



AllerGen



A Canadian Networks
of Centres of Excellence

Annual Report 2006-2007

AllerGen's Vision

To create an enduring network of allergy and immune disease experts whose discovery and development efforts contribute to reducing the impact of allergic and related immune diseases nationally and globally.

AllerGen's Mission

To catalyze and support discovery, development, networking, capacity building, commercialization and knowledge translation that contribute to reducing the morbidity, mortality and socio-economic burden of allergic and related immune diseases.

Table of Contents

| | |
|--|----|
| Message from the Board Chair and Scientific Director | 4 |
| AllerGen-funded research, 2006-07 | 5 |
| Discovery and development | 6 |
| Working together | 8 |
| Developing the next generation of allergic disease specialists | 10 |
| Partnering for impact | 12 |
| Network partners and collaborators | 13 |
| Knowledge to action | 14 |
| Financial summary | 16 |
| AllerGen researchers, trainees, committees and administration | 18 |

Special thanks to TOPIGEN Pharmaceuticals Inc. for the use of their photograph on the cover of the AllerGen Annual Report. The photo shows eosinophils present in lung lavages in a rodent asthma model.

AllerGen NCE Inc.
McMaster University
1200 Main Street West, Room 3120
Michael G. DeGroot Centre for Learning and Discovery
Hamilton, Ontario, Canada L8N 3Z5
T. 905-525-9140 ext 26502
F. 905-524-0611
www.allergen-nce.ca
info@allergen-nce.ca



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ex officio
to March 2, 2007

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Networks of Centres of Excellence are unique partnerships among universities, industry, government and non-profit organizations, aimed at turning Canadian research and entrepreneurial talent into economic and social benefits for Canadians. An integral part of the federal government's science and technology strategy, these nationwide multi-disciplinary and multi-sectoral research partnerships connect excellent research with industrial know-how and strategic investment.

AllerGen

3

2006-2007

A Message

from the Chair and the Scientific Director/CEO

We are proud to present AllerGen NCE Inc.'s second Annual Report. In the Network's second full year of operation, April 2006 to March 2007, more than 30 projects, focusing Canada's leading life, applied, social and clinical scientists and their trainees on allergy and asthma research questions, have been supported.



Lynton R. Wilson
*Chair, Board of
Directors
AllerGen NCE Inc.*

AllerGen's projects over the first two years have led to: the discovery and validation of new susceptibility genes that predispose individuals to allergy and asthma; the validation of new genomic technologies for the development of a diagnostic tool to rapidly diagnose allergy and asthma; further research into the causes of early childhood allergy and asthma such as maternal depression; the use of probiotics to treat allergic disease and asthma; and the relationships between skin allergy and occupational diseases of the lung.

AllerGen has broken new ground internationally with its Clinical Investigator Collaborative—a unique consortium that pools the nation's collective expertise in allergy and asthma research to conduct early stage clinical trials at five centres: McMaster University, University of Saskatchewan, University of Alberta, University of British Columbia and Université Laval. The CIC provides a cost-effective way to evaluate how well new molecular compounds treat the allergic inflammation in people's breathing passages that eventuates in asthma.



Dr. Judah Denburg
*Scientific Director
and CEO
AllerGen NCE Inc.*

The Network continues to build national multidisciplinary research capacity. Six research themes have evolved into three integrated programmes of inquiry over the past year. This programmatic structure has enabled AllerGen to unite biomedical, clinical and social scientists on new initiatives including: food- and work-related allergic disease; mind-body interactions in allergy and asthma; and the effects of the environment on our genes ("epigenetics").

Workshops over the past year have also resulted in AllerGen funding a strong interdisciplinary research team looking at quality-of-life issues affecting Canadian children. Several projects focus on the development, evaluation and implementation of new strategies designed to help children and youth with allergies and asthma to lead symptom-free lives.

AllerGen continues to bring to fruition its efforts on coordination of the Canadian Healthy Infant Longitudinal Development (CHILD) study, a monumental national birth cohort project involving more than 40 investigators, which examines the causes and progression of allergic disease and asthma from conception through pregnancy, birth and early childhood.

AllerGen has also inaugurated its International Partnership Initiative with five new global partners, an event which was highlighted recently by the NCE and Industry Canada.

Moving forward, AllerGen investigators and trainees are benefiting from the unique networking and investigative opportunities arising from the NCE structure. Focused on delivering social and economic benefit to Canadians, Network research is producing knowledge that leads to new diagnostic tools, new therapeutics and treatments, and new and improved policies and guidelines to help alleviate the health and economic impact of allergic disease and asthma in Canada.

Lynton R. Wilson
*Chair, Board of Directors
AllerGen NCE Inc.*

Dr. Judah Denburg
*Scientific Director and CEO
AllerGen NCE Inc.*

2006-07 Research Projects and their Principal Investigators

Programme A: Gene-Environment Interactions

Theme I Genes and Early-Life Determinants

Validation of genetic associations in asthma and allergy in Canadian families

T Hudson, Ontario Institute for Cancer Research, and P Paré, University of British Columbia

AllerChip: Development, validation and implementation of a microarray genotyping tool for allergy and asthma research

S Tebbutt, University of British Columbia

Theme II Environments, Populations and Society

Gender-related biologic and sociologic impact of obesity

A Becker, University of Manitoba

Is the prevalence of peanut allergy increasing? A five-year follow-up study on the prevalence of peanut allergy in Montreal school children, aged 5-9

A Clarke, McGill University Health Centre

A feasibility study to develop an exposure model for indoor air contaminants and to collect genetic data on an asthmatic cohort

C Infante-Rivard, McGill University

Maternal stress in early childhood and the development of asthma

A Kozyrskyj, University of Manitoba

Allergic asthma: Air pollution and allergen interactions

F Silverman, University of Toronto

Antenatal steroid therapy for fetal lung maturation: Is there an association with childhood asthma?

C Mustard, Institute for Work and Health

Cardiopulmonary consequences of air pollution in a murine model of allergic asthma

Jeremy Scott, University of Toronto

Planning a Canadian longitudinal birth cohort study of asthma and allergy in childhood

M Sears, McMaster University

Development of objective measurement of airway inflammation and lung function in infants

P Subbarao, Hospital for Sick Children

Strategic Initiative: Expansion of existing capacity of immunology platform to support Canadian Healthy Infant Longitudinal Development study (birth cohort)

T Kollmann and S Turvey, University of British Columbia

Strategic Initiative: Moving forward with birth cohort research in Canada: The legal and ethical foundations for the Canadian Healthy Infant Longitudinal Development (CHILD) study

T Caulfield, University of Alberta

Programme B: Diagnostics and Therapeutics

Theme III Mechanisms and Biomarkers

Diagnosing the various phenotypes of asthma: The use of urine NMR

D Adamka, University of Alberta

Neuroendocrine regulation of allergic reactions in animal models: Translation to humans

D Befus, University of Alberta

Effects of probiotics on murine model of asthma

J Bienenstock, McMaster University

The link between upper and lower airway inflammation

L-P Boulet, Université Laval

The development, implementation and evaluation of strategies to promote well-being of children and youth with allergies and/or asthma

A Clarke, McGill University Health Centre

Progenitors in atopy development

J Denburg, McMaster University

TLR function in human neonates

K HayGlass, University of Manitoba

Modulation of exocytosis in allergic inflammation

P Lacy, University of Alberta

Functional consequences of innate immune receptor polymorphisms

J Marshall, Dalhousie University

IDO, glutamate receptors and allergic inflammation

R Moqbel, University of Alberta

Predicting peanut allergy

S Waserman, McMaster University

Host environment interaction: Educating TLR-4+T lymphocytes in childhood

Q Hamid, McGill University

Regulation of lung mucosal immune responses by heterologous exposure to multiple infectious and allergic agents

M Jordana, McMaster University

Environmental impact on the epithelial immune barrier in asthma

T Bai, University of British Columbia

Role of mast cells and eosinophils in allergic inflammation and fibrosis of the lung

K McNagny, University of British Columbia

Study of the pathogenesis and reversibility of airway damage and repair during chronic mucosal immune responses to environmental allergens

