



Occupational  
Cancer  
Research  
Centre

**OCRC FIVE-YEAR (April 1<sup>st</sup>,  
2009 to March 31<sup>st</sup>, 2014)  
STRATEGIC PLAN &  
YEAR 1 ACCOMPLISHMENTS  
&  
YEAR 2 OPERATING PLAN**

March 31<sup>st</sup>, 2010

**Towards a cancer-free workplace**

## DIRECTOR'S NOTE

The establishment of the Occupational Cancer Research Centre (OCRC) grew out of the recognized need to re-emphasize research on the causes and prevention of occupational cancer after decades of diminished efforts in most countries. The recognition of the substantial burden, most notably among blue collar workers, paired with the growing number of suspect carcinogens in the workplace underscored the urgency to re-vitalize occupational cancer research. This added to the strong belief that everyone should have the right to work in a healthy environment led to the establishment of OCRC in 2009.

The launch of the Centre marked the culmination of a significant effort on the part of many individuals committed to improving workplace conditions and understanding causes of cancer. The Centre's progress to date is a direct result of their foresight and sustained commitment and involvement.

The Centre is supported by a strong partnership. The Workplace Safety and Insurance Board (WSIB), Cancer Care Ontario (CCO), and the Canadian Cancer Society, Ontario Division (CCS) have generously provided five year funding for the operation of the Centre and the United Steelworkers (USW) has provided critical strategic level support to the creation and operation of the Centre over this same period.

This document outlines the strategies and objectives developed to guide the work of the Centre over the first five years of operation. In addition, the document reports on our accomplishments in Year 1 (April 1, 2009-March 31, 2010) and our operating plan for Year 2 (April 1, 2010-March 31, 2011).

It has been a privilege to lead the Centre with Dr. Loraine Marrett (OCRC Associate Director) over the last 12 months. The OCRC staff (Shelley Harris, Karin Hohenadel, Janet Brown, Caroline Silverman, Daniel Bukvic and Yen Borrego) have been dedicated and creative in their activities to launch the Centre. Together we have taken many small steps and several larger ones to establish the Centre. With the support of the Steering Committee and the Scientific Advisory Committee, we believe we are making significant progress toward establishing a solid base for the Centre. We are confident that the Centre is well positioned to move ahead with the imminent and exciting arrival of Paul Demers as the permanent director. The next year will be an exciting time.

Much of the Centre's success is due to the support and advice provided by the Centre's partners, and we thank the members of the Steering and Scientific Advisory Committees for their hard work and sage advice. This is a team effort that bodes well for the future of research in occupational cancer.

Dr. Aaron Blair  
Interim Director, OCRC



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## **EXECUTIVE SUMMARY**

### **Why a Research Centre Focused on Occupational Cancer is Important**

The establishment of the Occupational Cancer Research Centre (OCRC) grew out of the recognized need to re-emphasize research on the causes and prevention of occupational cancer after a few decades of diminished effort in most countries. Over 60 occupational exposures have been classified as definite or probable human carcinogens and over a hundred more are suspected carcinogens. In addition, there are a large number of workplace substances that cause cancer in animals that have not been carefully evaluated in humans. Occupational exposure may account for 20 to 30% of the cancers among blue collar workers. This is a substantial and unacceptable burden.

This background when combined with knowledge of the growing number of suspect carcinogens in the workplace, underscores the urgency to re-vitalize occupational cancer research in Canada. The belief that everyone should have the right to work in a healthy environment led to the establishment of the Occupational Cancer Research Centre (OCRC) in 2009.

The launch of the Centre marked the culmination of a significant effort on the part of many individuals committed to improving workplace conditions and understanding causes of cancer. The Centre's progress to date is a direct result of their foresight and sustained commitment and involvement.

### **How the Centre is Supported**

The Centre is supported by three funding partners including the Workplace Safety and Insurance Board (WSIB), Cancer Care Ontario (CCO), and the Canadian Cancer Society, Ontario Division (CCS) and a fourth development partner, the United Steelworkers (USW).

A founding Steering Committee worked prior to the launch of the Centre to develop a vision, guiding principles, statement of mandate, scope, and research focus. This effort has served as a foundation for the work of the Centre during its start-up year and forms the basis of the Centre's Five Year Strategic Plan.

Currently the Centre is housed at Cancer Care Ontario and supported by both a Steering Committee and a Scientific Advisory Committee, both of which were formally established with terms of reference in 2009.

### **The Work of the Centre**

The following outlines the defining parameters for the Centre as approved by the Steering Committee at the time of the Centre's launch in March 2009.

#### **VISION**

The prevention of occupational cancer through the identification and elimination of exposures to carcinogens in the workplace.

#### **GUIDING PRINCIPLES**

The following outlines the principles developed to govern the activities of OCRC:



- The Centre will produce and transfer new knowledge to support community action, public education, prevention efforts, legislation and policy development.
- The Centre will conduct research that adheres to the highest standard of research integrity.
- The Centre will involve the stakeholders in the establishment of its research agenda.
- The Centre will be guided by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.
- The Centre will perform its research and knowledge dissemination activities free from stakeholder interference.

#### **MANDATE**

- Conduct research on occupational cancer and carcinogens.
- Bridge research across the disciplines of occupational, environmental and public health.
- Build occupational cancer research capacity within Canada.

#### **SCOPE**

- Ontario-wide focus including north and south presence.
- Nationally and internationally networked.
- Multi-disciplinary.
- Applied research primarily with a population and public health focus.

#### **RESEARCH FOCUS**

The Centre will establish and lead a program of integrated research to provide a firm foundation for action and policy-making that will ultimately lead to significant reductions in the overall burden of occupation-related cancer in Ontario. Given the Centre's attention to prevention of occupational cancer, the primary focus will be on occupational cancer research and will necessitate, at times, collaboration between researchers, worker organizations and employers.

