and Gamble Pharmaceuticals
Schering-Plough Canada Inc.
UCB Pharma Canada Inc.

The Grocery Foundation/ CCFC SuperGala Sponsors

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Irving Consumer Products
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McCain Foods (Canada)
Minute Maid Co. of Canada Inc.
Nestle Canada
Novelis Foil Products
Parmalat Canada
Pepsico
Procter & Gamble Inc.
Rothmans, Benson & Hedges Inc.
Saputo Dairy Products (Canada)
Scott Paper Limited
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Unilever Canada
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National Heel 'n' Wheel-a-Thon Sponsors

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M & M Meat Shops
McNeil Consumer Healthcare (Imodium Brand)
MIJO Corporation
Proctor and Gamble Pharmaceuticals
UCB Pharma Canada Inc.

CCFC Patrons

We extend our deepest appreciation for the generous donations over $5000 from these individuals and groups (Others have asked to remain anonymous.)

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Beta Sigma Phi
BMO Fountain of Hope
Canada Pension and Benefits Institute
David Lede Family Charitable Foundation
Electronics Industry Hockey Tournament
Encana Cares Foundation
Estate of Barclay T. Hazelton
Estate of Mrs. Nora Isobel Crane
Estate of Virginia Cliff
Fairmount Books Inc.
FantasyLand Hotel
Federated Health Charities
Gary Levene and Debbie Eisenberg
Great Little Box Company
Goldie Feldman
Healthpartners
IBM Employees' Charitable Fund
Manitoba Liquor Control Commission
Marty and Marilyn Cutler
Masonic Foundation of Canada
Meyers Norris Penny LLP
Pharmachoice
Richard Taylor

CCFC Event Supporters

Our thanks to the following supporters who contributed to the success of fundraising events across Canada.

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Gennium Pharma
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Dedicated Research Donors

Over 1,000 dedicated research donors participate in our monthly giving program. Their generous commitment each month is crucial in helping the Foundation to provide stable revenue for our many research initiatives.

Planned Giving

We gratefully acknowledge the forethought and generosity shown by the individuals who include the CCFC in their estate planning process. Including the CCFC in your will or declaring the CCFC as a beneficiary in your insurance policies are just some of the ways to make a lasting impact and help find the cure for IBD.

Visit www.ccfc.ca for more information about our individual and corporate giving programs.

Crohn's and Colitis Foundation of Canada

Fondation canadienne des maladies inflammatoires de l'intestin

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For more information, to become a member, or make a donation visit www.ccfc.ca

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