J-P Lavoie, Université de Montréal

Theme IV Therapeutics and Drug Discovery

Clinical Investigator Collaborative

P O'Byrne and G Gauvreau, McMaster University

L-P Boulet, Université Laval

D Cockcroft, University of Saskatchewan

M Fitzgerald, University of British Columbia

I Mayers, University of Alberta

Programme C: Public Health, Ethics, Policy and Society

Theme V Prevention, Control and Public Policy

Financial barriers to medication use in children with asthma: Effect on health outcomes

W Ungar, Hospital for Sick Children

Strategic Initiative: Knowledge transfer feasibility study national asthma and allergy strategy

D Befus, University of Alberta

Theme VI Work-Related Allergy and Asthma

Surveillance of occupational asthma

N Cherry, University of Alberta

Asthma and BC workers

M Koehoorn, University of British Columbia

Workplace sensitizers: skin and lung exposure, responses and prevention

DL Holness, University of Toronto

Discovery & developo

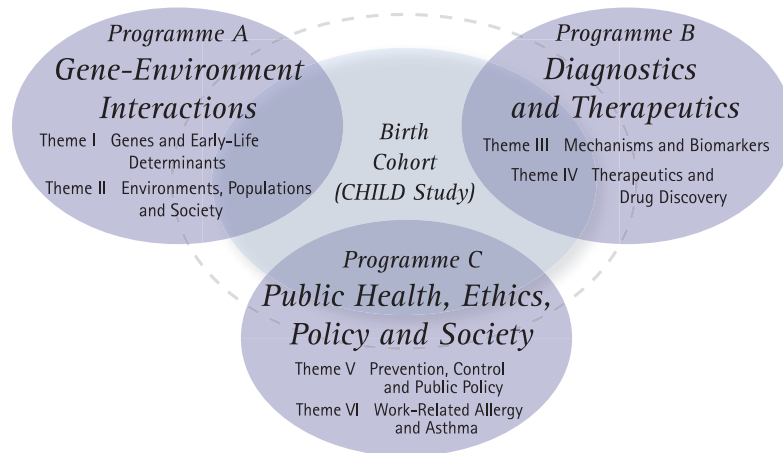
Allergic disease is increasing in epidemic proportions worldwide, and has become the most prevalent of all chronic conditions in the developed world, with 22% of Canadians reporting that they suffer from a non-food allergy and 6.8% suffering from a food allergy.

Almost 9% of Canadians have asthma with close to 12% of children, aged 12 to 19, suffering from this condition.

Answering the call for a focused programme of research that will address the high prevalence of allergic disease across the country, and the associated social and economic burden, the federal Networks of Centres of Excellence programme accepted an application to fund AllerGen NCE Inc. beginning in 2004.

Dedicated to improving the lives of Canadians suffering with allergic disease—including eczema, allergic rhinitis, asthma, food allergy and anaphylaxis—AllerGen has made an impact within multiple communities including research, government, industry, healthcare and patient advocacy.

AllerGen's transdisciplinary and multi-sectoral approach to research means basic and clinical sciences come together with social science, answering the what, how and why of allergic disease. These collaborations are leading to new therapies, tools and medications to treat allergies while ensuring that new policies and practices will help to improve health outcomes for patients.



AllerGen supports three integrated multidisciplinary programmes of research, each encompassing two themes.

Programme A: Gene-Environment Interactions

Leaders: *Dr. Peter Paré, University of British Columbia*
Dr. Malcolm Sears, McMaster University, Ontario

Theme I Genes and Early-Life Determinants

Theme II Environments, Populations and Society

Research within this programme is leading to early interventions that will prevent at-risk individuals from developing allergic disease by focusing the efforts of leading Canadian researchers on the discovery of key environmental and genetic risk factors that predispose some people to allergy, asthma and anaphylaxis.

Programme B: Diagnostics and Therapeutics

Leaders: *Dean Befus, PhD, University of Alberta*
Dr. Paul O'Byrne, McMaster University, Ontario

Theme III Mechanisms and Biomarkers

Theme IV Therapeutics and Drug Discovery

Research in Programme B focuses on the diagnosis and management of allergic disease leading to new and improved diagnostic tools and tests, strategies and the development of new technical platforms by examining mechanisms and biomarkers (indicators); the roles of pathogen-host interactions, infection, and mind-body interactions; and new drug and therapeutic development.

Programme C: Public Health, Ethics, Policy and Society

Leaders: *Dr. Allan Becker, University of Manitoba*
Susan Elliott, PhD, McMaster University, Ontario

Theme V Prevention, Control and Public Policy

Theme VI Work-Related Allergy and Asthma

Programme C research focuses on the investigation of factors affecting the experiences and management of allergies and asthma. This research will lead to new knowledge that impacts the policy environments within which Canadians live, work and play. This programme's research results will influence policies and practices in public and private health insurance, schools and workplaces.

Goal

Catalyze and support innovative research that contributes to the discovery of the causes of, and ways to prevent, control or eliminate allergic and related immune diseases.

Impacting the health of children with asthma

Canada's public healthcare system ensures that children have access to medical practitioners who can diagnose and treat asthma, but are prescribed medications needed to effectively control and manage this chronic affliction affordable for all patients? As many as 27%* of asthmatic children end up in the emergency departments at their local hospitals, seeking medical attention for this controllable disease.

Wendy Ungar, PhD, a scientist at The Research Institute, The Hospital for Sick Children in Toronto, Ontario, is looking at the social and economic risk factors associated with asthma management and control. Her project, *Financial barriers to medication use in children with asthma: Effect on health outcomes*, in Programme C: Public Health, Ethics, Policy and Society, examines the association between provincial policies governing access to medication in Ontario and their effect on the health outcomes of children with asthma.

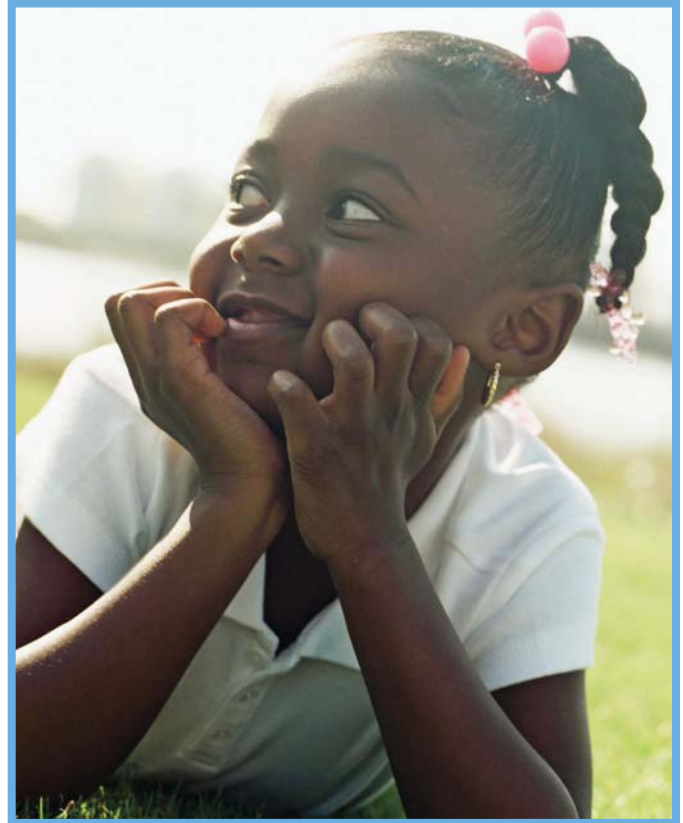
Using a cohort of 800 asthmatic children from the Greater Toronto Area, Ungar's research team examined different indicators—access to drug plans, cost-sharing in drug plans, family income, ethnicity, employment status of parents, size of family—to determine what, if any, factors contribute to the health status of a child with asthma. Also, researchers looked at how well asthma is controlled and managed according to the various social and economic status indicators.

"Not surprisingly, kids from lower-income families have poorer control of their asthma. So we are finding differences in asthma control with respect to social and economic status," Ungar says. "That really shouldn't occur in Canadian society since we have a public healthcare system."

This research is one of very few studies looking at drug policies and their effects on patients. Ungar hopes more investigators will look at this area of research so that government decision-makers will have more accurate data to draw upon when formulating new policies that remove financial and geographical barriers, allowing asthmatic patients access to beneficial medications.