The integrated Centre research program will consist of:

1. Surveillance of occupational cancers and workplace exposures.
2. Research into the causes of cancer in the workplace.
3. Intervention research to develop and test prevention and exposure reduction strategies.
4. Building capacity in applied occupational cancer research.
5. Knowledge transfer and exchange with stakeholders to ensure relevance of research and effective application of research findings related to prevention, risk reduction, and policy.

### **The Centre's Five-Year Strategic Plan**

The development of the five year strategic plan for the Centre has been ongoing for the last six months. Its content was informed by both the Steering Committee and the Scientific Advisory Committee. The chart below outlines the strategies and objectives developed to guide the Centre over the five year period.



## OCRC STRATEGIC PLAN – STRATEGIES AND OBJECTIVES

<b>STRATEGY 1: BUILD A RESEARCH PROGRAM</b>	
<b>STRATEGIC PLAN:</b> To build a research program that brings together researchers to further knowledge in the following areas: <ul style="list-style-type: none"> <li>- Surveillance of occupational cancers and workplace exposures</li> <li>- Identification of causes of cancer in the workplace</li> <li>- Intervention research to develop and evaluate prevention and exposure reduction strategies.</li> </ul>	<b>OBJECTIVES:</b> 1.1 Undertake research, publish and present in the Centre's areas of focus (surveillance, causes, interventions) using a mix of research methods. 1.2 Develop and support a strong network of researchers working in collaboration with the Centre.
<b>STRATEGY 2: BUILD RESEARCH CAPACITY</b>	
<b>STRATEGIC PLAN:</b> To grow and develop occupational cancer research capacity across disciplines and stakeholder communities considering: <ul style="list-style-type: none"> <li>- Number of people working in the field</li> <li>- Capacity to participate in research</li> <li>- Ability to use research findings.</li> </ul>	<b>OBJECTIVES:</b> 2.1 Support researchers and stakeholders to build capacity, share knowledge, and identify collaborative research opportunities and priorities. 2.2 Facilitate the development of research platforms including data set assembly, cohort development, and innovative research methods. 2.3 Attract students, pre and post doctoral scientists, and researchers in other disciplines to occupational cancer research.
<b>STRATEGY 3: DELIVER AND EXCHANGE KNOWLEDGE</b>	
<b>STRATEGIC PLAN :</b> To establish effective ways to build awareness for occupational cancer, inform/influence policy and practice, and encourage dialogue and the emergence of new research questions.	<b>OBJECTIVES:</b> 3.1 Support awareness building and knowledge exchange for occupational cancer surveillance, causes, prevention and intervention at the policy, workplace, and community levels. 3.2 Develop and disseminate materials that are accessible and useful to the broad stakeholder communities. 3.3 Support stakeholders' occupational cancer initiatives to effect change at the policy, workplace, and community levels.
<b>STRATEGY 4: BUILD A SUSTAINABLE CENTRE</b>	
<b>STRATEGIC PLAN:</b> To build a robust Centre that attracts funding and partners in support of excellence in research and knowledge transfer and exchange (KTE).	<b>OBJECTIVES:</b> 4.1 Build a strong base of funding and strategic partners. 4.2 Develop a strong core of OCRC researchers and staff. 4.3 Build strong Centre infrastructure including committees, structures, processes, and policies.

## **SUMMARY ACCOMPLISHMENTS YEAR 1**

The priority focus for Year 1 was to launch the Centre, recruit a permanent director, consult on the research agenda, initiate some research, and build the team. All of these things were successfully undertaken.

In addition and of note, was the OCRC branding effort, the fall Research Day, planning for the 2010 Shift Work Symposium, and the development of some significant research collaboration relationships and opportunities.

It is also important to acknowledge the significant effort required to establish the Centre administratively and operationally. Recruitment, procurement, website development, research tracking protocols, and terms of reference for committees all demanded attention.

Team reflections on the first year of the Centre's operation include:

- Strong committees (both Steering and Scientific Advisory) provided essential support and the required push to get going as quickly as possible.
- Recruiting senior people takes time.
- Managing expectations during start-up was critical. Staying in touch, being transparent, and seeking input was important to the process of engagement and sustained commitment.
- Finding ways to move forward, while still in the process of agreeing on how best to move forward, was challenging. Taking small steps forward helped to highlight the areas requiring further discussion and resolution.
- Housing the Centre within CCO provided essential stability during start-up. Finding ways to develop OCRC's independent presence will be important with time.
- Striking the balance between building the OCRC core team while establishing collaborative linkages and developing areas of research focus while staying open to needs and opportunities will be ongoing leadership challenges.

## **PLANS FOR YEAR 2**

The priority for Year 2 is to move assertively forward with the establishment of a research program. Research activity already begun will continue, several grants submissions are planned, and new opportunities will be explored.

In addition the plan includes co-hosting a Shift Work Symposium with the Institute for Work and Health, holding a second Research Day, and potentially holding a third topic focussed workshop.

It is expected that Dr. Demers will bring with him exciting ideas for building supports for students and involving stakeholders in the research process. The development of an engagement strategy to inform the knowledge transfer and exchange (KTE) efforts is underway and a working group is being struck to support its development and implementation.

Continuing to build the team will be a priority including both core staff and scientists, collaborators, and the Steering Committee and Scientific Advisory Committee.

## **PLANS FOR YEARS 3-5**

The ambitions for the Centre over the course of the five years are substantial. Most notable is the intent to build an international reputation for the work of the Centre that will attract research



funding, research collaborators, and students interested in pursuing careers in occupational health and most specifically occupational cancer research.