"It is necessary to develop new drugs and new tests to diagnose illness in Canada, but we need to know who is going to pay for these new resources. How are they going to be organized and made available to the public?" Ungar says.

"Research looking at access questions is essential to ensure Canadians get the most out of their healthcare system."



Workshop focuses on improved access to drugs

In March 2007, Ungar organized a workshop attended by 30 participants, including private and public drug plan managers, clinicians, government representatives, researchers, asthma educators, and pharmacists.

Participants identified strategies and related research and partnership opportunities to improve drug benefits for Canadian children with asthma. The workshop facilitated the development of future research initiatives relevant to health policy makers and drug benefit plan managers, as well as suggestions to improve the translation of future research findings to the medical community and the public.



Wendy Ungar, PhD

* The Prevention and Management of Asthma in Canada. The National Asthma Control Task Force, 2000

Working together

Biomedical, clinical and social scientists share **Peanut allergy on the rise?**

Peanut allergy and its sometimes tragic consequences seem to be in the news more often. Is it becoming more common in Canadian children or are we more aware of its dangers? Dr. Ann Clarke, a practicing allergist at the McGill University Health Centre and professor at McGill University in Montreal, Quebec, is looking at trends in the prevalence of this allergy.

In 2000-02, Clarke headed up a baseline study that surveyed children at 63 schools in Montreal to determine the prevalence of peanut allergy in students aged five to nine. Her research showed that 1.5% of young children were allergic to this childhood diet staple.

Five years later, Clarke and her research team are surveying the same 63 schools, replicating the methodology used in the previous study, hoping to answer the question: Is the prevalence of peanut allergy increasing?

The AllerGen-funded follow-up study, *Is the prevalence of peanut allergy increasing? A five-year follow-up study on the prevalence of peanut allergy in Montreal school children, aged 5-9*, is the first of its kind in Canada to look at whether the prevalence rate of this potentially deadly allergy is increasing.

Unlike an earlier study in the United States, which utilized a telephone survey to gather data, Clarke's project verifies peanut allergy diagnosis with clinical testing—a skin prick test, food challenge and blood work. This method represents the most rigorous approach to studying peanut allergy prevalence to date.

Preliminary results from this Programme A: Gene-Environment Interactions project suggest that prevalence has indeed risen. According to Clarke, final results showing a significant increase over five years will indicate that environmental influences are likely at work, providing researchers with a better understanding of the causes of peanut allergy.

A significant increase in the prevalence rate will also encourage Clarke's partners—Health Canada, Anaphylaxis Canada, the Allergy and Asthma Information Association and the Association québécoise des allergies alimentaires—to step up their support for individuals with peanut allergy, leading to new policies and practices in schools, day-cares, workplaces and public institutions.

"Results from this study will give us a sense of how much we really need to focus on this particular condition within Canadian society," Clarke says.



Dr. Ann Clarke

Living well *with peanut allergy*

Understanding the impact of peanut allergy on the quality of life for children and their families is an important step in effectively managing the disease.

Co-leader of AllerGen's Programme C: Public Health, Ethics, Policy and Society, Susan Elliott, PhD, Dean of Social Science and professor at McMaster University in Hamilton, Ontario, is examining the psychosocial impact of peanut allergy on children and their parents.

For example, she wants to know why most unintended exposures to peanut occur in the home of an allergic child or the home of a close relative or friend.

"You would think that these exposures would happen in public places, at birthday parties or in school, but it's not the case. Qualitative research helps us to understand how and why these exposures happen."

Elliott and her AllerGen trainee, Genevieve Clarke, a McMaster PhD student, conducted in-home interviews with 35 families taking part in Principal Investigator Ann Clarke's Montreal-based study. Their goal is to get a clear picture of how families cope with this potentially fatal allergy.

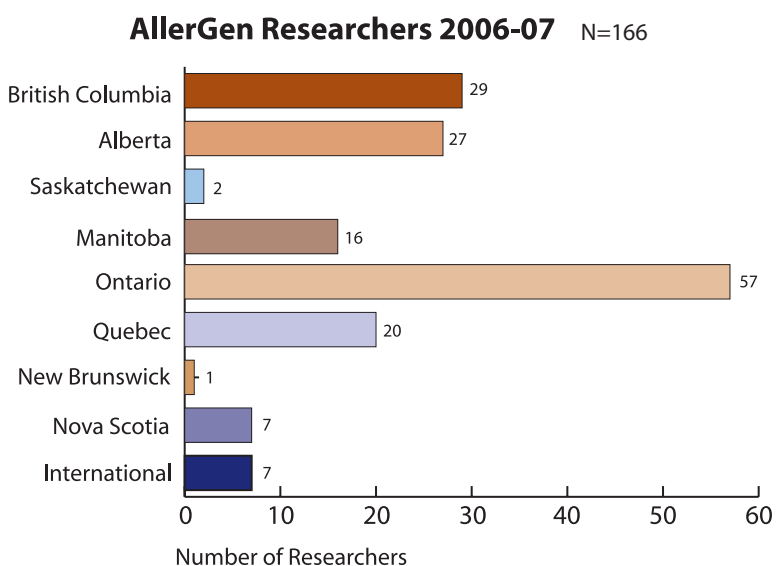
"We're finding that children are put in difficult positions," says Elliott. Peanut allergy wasn't common 30 years ago; as a result, researchers are finding that many grandparents underestimate the seriousness of an anaphylactic reaction, forcing children to challenge respected adults in their lives.

Results from Elliott's research will lead to the development of new resources to educate allergic children and their families, helping them create a safer environment and improving their quality of life.

Goal

Develop and maintain networking arrangements that enable knowledge and technology exchange and exploitation.

common goals



Network Facts 2006-07

| | |
|------------------------------|-----|
| Research Projects: | 32 |
| Researchers: | 166 |
| Partner organizations: | 145 |
| Industry: | 41 |
| University: | 33 |
| Federal/Provincial Agencies: | 22 |
| Hospitals: | 5 |
| Research Institutes: | 17 |
| Not-For-Profits/NGOs: | 27 |

Fast-tracking new drugs to treat allergic asthma

AllerGen's Clinical Investigator Collaborative (CIC) is an efficient and cost-effective solution to fast-track new therapeutic entities in allergic asthma while providing researchers with an opportunity to study the causes, the development and the persistence of allergic disease.

On the global stage, the CIC is one of a kind. Canadian experts at five sites conduct early stage clinical trials, evaluating the efficacy of new compounds to treat inflammation in the lungs and nose, understand how they work and predict whether they will be right for large scale market development.

The unique scientific method developed by CIC investigators enables them to evaluate the efficacy of new compounds using fewer patients than conventional clinical trials. The CIC team has developed proprietary standard operating procedures which are applied consistently across the five centres, enabling AllerGen researchers to undertake clinical trials that rapidly generate reliable and reproducible results.

Principal Investigator Dr. Paul O'Byrne, chair of medicine at McMaster University in Hamilton, Ontario, says the CIC can save industry millions of dollars and several years of time dedicated to research by identifying entities very early in clinical development that can be evaluated for efficacy in a reliable and robust clinical model of allergic asthma, to help determine whether the molecule should continue to be developed and tested in later phase studies.

To date, the CIC has completed four studies and has three more under way. Early studies have examined never-before-tested molecules and new combinations of anti-inflammatories.

AllerGen's CIC

AllerGen's Clinical Investigator Collaborative, a project in Programme B: Diagnostics and Therapeutics, operates at the following five sites:

- McMaster University
Principal Investigators Dr. Paul O'Byrne and Gail Gauvreau, PhD
- Université de Laval
Principal Investigator Dr. Louis-Philippe Boulet
- University of Saskatchewan
Principal Investigator Dr. Don Cockcroft
- University of British Columbia
Principal Investigator Dr. Mark Fitzgerald
- University of Alberta
Principal Investigator Dr. Irvin Mayers

Pharmaceutical companies that have partnered or are partnering with the CIC include:

- Alexion Pharmaceuticals, U.S.
- Boehringer Ingelheim, Canada
- Genentech Inc., U.S.
- IVAX Research Inc., U.S.
- MedImmune Inc., U.S.
- TOPIGEN Pharmaceuticals Inc., Canada
- Wyeth Pharmaceuticals Inc., U.S.