In addition, the Centre plans to interact with health and safety system partners and stakeholders by hosting symposia and workshops and by establishing the Centre as a knowledge source on occupational cancer. Also under consideration is the potential for the Centre to support its partners' community change efforts through shared knowledge exchange and capacity building initiatives.

Securing long term funding will be an ongoing priority of the Centre. This combined with the continued development of a strong multi-disciplinary team are seen as essential to the Centre's long term sustainability.

#### **STRATEGIC PLAN SUMMARY**

The large pull out summary chart following provides an easy reference to the Centre's plan five-year plan. The chart provides highlights of Year 1 accomplishments, proposed plans for Year 2, and strategic directions for Years 3-5. More detailed information on each is provided in the following planning document and appendices.



## **BACKGROUND**

### **The Need for an Occupational Cancer Research Centre**

The history of research, legislation, policy, prevention, and advocacy related to occupational cancer is a rich, but somewhat fragmented collage. North American research interest in occupational cancer has ebbed and flowed over the last several decades, as have the efforts in other parts of the world. Past efforts have identified hazards and means for their eradication, but recently the level of effort devoted to identification and prevention of occupational cancer appears to have diminished and revitalization is needed. The establishment of the Centre is a step in this direction toward a revitalized focus on occupational cancer. Research from the Centre will make contributions to cancer control beyond the workplace because many, maybe most, workplace exposures can be found in non-occupational situations through end use of various products.

There is still no good estimate of the number of occupationally-related cancers occurring in Ontario residents. What is known is that over 60 occupational exposures are definite or probable human carcinogens. Over 100 are possible human carcinogens and many other suspect hazards that require further clarification. In addition, many chemicals found in the workplace have never been adequately assessed for human carcinogenicity. The total cancer burden from occupational exposures is not known precisely. What is clear is that industrial workers are disproportionately more likely than the working population at large to have been exposed to workplace carcinogens and that 20 to 30% of cancers in blue collar workers may result from occupational exposures.

Without better knowledge of today's workplace exposures and their impacts on cancer, and without the development and implementation of effective tools for primary and secondary cancer prevention, Ontario's workers will continue to bear an unacceptable burden of occupational cancer.

### **The Founding of OCRC – A Brief History**

Because research attention given to the prevention of occupational cancers appears to have dwindled in many countries, a group of concerned individuals from the stakeholder communities of labour, employers, occupational disease researchers, and organizations such as the Cancer Care Ontario (CCO), Canadian Cancer Society (CSS) Ontario Division, the Workplace Safety & Insurance Board (WSIB), and the United Steelworkers have worked to reverse this trend.

In response to a WSIB call for proposal for a research centre focused on occupational cancer, a small group met over many months to develop a mutually agreed upon terms of reference for the Centre. Four founding partners were identified including the United Steelworkers and three funding partners including CCO, CCS Ontario Division, and WSIB. The process leading up to the establishment of the Centre was lengthy and intense. Two foundational documents resulted from this process to guide the establishment and evolution of the Centre, i.e., the Phase III Final Report dated January 30<sup>th</sup>, 2009 and the subsequent Occupational Cancer Research Centre (OCRC) Commitment and Shared Expectations document dated April 19<sup>th</sup>, 2009.

The goal over the next several years is to undertake important research to prevent occupational cancer and to expand the network of researchers and collaborators working in this field. In addition, the Centre plans to grow its base of funders and strategic partners.



## **OCRC – AN OVERVIEW**

The following outlines the key parameters for the establishment and ongoing operation of the Centre.

### **Vision**

The prevention of occupational cancer through the identification and elimination of exposures to carcinogens in the workplace.

### **Guiding Principles**

The following principles were developed by the Steering Committee to govern the activities of OCRC:

- The Centre will produce and transfer new knowledge to support community action, public education, prevention efforts, legislation and policy development.
- The Centre will conduct research that adheres to the highest standard of research integrity.
- The Centre will involve the stakeholders in the establishment of its research agenda.
- The Centre will be guided by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.
- The Centre will perform its research and knowledge dissemination activities free from stakeholder interference.

### **Mandate**

- Conduct research on occupational cancer and carcinogens.
- Bridge research across the disciplines of occupational, environmental and public health.
- Build occupational cancer research capacity within Canada.

### **Scope**

- Ontario-wide focus including north and south presence.
- Nationally and internationally networked.
- Multi-disciplinary.
- Applied research primarily with a population and public health focus.

### **OCRC Research Focus**

The Centre will establish and lead a program of integrated research to provide a firm foundation for action and policy-making that will ultimately lead to significant reductions in the overall burden of occupation-related cancer in Ontario. Given the Centre's attention to prevention of occupational cancer, the primary focus will be on applied occupational cancer research, and will necessitate, at times, collaboration between researchers, worker organizations and employers.



At the broadest level, the integrated research program will consist of:

- Surveillance of occupational cancers and workplace exposures.
- Research into the causes of cancer in the workplace.
- Intervention research to develop and test prevention and exposure reduction strategies.
- Building capacity in applied occupational cancer research.
- Knowledge transfer and exchange with stakeholders to ensure relevance of research and effective application of research findings related to prevention, risk reduction, and policy.

## **Centre Composition**

Note: The following was documented in the April 19<sup>th</sup> 2009 Statement of Commitments and Expectations document developed by the Steering Committee.

OCRC will be located at, and its staff employed by, Cancer Care Ontario. Staffing will include the Centre Director, core staff comprised of scientists (both wholly and partially dedicated to occupational cancer), knowledge transfer and exchange specialists, and administrative staff. The Centre will collaborate with a network of other scientists, both academic and mission-oriented, across the province that have associate appointments in the Centre. These would include, the University of Toronto, Queen's University, and a Northern Ontario University, for example, as well as the Ministry of Labour, Ministry of Health and Long-Term Care, Institute for Workers Health, and the WSIB-funded Centre for Research Expertise in Occupational Disease (CREOD). As a part of its capacity-building mandate, the Centre will offer fellowship positions for long-term trainees such as PhD students and post-doctoral fellows, as well as short-term practicum/internship opportunities for students and staff in academic institutions, public health units, Ministry of Labour and WSIB. The Centre will engage its stakeholders in the dissemination of research findings to influence policy and workplace practice development.

## **Governance of the Centre**

### **STEERING COMMITTEE**

Global advice and direction for the OCRC is provided by a Steering Committee consisting of one representative from each of the funders (WSIB, CCS Ontario Division, CCO), in addition to one representative from each of the Ministry of Labour, the Ontario labour community, the Ontario business community and Ontario researchers, as well as the Chair of the Scientific Advisory Committee. The Committee's Terms of Reference are appended as Appendix 1.

The primary responsibilities of the Steering Committee are to ensure that the Centre's research program is relevant to Ontario needs and to help translate research findings into provincial policy and workplace practice. The Steering Committee meets quarterly, or more often if needed (it has met seven times over the past year to assist in start up of the Centre) to provide ongoing advice regarding Centre operations and activities. The Steering Committee reviews the Centre's progress on an annual basis and will commission an external review of the Centre at the end of its third year of operation.



The current members of the Committee are:

- Dr. Jean-Yves Savoie, Chair, Steering Committee; Scientist Emeritus, Occupational Health & Safety Research Institute (IRSST)
- Ms. Alice Peter, Director, Occupational Disease Policy & Research Branch, WSIB
- Ms. Sylvia Leonard, Vice President, Community Engagement, Canadian Cancer Society Ontario Division
- Dr. John McLaughlin, Vice-President, Population Studies & Surveillance, Cancer Care Ontario
- Mr. Andrew King, National Health and Safety Co-ordinator and Dept. Leader Health, Safety and Environment Dept United Steelworkers Union – Canadian National Office
- Dr. Roland Hosein, Vice-President, Environmental Health and Safety, General Electric Canada
- Dr. Anthony Miller, Chair, OCRC Scientific Advisory Committee; Associate Director, Research, Dalla Lana School of Public Health, University of Toronto
- Dr. Gary Liss, Professional and Critical Services, Occupational Health and Safety Branch, Ministry of Labour
- Dr. Linn Holness, Director, Centre for Research on Environmental and Occupational Disease (CREOD), Dalla Lana School of Public Health and St. Michael's Hospital
- Dr. Aaron Blair, Interim Director, OCRC; Scientist Emeritus, Occupational & Environmental Epidemiology Branch, National Cancer Institute
- Dr. Loraine Marrett, Associate Director, OCRC; Senior Scientist and Director, Surveillance, Cancer Care Ontario

#### **SCIENTIFIC ADVISORY COMMITTEE**

A Scientific Advisory Committee, comprised of experts in occupational cancer surveillance, research, policy development and knowledge exchange, will provide advice on the Centre's research, considering independence and breadth of research, merit and quality of research projects, recruitment of scientific staff, network development to advance the Centre's research agenda, and the integration of research with knowledge transfer and exchange activities. Appendix 2 provides the detailed Terms of Reference for the Committee. Current members are:

- Dr. Anthony Miller, Chair; Associate Director, Research, Dalla Lana School of Public Health, University of Toronto
- Dr. Kristan Aronson, Department of Community Health and Epidemiology and Division of Cancer Care and Epidemiology Cancer Research Institute, Queen's University
- Dr. Tony Culyer, Ontario Research Chair in Health Policy & System Design, Department of Health Policy, Management and Evaluation, University of Toronto
- Dr. Paul Demers, Professor & Director School of Occupational and Environmental Hygiene, University of British Columbia
- Dr. Jack Siemiatycki, Professor and Canada Research Chair in Environmental Epidemiology, University of Montreal.

## OCRC Staffing

The Centre currently employs the following individuals:

- Dr. Aaron Blair, Interim Director
- Dr. Loraine Marrett, Associate Director, Senior Scientist
- Dr. Shelley Harris, Scientist
- Ms. Karin Hohenadel, Research Associate
- Mr. Daniel Bukvic, Junior Research Associate
- Ms. Janet Brown, Interim Manager
- Ms. Yen Borrego, Administrative Assistant
- Ms. Caroline Silverman, Project Management/KTE
- Dr. Laura Anderson, Post-doctoral Fellow

Except for Ms. Hohenadel, Dr. Anderson and Mr. Bukvic, all staff are less than full time. In addition, other CCO personnel provide service in support of the operation of the Centre including public affairs, procurement, human resources, legal, space, IT and finance.

## Reflections

The following provides an overview of the team's reflections on the experience of launching the Centre over the last year.

1. Developing effective working relationships with the Steering Committee and the Scientific Advisory Committee was crucial. Their support and encouragement to keep moving forward even while recruiting the permanent director was invaluable.
2. The recruitment of top flight researchers and staff was challenging given the short time frame, the early stage of development of the Centre, and the high expectations for the Centre. We were fortunate for the assistance provided by our Steering and Scientific Advisory Committees and helpful colleagues at various academic institutions in recruiting staff. In addition, CCO played a critical support role.
3. Managing expectations during the first year required balancing the excitement over the start up against the reality of the capacity of the Centre during this early start-up phase. Staying in touch, being transparent, and seeking input was important to the process of engagement and sustained commitment.
4. The Centre is the undertaking of a diverse group of committed individuals. Finding ways to move forward, while still agreeing on how to approach the work, was important. We found that taking small steps forward helped to highlight the areas requiring further discussion and resolution. This was particularly evident in the launch of research activity.
5. The decision to house the Centre within CCO provided valuable and much needed access to business processes and expertise in the areas of finance, human resources, IT, public affairs



and procurement. At the same time, establishing independence for the new Centre as we move forward will be important.