Developing the next

AllerGen focuses on the professional development and training of future researchers and specialists in the fields of allergy and asthma

Through its Highly Qualified Entrepreneurial Professionals (HQEP) programme, AllerGen is creating new opportunities for the training of highly qualified personnel and advancing professional and lay knowledge about allergic and related immune diseases.

The Canadian Allergy and Immune Diseases Advanced Training Initiative (CAIDATI), a national multisectoral programme within AllerGen's HQEP programme, leverages AllerGen's investment in trainee opportunities to secure additional academic, government and private sector resources and infrastructure, increasing Canadian capacity to train future generations of allergy researchers.

CAIDATI/HQEP initiatives:

- Five AllerGen trainees received funding through AllerGen's collaboration with the Canadian Institutes of Health Research (CIHR) Strategic Training Initiatives in Health Research (STIHR). Four trainees are involved in the Allergy and Asthma: From Molecular Regulation to Population Health STIHR at the University of Manitoba, and one trainee is working on the Integrated Mentor in Pulmonary and Cardiovascular Training STIHR at the University of British Columbia.
- 25 trainees from seven universities—British Columbia, Laval, Toronto, McMaster, McGill, Alberta and Manitoba—entered the adjudicated trainee poster competition at AllerGen's Second Annual Research Conference, *Innovation from cell to society*².
- The inaugural *AllerGen Trainee Symposium: Advancing Professional Excellence*, was held in May 2006 in King City, Ontario. This event provided unique professional development opportunities to trainees working on AllerGen research that will complement their academic and scientific training, and promoted the development of collaborations among trainees that will enhance future scientific excellence. Thirty-nine of AllerGen's active trainees attended, representing nine universities and three research centres. Trainees presented their research in a peer-evaluated environment practicing their communications and presentation skills while gaining valuable feedback. They were inspired and informed by members of the AllerGen Board of Directors, private and non-profit leaders and industry representatives; gained insight into knowledge mobilization, received important tips for getting their papers published; and received valuable career advice.
- The first in a series of AllerGen-supported specialized professional development workshops was held at the Montreal General Hospital and the Meakins Christie Laboratories in October 2006. The workshop was open to active AllerGen researchers and trainees interested in the physiological methods of phenotyping asthma in rodents. Participants included eight trainees, two investigators and two research associates.

AllerGen's student network

AllerGen's Highly Qualified Entrepreneurial Professionals (HQEP) programme is offering AllerGen trainees and new professionals enhanced leadership and management skills development with the establishment of the AllerGen Students and New Professionals Network (ASNPN).

The innovative student-led organization is composed of AllerGen research trainees, new clinicians and new research professionals from across Canada in all fields of allergic and immune disease-related research.

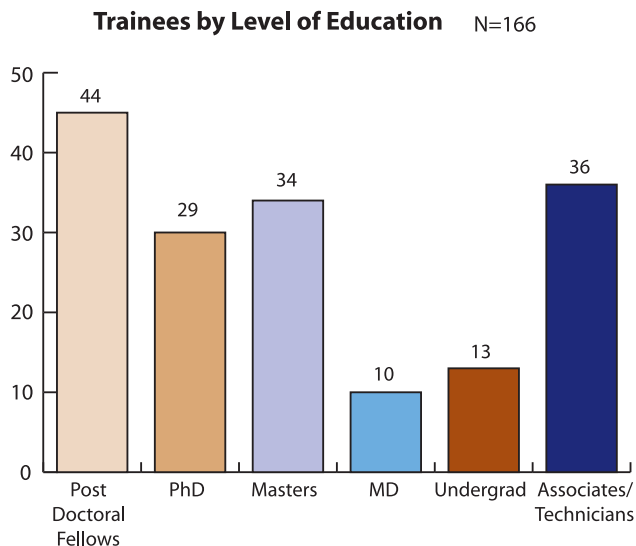
As an advisory organization to AllerGen management, the ASNPN's goal is to enhance research and professional networking opportunities for students and new professionals in the field of allergic and immune disease.

The ASNPN Leadership Committee—comprised of students and new professionals elected by AllerGen's trainees—helps to develop and deliver relevant events and communications to encourage new relationships, facilitate the exchange of information and promote excellence in research and professional skill development.

Goal

Create new opportunities for training highly qualified entrepreneurial personnel in allergy research, patient care, innovation and the health system, and advance professional and lay knowledge about allergic and related immune diseases.

generation



Highly Qualified Entrepreneurial Personnel 2006-07 Facts

| | |
|---|-----|
| Trainees: | 166 |
| Training locations: | 7 |
| British Columbia: | 12% |
| Alberta: | 16% |
| Saskatchewan: | 1% |
| Manitoba: | 17% |
| Ontario: | 30% |
| Quebec: | 19% |
| Nova Scotia: | 5% |
| Professional Development Workshops/Meetings: | 17 |
| Trainee Travel Grants Awarded: | 8 |

AllerGen trainee produces groundbreaking guideline review

AllerGen trainee Shannon Cope spent several months reviewing different paediatric asthma guidelines from around the world.

The first review of its kind, Cope looked at guidelines from Canada, the United States, the United Kingdom, Australia and the World Health Organization's Global Initiative for Asthma, and compared assessments and treatments of the disease. Her investigation shows that experts don't agree on how to assess the control or severity of asthma in children.

Cope's supervisor, AllerGen Principal Investigator Wendy Ungar, PhD, says this groundbreaking review indicates that more work must be done in formulating effective guidelines for primary caregivers.

"Variations between guidelines means experts aren't sure about assessment and treatment," Ungar says. "How is a family practitioner to know how to assess a patient when he walks into the office?"

Cope's review will give policy makers an opportunity to look at worldwide comparisons, leading to the development and implementation of more effective paediatric asthma guidelines that allow frontline healthcare workers to provide standardized treatment and management strategies to patients.



AllerGen Trainee Shannon Cope speaks about her AllerGen-funded research to Programme Leader Susan Elliott, PhD, at AllerGen's Second Annual Research Conference, *Innovation from cell to society*², in Hamilton, Ontario, February 2007.

Partnering for impact

AllerGen is actively engaged at both the individual research project and Network-wide levels, forging new national and international partnerships in research, development and capacity building, and facilitating the realization of Canada's 2007 science and technology strategy, *Mobilizing Science and Technology to Canada's Advantage*.

Canada's Advantage: Entrepreneurial, knowledge and people
By establishing new linkages across multiple disciplines and sectors, AllerGen is facilitating the development of new knowledge and transmitting that knowledge to those who can generate social and economic benefits for Canadians. Representatives from allergy, immunology, genetics and genomics, epidemiology, toxicology, biochemistry, biothera-

peutics, environmental sciences, psychosocial health, geography, occupational and workplace health, public policy, economics, ethics, business and commerce are working towards solving complex real-world problems surrounding allergic and related immune diseases.

More than 145 organizations representing industry, government, academia, healthcare and the non-profit sector are partnered with AllerGen. The Network's global reach extends to the United States, the United Kingdom, the European Union, Australia and India, ensuring Canada is at the forefront of excellent research and innovation in allergic and related immune diseases.

Developing international partnerships

AllerGen is strengthening its position as a world leader in the fight against the allergic disease epidemic through a new partnership initiative that will see the Network join forces with five international organizations.

This initiative will allow Canadian and international leaders in allergic and related immune disease research to foster new relationships in a spirit of global co-operation. This collaboration will lead to positive economic and social impacts in Canada and around the world. It places Canadian researchers at the forefront of global outreach and international development efforts to understand and alleviate the global burden of allergy and asthma.

AllerGen is partnering with:

- The Global Allergy and Asthma European Network (GA²LEN) in Gent, Belgium: GA²LEN aims to decrease the burden of allergy and asthma throughout Europe by establishing an internationally competitive network to enhance the quality and relevance of research. Collaborations between GA²LEN and AllerGen representatives will focus on identifying internationally accepted strategies for the development and implementation of birth cohort studies and on international standards for indoor air quality.
- The Karolinska Institute in Stockholm, Sweden: This partnership with one of the largest medical universities in Europe focuses on the development and design of an international clinical research trial involving AllerGen's Clinical Investigator Collaborative and the Karolinska Institute. Also, a student exchange will see as many as six AllerGen and Karolinska trainees gain relevant research experience in a partner lab over two years.