6. Striking the balance between building the OCRC team while establishing collaborative linkages and developing areas of research focus while staying open to needs and opportunities will be an ongoing leadership challenge.

The section following provides greater detail on each of the Centre's strategies and associated objectives.

## OCRC 5 YEAR STRATEGIC PLAN (April 1<sup>st</sup> 2009 – March 31<sup>st</sup> 2014)

The following chart provides a summary of the Centre's five-year strategies and objectives. Details are provided in the following sections, including a report on accomplishments in Year 1, operating plans for Year 2 and strategic directions for Years 3-5.

<b>STRATEGY 1: BUILD A RESEARCH PROGRAM</b>	
<b>STRATEGIC PLAN:</b> To build a research program that brings together researchers to further knowledge in the following areas: <ul style="list-style-type: none"> <li>- Surveillance of occupational cancers and workplace exposures</li> <li>- Identification of causes of cancer in the workplace</li> <li>- Intervention research to develop and evaluate prevention and exposure reduction strategies.</li> </ul>	<b>OBJECTIVES:</b> 1.1 Undertake research, publish and present in the Centre's areas of focus (surveillance, causes, interventions) using a mix of research methods. 1.2 Develop and support a strong network of researchers working in collaboration with the Centre.
<b>STRATEGY 2: BUILD RESEARCH CAPACITY</b>	
<b>STRATEGIC PLAN:</b> To grow and develop occupational cancer research capacity across disciplines and stakeholder communities considering: <ul style="list-style-type: none"> <li>- Number of people working in the field</li> <li>- Capacity to participate in research</li> <li>- Ability to use research findings.</li> </ul>	<b>OBJECTIVES:</b> 2.1 Support researchers and stakeholders to build capacity, share knowledge, and identify collaborative research opportunities and priorities. 2.2 Facilitate the development of research platforms including data set assembly, cohort development, and innovative research methods. 2.3 Attract students, pre and post doctoral scientists, and researchers in other disciplines to occupational cancer research.
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<b>STRATEGIC PLAN :</b> To establish effective ways to build awareness for occupational cancer, inform/influence policy and practice, and encourage dialogue and the emergence of new research questions.	<b>OBJECTIVES:</b> 3.1 Support awareness building and knowledge exchange for occupational cancer surveillance, causes, prevention and intervention at the policy, workplace, and community levels. 3.2 Develop and disseminate materials that are accessible and useful to the broad stakeholder communities. 3.3 Support stakeholders' occupational cancer initiatives to effect change at the policy, workplace, and community levels.
<b>STRATEGY 4: BUILD A SUSTAINABLE CENTRE</b>	
<b>STRATEGIC PLAN:</b> To build a robust Centre that attracts funding and partners in support of excellence in research and knowledge transfer and exchange (KTE).	<b>OBJECTIVES:</b> 4.1 Build a strong base of funding and strategic partners. 4.2 Develop a strong core of OCRC researchers and staff. 4.3 Build strong Centre infrastructure including committees, structures, processes, and policies.



## STRATEGY 1: BUILD A RESEARCH PROGRAM

### Summary

The April 2009 Statement of Expectations and Commitments directed the Centre to establish and lead a program of integrated research to provide a firm foundation for action and policy-making that will ultimately lead to significant reductions in the overall burden of occupation-related cancer in Ontario. The Centre's research program will consider the current status and important issues in the area of occupational cancer, interests and expertise of affiliated researchers, needs and research interests of Centre partners and key stakeholders in the health and safety community, and the research opportunities available. Development of a successful research program will necessitate collaboration between researchers, worker organizations and employers. A priority for the Centre will be to bring together researchers to further knowledge in surveillance of occupational cancers and workplace exposures, research into the causes of cancer in the workplace, and intervention research to develop and test prevention and exposure reduction strategies.

The operating principles developed to guide the Centre's research activity are to:

- Produce and transfer new knowledge to support community action, public education, preventions efforts, legislation and policy development.
- Conduct research that adheres to the highest standard of research integrity.
- Involve the stakeholders in the establishment of its research agenda.
- Be guided by the precautionary principle that reasonable steps to reduce risk should not await scientific certainty.
- Perform its research and knowledge dissemination activities free from stakeholder interference.

The chart below outlines objectives in support of *Strategy 1: Build a Research Program* for the five year period. The following pages provide an outline of accomplishments by objective for Year 1, proposed activities for Year 2, and strategic directions for Years 3-5.



<b>STRATEGY 1: BUILD A RESEARCH PROGRAM</b>	
<b>STRATEGIC PLAN:</b> To build a research program that brings together researchers to further knowledge in the following areas: <ul style="list-style-type: none"> <li>- Surveillance of occupational cancers and workplace exposures</li> <li>- Research into the causes of cancer in the workplace</li> <li>- Intervention research to develop and test prevention and exposure reduction strategies.</li> </ul>	<b>OBJECTIVES:</b> <ol style="list-style-type: none"> <li>1.1 Undertake research, publish and present in the Centre's areas of focus (surveillance, causes, interventions) using a mix of research methods.</li> <li>1.2 Develop and support a strong network of researchers working in collaboration with the Centre.</li> </ol>

### **Objective 1.1: Undertake research, publish and present in the Centre's areas of focus (surveillance, causes, interventions) using a mix of research methods.**

Building a core base of high-quality research is fundamental to the success of the Centre.

The selection of specific research projects is based on the ongoing consultation with stakeholders, the areas of interest and expertise of the Centre's researchers, the interests and areas of expertise of Centre collaborators, advice from the Steering and Scientific Advisory Committees, and the availability of funding.

Publishing and presenting research findings to the scientific and lay communities is an important research activity of the Centre. Maintaining this focus will be important to the development of the Centre's international reputation.

#### **YEAR 1 ACCOMPLISHMENTS**

- The Steering Committee finalized OCRC commitment and expectations document, April 19<sup>th</sup>, 2009, outlining areas of research focus and operating principles.
- Completed a stakeholder consultation through an online survey and follow-up interviews designed to seek input for the development of the Centre's research program. Results of this survey were presented at the 2009 OCRC Research Day and a report describing the results was posted on the OCRC website. This report is enclosed as Appendix 3.
- Held first annual OCRC Research Day. Appendix 4 provides a summary of the Research Day including a listing of presenters and an analysis of the participants' evaluation of the day.
- Planned a Shift Work Symposium with IWH for April 2010.
- Planned an OCRC symposium for upcoming CARWH meeting May 2010.
- Presentations, publications and committee work undertaken in Year 1 is found in Appendix 6.
- Developed 2 Cancer Fact Sheets – one on mesothelioma and another summarizing the stakeholder consultation survey results. Both included in Appendix 7.
- Prepared a paper (submitted) on occupational cancer in developed countries.
- Developed a framework with the Scientific Advisory Committee to characterize potential research projects by considering time frame and by area of research focus. See below.



AREAS OF FOCUS	SHORT TERM (1-2 YEARS)	INTERMEDIATE TERM (2-5 YEARS)	LONG TERM (GREATER THAN 5 YEARS)
SURVEILLANCE			
CAUSES OF CANCER			
INTERVENTION			

- Initiated research projects on:
  - Mesothelioma patterns and projections in Ontario and Canada.
  - Additional analyses of the Cross-Canada study of pesticides and select cancers.
  - Ontario uranium miner cohort: linkage with national mortality and cancer incidence files.
  - Systematic review of occupational cancer prevention efforts.
  - Literature survey of inclusion of women and minorities in occupational cancer research.
- Submitted 3 proposals to WSIB February 2010 competition including the following:
  - Health risks among nuclear workers in Ontario who have been exposed to internal sources of ionizing radiation: A feasibility study.
  - Making the link between exposure and respiratory cancer in the clinical setting: What are the steps?
  - Occupational exposure to diesel and gasoline engine emissions and the incidence of colorectal and bladder cancer in Canadian men.

## YEAR 2 PLANS

- Continue development of the research program portfolio including consideration of priority areas of research agenda development.
- Hold a second annual OCRC Research Day.
- Co-host Shift Work Symposium with IWH April 12<sup>th</sup>, 2010.
- Hold OCRC symposium session at the May 2010 CARWH meeting.
- Seek opportunities for further applications for funding.
- Prepare papers on the following -
  - Combinations of pesticides and risk of soft tissue sarcoma, lymphoma, and myeloma.
  - Pesticides, immunological disorders, and soft tissue sarcoma, lymphoma and myeloma.
  - Uranium miners and cancer.
  - Inclusion of women and minorities in epidemiologic studies.
  - Evidence for effective intervention on occupational cancer.
- Continue research activity as outlined in summary chart found on following pages 19-22 and in appendix 5.



## OCRC Research Update: Summary Chart

### PROJECTS IN PROGRESS:

Activity	Description	2009 Progress	2010 Plans
<b>Mesothelioma patterns and projections in Ontario and Canada</b>	The annual incidence rates and number of new cases of mesothelioma in Ontario continue to rise, despite regulation of asbestos use in the 1980s. This analysis will project the peak incidence year, and the overall number of cases we can expect through 2060.	<ul style="list-style-type: none"> <li>Data assembled and sent to Dr. Mark Clements for analysis</li> </ul>	<ul style="list-style-type: none"> <li>Provide funding for student/research assistant to help complete the analysis</li> <li>Synthesize and report on results as they become available <ul style="list-style-type: none"> <li>- Topic at CARWH symposium</li> </ul> </li> </ul>
<b>Cross-Canada study of pesticides and select cancers: A re-analysis</b>	A cross-Canada case-control of non-Hodgkin's lymphoma, Hodgkin's lymphoma, multiple myeloma, and soft-tissue sarcoma was conducted several years ago focusing on pesticide exposure. New analyses will be conducted including: (1) the effects of multiple pesticides in combination on cancer risk, and (2) the potential for conditions such as asthma to act as effect modifiers in this relationship.	<ul style="list-style-type: none"> <li>Collaborative agreement established with partners across Canada</li> <li>Data analysis plan established</li> <li>Preparation of submission to University of Toronto Research Ethics Board (REB)</li> </ul>	<ul style="list-style-type: none"> <li>Obtain REB approval</li> <li>Complete analysis <ul style="list-style-type: none"> <li>- Subset of analyses to be completed by summer practicum student</li> </ul> </li> <li>Synthesize and report on results as they become available <ul style="list-style-type: none"> <li>- Topic at CARWH symposium</li> <li>- Publication in academic journals</li> </ul> </li> </ul>
<b>Ontario uranium miner cohort: linkage with national mortality and cancer incidence files</b>	This cohort, which was recently linked with Ontario cancer incidence and mortality files, will now be linked with Canada-wide incidence and death files, 1954-2006 to ascertain additional deaths and cancer cases. Gamma radiation doses will be estimated prior to implementation of radiation badges in uranium mines. This will enable the cohort to be analysed for multiple cancers according to dose of radon, gamma and total radiation.	<ul style="list-style-type: none"> <li>Project placed in Statistics Canada queue</li> </ul>	<ul style="list-style-type: none"> <li>Provide short-term funding for former student to continue analyses of existing cohort</li> <li>Linkage to begin in September 2010 for analysis in 2011</li> <li>Topic at CARWH symposium</li> </ul>