- World Health Organization initiative, the Global Alliance on Respiratory Diseases (GARD) in Geneva, Switzerland: Collaborative efforts between AllerGen and GARD, part of the World Health Organization's global initiative to prevent and control chronic diseases, allow for accelerated research and knowledge translation, resulting in updated Canadian and international guidelines to deal with allergic rhinitis and asthma, and improved management and treatment practices.
- The International Union Against Tuberculosis and Lung Disease in Paris, France: Focused on low- and middle-income countries, The Union helps these nations develop and implement prevention and control programmes to deal with lung disease and associated community health issues. Representatives from AllerGen and The Union will be working with key stakeholders from El Salvador, Mexico and Canadian First Nations to develop and implement lung-health strategies in those countries. A fundamental aspect of this partnership is to ensure that knowledge is translated into effective best practices, policies and strategies.
- The Institute of Population Health and Clinical Research at the St. John's National Academy of Medical Sciences in Bangalore, India: This institute is the first organization of its kind in India dedicated to research that will impact developing countries. AllerGen and St. John's investigators are developing a research programme to examine the impact nutrition plays in pregnancy, early life and childhood development of chronic diseases, such as allergy and asthma. Comparing the results of this cohort study to Canadian studies will allow researchers to look at cultural, social and biological factors impacting the development of allergy and other chronic diseases.

Goal *Develop and maintain partnership arrangements that enable knowledge and technology exchange and exploitation.*

Network partners and collaborators

Academic Institutions

Applied Geomatics Research Group, Nova Scotia Community College
Dalhousie University
Duke University
Emory School of Medicine
Harvard Medical School, Brigham & Women's Hospital
Karolinska Institutet
McGill University
McMaster University
Mount Sinai School of Medicine
Northern Ontario School of Medicine, Lakehead University
Northern Ontario School of Medicine, Laurentian University
Northwestern University
Queen's University
Sherbrooke University
Simon Fraser University
St. Mary's University
Université de Montreal
Université du Québec à Chicoutimi
University of Alberta
University of Arizona
University of British Columbia
University of Calgary
University of Manitoba
University of Guelph
University of North Carolina at Chapel Hill
University of North Carolina
University of Ottawa
University of Saskatchewan
University of Toronto
University of Western Australia the Telethon Institute
University of Western Ontario
Université Laval
Wilfrid Laurier University

Hospitals

Brigham and Women's Hospital
IWK Health Centre
McGill University Health Centre
St. Michael's Hospital
Sunnybrook Health Science Centre

Industry

3M
Alexion Pharmaceuticals
Applied Biosystems
AstraZeneca Canada Inc.
Atheromedix (formerly Salpep)
Bayer Canada Inc.
BioDiscovery Toronto
Boehringer Ingelheim
CAE Inc.
CLR Media
Genentech
Gennum Corporation
GlaxoSmithKline
Imulan BioTherapeutics, LLC

ID Biomedical Corporation of Quebec
Indoor Biotechnologies
Isodiagnostika Inc
IVAX Research Inc.
King Pharma
Lifebank Corporation
Longwoods Publishing
McMillan Binch Mendelsohn
MatTek Corporation
MDS Capital - Milestone Medica
Medimmune Inc.
Medic Alert
Merck Frosst
Metro Richelieu Inc.
National Centre for Genome Resources
Novartis Pharmaceuticals Canada Inc.
Nycomed Canada Inc.
Paladin Laboratories
Schering
Somagen Diagnostics Inc
Syreon
Topigen Pharmaceuticals
Tripos
Trudell Medical
UCB Pharma
University Medical Discoveries Inc. and Medinnova Partners Inc.
Wyeth Pharmaceuticals Inc.

Federal Agencies

Advanced Foods and Materials Network (AFMNet)
Agriculture and Agri-Food Canada
Busselton Population Cohort Sir Charles Gairdner Hospital
Canada Research Chairs Secretariat
Canadian Food Inspection Agency
Canada Mortgage and Housing Corporation
Environment Canada
Genome Quebec
Genome Prairie, NORCOMM
Health Canada, Bureau of Chemical Safety
Health Canada, Indoor Air Quality Section
National Research Council, Institute for Research in Construction
MITACS
Natural Resources Canada
The Stroke Network
West Australian Health Promotion Foundation

Provincial Agencies

Institute de recherche Robert-Sauvé en santé et sécurité au travail
Manitoba Health
Ontario Institute for Cancer Research
Worker's Compensation Board of BC
Workers Compensation Board of Alberta
Workplace Safety and Insurance Board

Research Institutes

Alberta Strategy to Manage Asthma
Alberta Transplant Applied Genomics Centre
Applied Geomatics Research Group, Nova Scotia Community College
Arizona Respiratory Centre
Canadian Institute for Advanced Research
Gage Occupational and Environmental Health Unit
Hospital For Sick Children Research Institute
Inflammation Research Network, University of Calgary
Institute for Clinical and Evaluative Sciences
Johns Hopkins Asthma and Allergy Centre
Manitoba Centre for Health Policy
Manitoba Institute of Child Health
McGill University Research Institute
National Heart & Lung Institute
Southern Ontario Centre for Atmospheric Aerosol Research
St. John's Research Institute
The Sun Centre of Excellence for Visual Genomics

Associations/Foundation

American Thoracic Society
Anaphylaxis Canada
Association Quebecoise Des Allergies Alimentaires
Asthma Allergy Information Association
Asthma Society of Canada
Burroughs Wellcome Foundation
Canadian Allergy Asthma and Immunology Foundation
Canadian Association for Population Therapeutics
Canadian Network for Asthma Care
Canadian Pharmacists Association
Canadian Respiratory Society
Society for Epidemiology and Biostatistics
Canadian Society of Allergy and Clinical Immunology
Canadian Thoracic Society
Chinese Medical Association
Global Allergy and Asthma European Network
Golden Horseshoe Biosciences Network
International Eosinophil Society
International Union Against Tuberculosis and Lung Disease
Michael Smith Foundation for Health Research
Ontario Lung Association (Ontario Respiratory Care Society)
Society of Clinical Research Associates
The Lung Association
The Lung Association Alberta and NWT
The Royal College of Physicians and Surgeons
World Health Organization - Global Alliance Against Chronic Respiratory Disease
World Health Organization - Collaborating Center for Asthma and Rhinitis

Knowledge to action

Bridging the gap between science and society

As a Network of Centres of Excellence, part of AllerGen's mandate is to bridge the gap between science and its application. Investments in Network research are intended to lead to social and economic benefit for Canadians.

AllerGen supports the translation of Network research results into information, tools and technologies that can be used by other researchers, healthcare professionals, government agencies, departments and policy makers, industry, patient advocacy and support groups.

AllerGen supports workshops with stakeholder groups, researcher presentations to professional and lay audiences, promotes the uptake of teaching and learning tools and facilitates the identification, protection and marketing of the intellectual property resulting from AllerGen research.

More than 130 oral and poster presentations were made by Network researchers in multiple venues in 2006-7. In addition, 16 research papers arising from AllerGen-funded research were published.

Innovation...from cell to society²

AllerGen's second annual research conference, *Innovation from cell to society*², highlighted the innovative research being completed in the Network.

More than 180 delegates representing industry, universities and hospitals, not-for-profit organizations and government agencies and departments attended the two-day event held in Hamilton, Ontario in February 2007.

Conference Participation

184 Delegates in attendance

| | |
|------------------------------------|-----|
| University/hospital organizations: | 72% |
| Non-profit organizations: | 13% |
| Business and industry: | 11% |
| Government agencies/departments: | 4% |

The conference featured presentations and panel discussions by 36 AllerGen investigators, industry and non-profit partners, and government representatives.

Seven symposia spanned a multitude of topics, including gene-environment interactions leading to allergy and asthma; environmental and social determinants of allergic disease; work-related allergy and asthma; and mind-body interactions.