Activity	Description	2009 Progress	2010 Plans
<b>Systematic review of occupational cancer prevention efforts</b>	Literature documenting the effectiveness of risk-reduction or prevention efforts in reducing workplace-related cancer incidence has not been assembled. This project will attempt to compile and summarize existing evidence.	<ul style="list-style-type: none"> <li>• Methodology planned with expert in systematic reviews</li> <li>• Partnership with Kurt Straif of IARC established</li> <li>• Content area expert consultation begun</li> <li>• Search strategy development</li> </ul>	<ul style="list-style-type: none"> <li>• Complete expert consultation, collection of literature, synthesis</li> <li>• Prepare results for academic and lay publication <ul style="list-style-type: none"> <li>- Results may be a focus of 2010 OCRC Research Day</li> </ul> </li> </ul>
<b>Shift work symposium: "The health effects of shift work"</b>	In April 2010, OCRC and IWH will host a symposium on the health effects of shift work. Topics include the prevalence and trajectory of shift work in Canada, biological mechanisms, and shift work and cancer, injury, CVD and fertility.	<ul style="list-style-type: none"> <li>• Collaborative agreement made with IWH</li> <li>• Date and venue secured</li> <li>• List of speakers established</li> <li>• Invitations sent to various stakeholders in the occupational health community</li> </ul>	<ul style="list-style-type: none"> <li>• Establish members of interdisciplinary panel</li> <li>• Host and evaluate symposium</li> <li>• Publish resulting papers in academic journal</li> </ul>
<b>CARWH symposium: "Carcinogens in Ontario workplaces: Work of the new Occupational Cancer Research Centre"</b>	This symposium will provide participants of the 2010 CARWH conference with an understanding of occupational carcinogens, their burden, how they are prioritized by the stakeholder community in Ontario, and information regarding OCRC activities. An in-depth look at 3 selected exposures will be offered: asbestos, pesticides, and radiation.	<ul style="list-style-type: none"> <li>• Symposium application developed, submitted, and accepted</li> </ul>	<ul style="list-style-type: none"> <li>• Presentations at the CARWH Conference. Slides will be added to the OCRC website.</li> </ul>

**PROJECTS UNDER CONSIDERATION:**

Activity	Description	2009 Progress	2010 Plans
<b>TruGreen pesticides exposure data analysis</b>	A repeated measures biomonitoring study was funded in the U.S. to examine variations in urinary markers of pesticides in professional turf applicators. A key objective was to evaluate factors that may be associated with absorbed dose estimates, and to develop statistical models that can predict exposures for use in occupational cohort studies of cancers and other adverse outcomes. This project will conduct additional analyses on this repeated measures data.	<ul style="list-style-type: none"> <li>• Project and analysis plan generated</li> </ul>	<ul style="list-style-type: none"> <li>• Hire biostatistician to support analyses</li> <li>• Synthesize and report on results as they become available</li> </ul>
<b>Health risks among nuclear workers in Ontario who have been exposed to internal sources of ionizing radiation: A feasibility study</b>	Quantification of health risks among workers exposed to internal sources of ionizing radiation has been identified as an important research question in Europe. This project involves preliminary design and feasibility investigations to determine whether an epidemiological study of cancer risk associated with internal emitters could be conducted among workers in Ontario nuclear facilities (where there is potential for such exposures).	<ul style="list-style-type: none"> <li>• Collaboration with investigators at CREAL established</li> <li>• Application for development funding submitted to RAC</li> </ul>	<ul style="list-style-type: none"> <li>• If accepted, relevant stakeholders will be contacted to discuss feasibility issues, a database of relevant employers will be collected, and a sample of employee records will be collected and analyzed.</li> </ul>
<b>Occupational exposure to diesel and gasoline engine emissions and the incidence of colorectal and bladder cancer in Canadian men</b>	Workplace exposures to diesel and gasoline emissions from engine exhausts are known to affect human health, but their effects on cancer remain poorly understood. Examples of jobs where workers are exposed to diesel and/or gasoline exhausts include: railroad workers, taxi drivers, truckers, firefighters, and parking garage attendants. This study will examine whether workplace diesel and gasoline exposure increases the risk of developing colorectal and bladder cancer.	<ul style="list-style-type: none"> <li>• Collaboration established with partners at DLSPH, PHAC, INRS</li> <li>• Full grant funding application submitted to RAC</li> </ul>	<ul style="list-style-type: none"> <li>• If accepted, data will be extracted from NECSS, potential workplace exposures for all jobs held by cases and controls will be assessed, and analyses will begin.</li> </ul>

Activity	Description	2009 Progress	2010 Plans
<b>Making the link between exposure and respiratory cancer in the clinical setting: what are the steps?</b>	Encouraging recognition and reporting of occupational cancers remains challenging. This project will test two strategies for identifying occupational exposure to asbestos and assist with the compensation process among lung cancer and mesothelioma patients.	<ul style="list-style-type: none"> <li>• Collaboration with CREOD, OHCOW established</li> <li>• Application for development funding submitted to RAC</li> </ul>	<ul style="list-style-type: none"> <li>• If accepted, data collection will be completed, and analysis and synthesis will begin</li> <li>• Ideas are being developed for a full-scale intervention project</li> </ul>
<b>Women and minorities in occupational cancer research: An update</b>	In 1994, Sheila Hoar Zahm et al. published a paper on the inclusion of women and minorities in occupational cancer research. This project will update this analysis from 1990 forward to determine whether changes have occurred in the past two decades.	<ul style="list-style-type: none"> <li>• Gained the support and collaboration of Shelia Zahm in continuing this analysis</li> <li>• Additional journals of interest added</li> <li>• Database development initiated</li> </ul>	<ul style="list-style-type: none"> <li>• Scan of papers, synthesis, and publication of results will take place</li> <li>• Considering adding additional variables (e.g. aboriginal status, migrant workers) to increase the utility of this search</li> </ul>

## **Objective 1.2: Develop and support a strong network of researchers working in collaboration with the Centre.**

The development of a core base of researchers at OCRC is critical to the ability of the Centre to tackle important research and consultation issues on occupational cancer.