Partnerships in clinical research in allergy and asthma featured Alan Hamilton, PhD, therapeutic



Alan Hamilton, PhD

area director, Respiratory Medicine for Boehringer Ingelheim, and Dr. Peter Liu, scientific director, CIHR Institute of Circulatory and Respiratory Health, as well as AllerGen investigators Drs Paul O'Byrne, Louis-Philippe Boulet, Gail Gauvreau and Mark Larché. The symposium highlighted the importance of collaboration between the public and private sectors in developing new drugs and therapeutics, and opportunities to translate research into applied knowledge and tools.

Patient advocate Laurie Harada, executive director, Anaphylaxis Canada, presented as part of a symposium on research, education and knowledge translation in the areas of food allergy, anaphylaxis and asthma, alongside AllerGen researchers Dr. Ann Clarke, Susan Elliott, PhD, Dr. Susan Waserman, Shawna McGhan, Miriam Stewart, PhD, and Jeff Masuda, PhD. Anaphylaxis Canada acts as a bridge



Laurie Harada

between research and patient, providing information, support and practical tools that will help them to live symptom free.

On behalf of Anaphylaxis Canada, Harada is now a collaborator on two AllerGen projects. One project is focusing on strategies to promote the well-being of children living with allergies and asthma, while a second study is looking at food labelling.

Goal

To catalyze and facilitate the development of new research platforms, tools, processes, products and services arising from discoveries, and promote their commercialization, their use and their influence on public policy.

Creating connections and community

Research into occupational allergic disease has been traditionally focused by the type of illness. For example, respirologists look at occupational lung disease while dermatologists look at occupational skin disease.

Dr. Linn Holness, St. Michael's Hospital and the University of Toronto, wants researchers to emerge from their silos to look at occupational allergic disease as a whole, in response to basic research that indicates there is potential interaction between occupational lung and skin disease.

Her workshop, *Workplace sensitizers: exploration of skin and lung routes of exposure, responses and prevention practices*, explored new ideas about occupational disease, crossing disciplinary lines. The Programme C: Public Health, Ethics, Policy and Society event was co-funded by AllerGen and the Centre for Research Expertise in Occupational Disease.

"We wanted to bring together individuals that were expert in both sides of the equation—lung and skin. We wanted to look at potential for interactions from the route of exposure."

Representatives from organized labour, health and safety associations, policy makers, students and academia attended the two-day workshop. Invited speakers from the United Kingdom, Belgium, the United States and Canada presented research on both skin and lung exposures and the possible interaction between the two.

Workshop outcomes were twofold, according to Holness. The group identified eight key questions for potential research in the future and developed new relationships

with a broader international group, leading to possible collaborations on a global scale.

With the potential to impact workers, employers and health care professionals on multiple levels—workplace prevention, regulations with respect to exposure limits, clinical practice when taking exposure history—Holness sees this workshop as an important step towards addressing very real occupational health problems faced by Canadians in the workforce.

Although no AllerGen-funded projects have resulted from the event, the workshop has leveraged research funding from other sources. Currently Ontario's Workplace Safety Insurance Board is investing almost \$110,000 in a two-year study called *Key exposure causing work-related allergic contact dermatitis and evidence for dual causation of occupation asthma*.

Also as a result of the workshop, AllerGen trainee Victoria Arrandale is completing a second study as her PhD thesis. Pooling data from five previous workplace studies across several industries, she is looking at the prevalence and associated risk factors for allergy symptoms that affect both skin and lungs. Arrandale also hopes to get funding for a third project in the near future.

Holness believes that AllerGen's strong focus on multidiscipline, multi-site research enabled her to bring together this mix of people that, in virtually any other situation, would not have spent time together, learning from each other and speaking to topics of mutual interest.

"The non-traditional objectives of AllerGen are important. I think in the field of occupational allergic disease, where there are so many disciplines and where there is little opportunity for everyone to get together and focus on one particular thing, AllerGen is particularly good at encouraging collaboration."



Dr. Linn Holness

Knowledge transfer 2006-07

| | |
|-----------------------|----|
| Publications: | 16 |
| Posters: | 61 |
| Oral presentations: | 78 |
| Disclosures: | 7 |
| Patent (provisional): | 1 |

Network outreach

Media and public relations outreach is an important aspect of translating research results into a form of knowledge that can be used by Canadians. The AllerGen Network and its investigators were mentioned in 52 media reports in 2006-07. AllerGen or its investigators were cited in 13 newspaper stories, 13 magazine reports, six trade journals, 17 websites and three newsletters. AllerGen investigators appeared on five television and two radio broadcasts.

In January 2007, AllerGen launched its new user-friendly website. From March 2006 to March 2007, website visits increased by 226% (from 1,055 in 2006 to 3,440 in 2007).

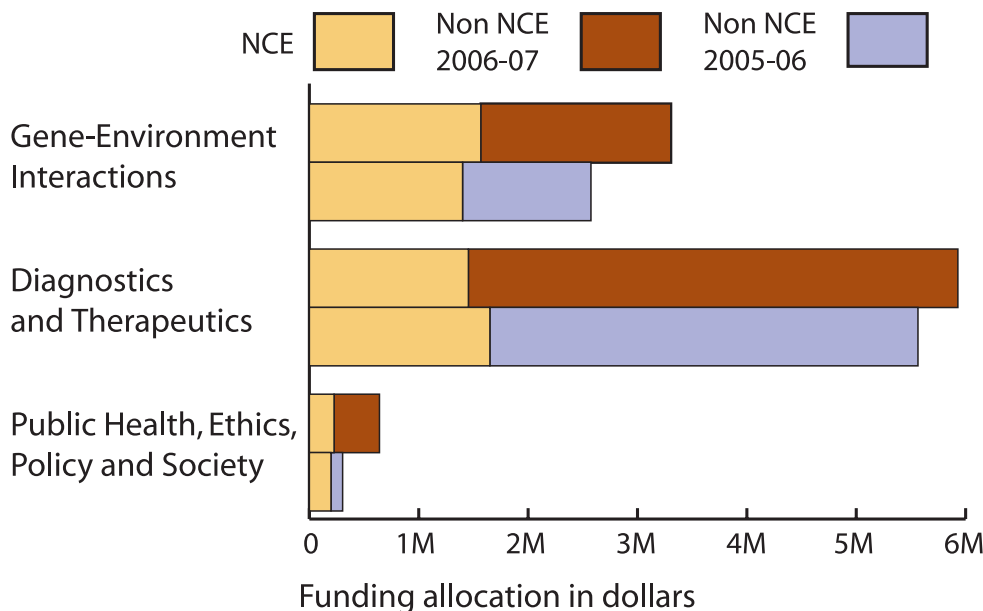
Financial summary

AllerGen NCE Inc. Financial Summary 2005-07¹

| | 2005-06 (Year 1) | | 2006-07 (Year 2) | |
|--|------------------------|---------------|------------------------|---------------|
| REVENUES (Cash and In-Kind) | | | | |
| NCE Award | \$5,023,000.00 | 47.6% | \$5,272,000.00 | 43.4% |
| Non-NCE Funds to Administrative Centre* | 387,799.69 | 3.7% | 430,421.00 | 3.5% |
| Non-NCE Funds to Research Projects* | 5,137,518.00 | 48.7% | 6,447,809.86 | 53.1% |
| Total Revenues | \$10,548,317.69 | 100.0% | \$12,150,230.86 | 100.0% |
| * includes cash and in-kind contributions | | | | |
| EXPENDITURES (Expended/committed cash from the Administrative Centre) | | | | |
| Research Programs/Committed | 3,389,405.23 | 77.2% | 3,432,426.43 | 71.9% |
| Networking | 300,517.64 | 6.8% | 374,089.60 | 7.8% |
| Strategic Initiatives and Training | 13,071.61 | 0.3% | 90,428.09 | 1.9% |
| Communications | 17,164.07 | 0.4% | 41,949.91 | 0.9% |
| Administration | 669,943.25 | 15.3% | 838,092.26 | 17.5% |
| Total Expenditures | \$4,390,101.80 | 100.0% | \$4,776,986.29 | 100.0% |
| <i>Cash reserved for future research</i> | <i>\$999,398.23</i> | | <i>\$1,837,628.94</i> | |

¹ An audited administrative centre financial statement is available from the AllerGen Administrative Centre.

AllerGen Research Program Funding 2006-07

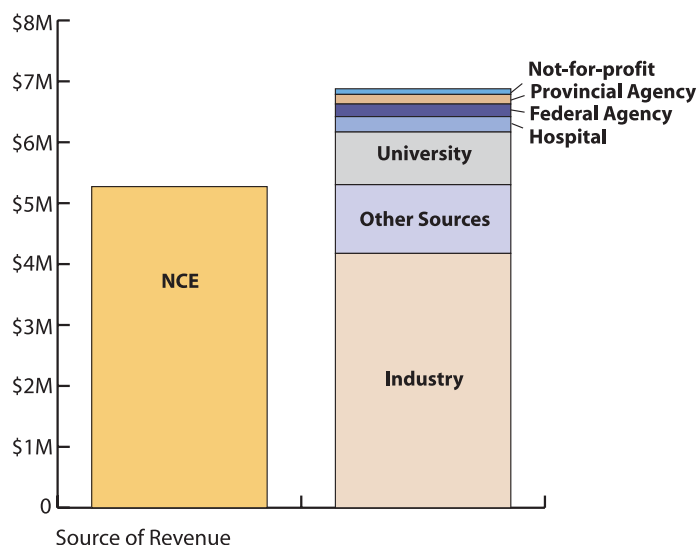


AllerGen has established numerous partnerships and collaborations resulting in cash and in-kind contributions to Network research and knowledge translation and dissemination.

Goal

Provide responsible, cost effective and accountable management, administration and support to all aspects of AllerGen's activities.

Revenue Sources (Cash and In-Kind) 2006-07



Allocation of NCE Funds by Institution 2006-07

| | |
|--|--------------|
| Dalhousie University | \$70,000.00 |
| St. Joseph's Healthcare | \$132,500.00 |
| Hôpital Ste. Justine | \$50,000.00 |
| Hospital for Sick Children Research Institute | \$226,300.00 |
| McGill University | \$100,000.00 |
| McGill University Health Centre | \$511,309.00 |
| McMaster University | \$414,145.65 |
| St. Michael's Hospital | \$221,500.00 |
| Université de Montréal | \$40,000.00 |
| Université du Québec à Chicoutimi | \$19,471.00 |
| Université Laval | \$67,500.00 |
| University of Alberta | \$506,198.40 |
| University of British Columbia | \$449,306.05 |
| University of Calgary | \$96,408.33 |
| University of Manitoba | \$352,788.00 |
| University of Saskatchewan | \$60,000.00 |
| University of Toronto | \$115,000.00 |

Revenue Distribution by Programme 2006-07

| | NCE FUNDS | CASH/IN-KIND | TOTAL |
|-----------------------------------|----------------|----------------|----------------|
| Gene-Environment Interactions | \$1,670,371.38 | \$1,607,653.36 | \$3,278,024.74 |
| Diagnostics and Therapeutics | \$1,495,686.65 | \$4,486,961.80 | \$5,982,648.45 |
| Public Health, Policy and Society | \$266,368.00 | \$353,194.70 | \$619,563.10 |

Revenue Sources (Cash and In-Kind) 2006-07

| | CASH | IN-KIND | TOTAL |
|----------------|------------------------|-----------------------|------------------------|
| NCE | \$5,272,000.00 | -- | \$5,272,000.00 |
| Industry | \$4,035,796.80 | \$139,779.00 | \$4,175,575.80 |
| Other Sources | \$547,712.00 | \$580,457.36 | \$1,128,169.36 |
| University | \$350,249.00 | \$514,213.70 | \$864,462.70 |
| Hospital | -- | \$253,000.00 | \$253,000.00 |
| Federal | \$30,000.00 | \$176,650.00 | \$206,650.00 |
| Provincial | -- | \$157,873.00 | \$157,873.00 |
| Not-For-Profit | \$50,000.00 | \$42,500.00 | \$92,500.00 |
| Total | \$10,285,757.80 | \$1,864,473.06 | \$12,150,230.86 |

Committees/comités

Research Management Committee/ Comité de gestion de la recherche

Judah A. Denburg, Committee Chair/Président du comté,
McMaster University

Allan Becker, University of Manitoba

Dean Befus, University of Alberta

Jeff Brook, Environment Canada/Environnement Canada

Tim Caulfield, University of Alberta

Susan Elliott, McMaster University

Tom Hudson, Ontario Institute for Cancer Research

Patricia Lorenz, University of Guelph

Paul O'Byrne, McMaster University

Peter Paré, University of British Columbia

Mark Raizenne, Health Canada/Santé Canada

David B. Shindler, BioDiscovery

Malcolm Sears, McMaster University

Brian Underdown, Lumira Capital

Louis-Philippe Boulet, ex officio, Université Laval

Redwan Moqbel, ex officio, University of Alberta

Cameron Mustard, ex officio, Institute for Work Health

Frances Silverman, ex officio, University of Toronto

Diana Royce, ex officio, Allergan NCE Inc./Allergan-RCE Inc.

Diane Allan, ex officio, NCE Program Officer to March 2, 2007/
Agente de programmes des RCE jusqu'au 2 mars 2007

Danielle Arseneault, ex officio, NCE Program Officer/
Agente de programmes des RCE

Agente de programmes des RCE

Advanced Education-Training Opportunities Advisory Committee/

Comité consultatif sur les possibilités d'études supérieures et de formation spécialisée

Kent HayGlass, Committee Chair/Président du comté,
University of Manitoba

Thomas Issekutz, Dalhousie University

Susan Kennedy, University of British Columbia

Chris Mody, University of Calgary

Danuta Radzioch, Montreal General Hospital

Marek Rola-Pleszczynski, Université de Sherbrooke

Andrew Sandford, University of British Columbia

Susan Wasserman, McMaster University

Judah Denburg, ex officio, McMaster University

Diana Royce, ex officio, Allergan NCE Inc./Allergan-RCE Inc.

Administrative Staff/ Personnel administratif

Diana Royce, Managing Director and Chief Operating Officer/
Administratrice déléguée et chef de l'exploitation

Samantha Simpkin, Office Manager/Gestionnaire de bureau

Judi Pattison, Communications and Marketing Officer/
Agente des communications et du marketing

Shelley Burford, Programme Coordinator/Coordonnatrice des
programmes

Kevin Reed, Information Technology Co-ordinator/
Coordonnateur des TI

Rosemary Watters, Financial Officer/Agente des finances

Suzanne Bezzina, Executive Secretary/Secrétaire exécutive

Researchers/chercheurs

Rafeef Abu-Gharbieh, University of British
Columbia

Darryl Adamko, University of Alberta

Marilyn Allen, Anaphylaxis Canada

Beth Anderson, Arkitek Studios, Seattle

Tony Bai, University of British Columbia

Jeremy Beach, University of Alberta

Allan Becker, University of Manitoba

Dean Befus, University of Alberta

John Beilby, Western Australia Centre of
Pathology & Medical Research

Cecilia Benoit, University of Victoria

Joseph Beyenne, Hospital for Sick Children

John Bienenstock, McMaster University

Louis-Philippe Boulet, Université Laval

Michael Brauer, University of British
Columbia

Jeff Brook, Environment Canada

Igor Burstyn, University of Alberta

Lisa Cameron, University of Alberta

Tim Caulfield, University of Alberta

Jamila Chakir, Université Laval

Edith Chen, University of British Columbia

Nicola Cherry, University of Alberta

Lisa Cicutto, University of Toronto

Ann Clarke, McGill University Health Centre

Don Cockcroft, University of Saskatchewan

Paul Corey, University of Toronto

Michael Cyr, McMaster University

Denise Daley, University of British Columbia

Joe Davison, University of Calgary

Heather Dean, University of Manitoba

Sharon Dell, University of Toronto

Paul Demers, University of British Columbia

Judah Denburg, McMaster University

Delbert Dorscheid, University of British
Columbia

Greg Downey, University of Toronto

Claire Dufresne, Association Québécoise Des
Allergies Alimentaires

André Dufresne, Université McGill

Joanne Duncan, McMaster University

Marek Duszyk, University of Alberta

Gary Eitzen, University of Alberta

Susan Elliott, McMaster University

Greg Evans, University of Toronto

Warren Finlay, University of Alberta

Mark Fitzgerald, University of British
Columbia

Paul Forsythe, McMaster University

Warren Foster, University of Western
Australia

Jack Gaudie, McMaster University

Gail Gauvreau, McMaster University

Ronald Gehr, Université McGill

Aziz Ghahary, University of British Columbia

John Gordon, University of Saskatchewan

Hartmut Grasmann, Hospital for Sick
Children

Wenda Greer, Capital Health District
Authority

Andrew Halayko, University of Manitoba

Qutayba Hamid, Université McGill

Laurie Harada, Anaphylaxis Canada

Kent HayGlass, University of Manitoba

Richard Hegele, University of British
Columbia

Linn Holness, St. Michael's Hospital

Tom Hudson, Ontario Institute for Cancer
Research

Claire Infante-Rivard, McGill University

Alan James, Sir Charles Gairdner Hospital

Manel Jordana, McMaster University

Lawrence Joseph, McGill University Health
Centre

Rhoda Kagan, North York General Hospital

Feige Kaplan, McGill University Health Centre

Sandy Kapur, Halifax Allergy and Asthma

Paul Keith, McMaster University

Margaret Kelly, University of Calgary

Susan Kennedy, University of British
Columbia

Darryl Knight, University of British Columbia

Michael Kobor, University of British Columbia

Mieke Koehoorn, University of British
Columbia

Tobias Kollmann, University of British
Columbia

Tulay Koru-Sengul, McMaster University

Petros Koutrakis, Harvard Medical School

Anita Kozyrskyj, University of Manitoba

Paul Kubes, University of Calgary

Irena Kudla, University of Toronto

Gena Lacuesta, Halifax Allergy and Asthma

Paige Lacy, University of Alberta

Catherine Laprise, Université du Québec à
Chicoutimi

Mark Larché, McMaster University

Jean-Pierre Lavoie, Université de Montréal

Nicole Letourneau, University of New
Brunswick

Anthony Levinson, McMaster University

Mary Lewis Allen, Allergy and Asthma
Information Association

Tong-Jun Lin, IWK Health

Gary Liss, University of Toronto

Ling Liu, Health Canada

Wendy Wen-Yi Lou, University of Toronto

Jacques Lussier, Université de Montréal

Larry Lynd, University of British Columbia

Brian MacNeil, University of Manitoba

Mohammed Mamdani, Institute for Clinical
Evaluative Sciences

Gail Marchessault, University of Manitoba

Philip Marsden, University of Toronto

Jean Marshall, Dalhousie University

Aaron Marshall, University of Manitoba

James Martin, Université McGill

Jim Martin, Université McGill

Jeff Masuda, McMaster University

Ron Mathison, University of Calgary

Irvin Mayers, University of Alberta

Bruce Mazer, Université McGill

Shawna McGhan, University of Alberta

Patrick McGrath, University of Manitoba

Chris McLeod, University of British Columbia

Trainees, research associates, technicians Stagiaires, associés de recherche et techniciens

Kelly McNagny, *University of British Columbia*
Sanjay Mehta, *University of Western Ontario*
Gregory Miller, *University of British Columbia*
Chris Mody, *University of Calgary*
Susan Moisey, *Athabasca University*
Redwan Moqbel, *University of Alberta*
Margaret Morris, *University of Manitoba*
Bill Musk, *Sir Charles Gardiner Hospital*
Cameron Mustard, *Institute for Work Health*
Paul O'Byrne, *McMaster University*
Nades Palaniyar, *Hospital for Sick Children*
Lyle Palmer, *Western Australia Centre of Pathology
& Medical Research*
Peter Paré, *University of British Columbia*
Michael Paterson, *Institute for Clinical Evaluative Sciences*
Martin Post, *Hospital for Sick Children*
Jim Purdham, *St. Michael's Hospital*
Sanjay Rajagopalan, *Mount Sinai Hospital*
Clare Ramsey, *University of Manitoba*
Felix Ratjen, *Hospital for Sick Children*
Greg Rex, *Halifax Allergy and Asthma*
Stacey Ritz, *Northern Ontario School of Medicine*
Marek Rola-Pleszcynski, *Université de Sherbrooke*
Brian Rowe, *University of Alberta*
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Bob Schellenberg, *University of British Columbia*
Don Schopflocher, *Alberta Health and Wellness*
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Malcolm Sears, *McMaster University*
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Shashank Sheth, *Montreal General*
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Martin Stampfli, *McMaster University*
Miriam Stewart, *University of Alberta*
Padmaja Subbarao, *Hospital for Sick Children*
Zacharias Suntres, *Northern Ontario School of Medicine*
Brian Sykes, *University of Alberta*
Timothy Takaro, *Simon Fraser University*
Susan Tarlo, *University of Toronto*
Carla Taylor, *University of Manitoba*
Scott Tebbutt, *University of British Columbia*
Teresa To, *University of Toronto*
Stuart Turvey, *University of British Columbia*
Wendy Ungar, *Hospital for Sick Children*
Timothy Vander Leek, *University of Alberta*
Stephan van Eeden, *University of British Columbia*
Dilini Vethanayagam, *University of Alberta*
Hari Vijay, *Health Canada*
Harissios Vliagoftis, *University of Alberta*
Michael Ward, *St. Michael's Hospital*
Susan Wasserman, *McMaster University*
Wade Watson, *IWK Health*
Susan Watt, *McMaster University*
Mark Wilkinson, *University of British Columbia*
Ruben Zamar, *University of British Columbia*
Xing Zhou, *McMaster University*

Loubna Akhabir
Eric Albert
Amal Al-Garawi
Farnam Ajamian
Kadria Alasaly
Suzan Alkhster
Reshma Amin
Sazzadul Anwar Khan
Katherine Arias
Victoria Arrandale
Susan Balkovec
Andree-Anne
Banville Langelier
Philippe Bégin
Moshe Ben-Shoshan
Marie-Renee Blanchet
Yohan Bossé
John Brannan
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Lucas Castellani
Rishma Chooniedass
Emily Christie
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Mary Conway
Shannon Cope
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Lynn Crawford
Olga Cravetchi
Beth Davis
Francis Davoine
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Rene Dery
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Stefane Dragon
Lisa Dreger
Benny Dua
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Paul Forsythe
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Leandro Fritscher
Erin Frokwerk
Nichole Garzia
Brenda Gerwig
Mayzar Ghaffari
Loie Goronfolah
Pampa Guha
Renoud Gosens
Na Guo
Tillie Hackett

Jamie Haddon
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Jianqing He
Sari Herman
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Huong Hong
Karen Howie
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Saiful Huq
Shamima Huq
Yuji Ishimatsu
Dunia Jawdat
Nitin Kapur
Colleen Keast
Elaine Keung
Nivedita Khanna
Christine King
Anouk Lavoie-
Lamoureux
Annie Leblanc
Mathilde Leclere
Laureline Lecoq
Josiane
Lefebvre-Lavoie
Mathieu Lemire
Andréa Lessard
Bo Li
Melinda Li
Shan Li
Joel Liem
Michael Lin
Yuriy Lissitsyn
Andrea Lo
Ingrid Loewen
Larisa Lotoski
Peter Lugomirski
Karl Lukic
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Steven Maltby
Piush Mandhane
Marcelo Marcet-Palacios
David Marchant
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XiaoMai Mei
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Troy Mitchell
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Katherine Morris
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Cheryl Peters
Mohua Podder
Jason Pole
Julie Polisena
Pierre Pouchard
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Philippe Prince
Jennifer Protujder
Irfaan Remtulla
Isha Rivera
Johanna Roa
Marie-Claire Rousseau
Erik Saude
Natalija Saurek-
Aleksandrovska
Yokananth Sekar
Shashank Sheth
Edward Shizha
Gurpreet Singhera
Cherrie Small
Steve Smith
Mary Speck
Chris St. Laurent
Julie St. Laurent
Yvan St. Pierre
Dorota Stefanowicz
William Stefura
Ruey-Chyi Su
Kevin Sun
Thai Tran
Karine Tremblay
Ben Tripp
Candy Tsang
Julie Turmel
Elizabeth Turnbull
Bruce Urch
Rattanjeet Vig
Richard Watson
Scott Weichenthal
Jim Wickware
Ying qi Wu
Jungang Xie
Nong Xu
Lauren Yallop
Aaron Young
Lori Zbytniuk
Jian Zhang