It is also important however, for the Centre to develop strong collaborations with others within Canada, and where appropriate internationally, to ensure effective use of the limited resources and expertise available in this field.

### **YEAR 1 ACCOMPLISHMENTS**

- Established a Scientific Advisory Committee composed of senior investigators from across Canada including Dr. Anthony Miller (University of Toronto), Dr. Kristan Aronson (Queen's University), Dr. Tony Culyer (University of Toronto), Dr. Paul Demers (University of British Columbia), Dr. Jack Siemiatycki (University of Montreal).
- Held a first Research day with presentations by scientists from Queen's University, Canadian Delegation to ISO TC 229 on Nanotechnology, International Agency for Research on Cancer (IARC), and Ontario Health Study (OHS). A panel discussion included participants from UT DLSPH, USW, CCS, CME, and OAHPP.
- OCRC scientist participated in the development of occupational and environmental aspects of the Ontario Health Study - a prospective cohort study.
- Held consultations with local, national, and international groups to obtain insights and opinions on occupational cancer research and to inform these communities of the Centre's mandate and focus.
- Established research collaborations:
  - Worked with investigators at CCO, the British Columbia Cancer Agency and the University of Saskatchewan on a study of pesticides and lymphoma, myeloma and soft tissue sarcoma.
  - Submitted a joint research application to RAC in February 2010 with CREOD and OHCOW.
  - Developed collaborative links with IWH (Cam Mustard, Ron Saunders) for a joint hosting of a scientific meeting on shift work.
  - Developed collaborative links with methods expert Stefan Baral of University of Toronto Faculty of Medicine and content expert Kurt Straif from IARC for a review of the evidence in the literature regarding prevention of occupational cancer.
  - Established collaborations with Mark Clements, Australian National University, to develop mesothelioma projections for Canada and Ontario.
  - Established project on uranium miners with CREAL.
  - Developed collaborative links with the National Cancer Institute (Shelia Zahm) on a literature review of inclusion of women and minorities in occupational cancer studies.



## **YEAR 2 PLANS**

- Expand the SAC to include additional national and potential international representation.
- Build and develop the researcher network through communication, research collaborations, and capacity support – see Strategy 2: Build Research Capacity for plans to support researchers and 3.3 re development of the stakeholder engagement strategy.
- Establish formal connections with Ontario institutions engaged in training scientists in disciplines relevant to occupational cancer to develop collaborations with faculty and provide research opportunities for students.
- Continue collaborative work on projects listed above in section 1.1.
- Develop relationships with other national centres conducting research on occupational cancer.

## **Years 3-5 Strategic Direction**

Plans for years 3-5 for Strategy 1: Build a Research Program include:

- Build an international reputation as a Centre of expertise for occupational cancer research and through high productivity.
- Expand research program to include a strong mix/portfolio of short term, medium term, and longer term projects.
- Initiate a research project using data from the Ontario Health Study (OHS).
- Grow research funding through research grant competitions, and where appropriate, research contracts.
- Expand to include formal linkages with 2-3 national/international research centres.
- Expand and develop provincial, national, and international network of researchers year by year.



## STRATEGY 2: BUILD RESEARCH CAPACITY

### Summary

An important goal for the Centre is to build research capacity in Canada and especially in Ontario. This capacity considers students, researchers, and stakeholders interested in collaborating on research projects, in embarking on a career in occupational cancer research, and/or applying the findings of research in their day to day work.

The following outlines the objectives in support of *Strategy 2: Build Research Capacity* for the five-year period. The following provides accomplishments by objective for Year 1, proposed activities for Year 2, and strategic directions for Years 3-5.

STRATEGY 2: BUILD RESEARCH CAPACITY	
<b>STRATEGIC PLAN:</b> To grow and develop occupational cancer research capacity across disciplines and stakeholder communities considering: <ul style="list-style-type: none"><li>- Number of people working in the field</li><li>- Capability to participate in research</li><li>- Ability to use research findings.</li></ul>	<b>OBJECTIVES:</b> <ul style="list-style-type: none"><li>2.1 Support researchers and stakeholders to build capacity, share knowledge, and identify collaborative research opportunities and priorities.</li><li>2.2 Facilitate the development of research platforms including data set assembly, cohort development, and innovative research methods.</li><li>2.3 Attract students, pre and post doctoral scientists, and researchers in other disciplines to occupational cancer research.</li></ul>

### 2.1 Support researchers and stakeholders to build capacity, share knowledge, and identify collaborative research opportunities and priorities.

The Centre will encourage and enhance the interaction and exchange of information on occupational cancer between researchers and others in the field through meetings, on line forums, publications in the scientific literature and other lay publications, and by providing opportunities for stakeholders to participate on research projects.

#### YEAR 1 ACCOMPLISHMENTS

- Held 2009 Research Day – see Appendix 4 for the Research Day agenda.
- Planned (with IWH) a Shift Work Symposium for April, 2010.
- Met with scientists at CCS Research Institute, IWH, WSIB, OHCOW, Ontario Agency for Health Protection and Promotion, and CREOD to explore possible interactions and collaborations.

#### YEAR 2 PLANS

- Use the OCRC website and Research Day to explore opportunities for involvement of community partners in OCRC research.
- Hold (with IWH) a Shift Work Symposium April 12<sup>th</sup> 2010.
- Discuss utility of a second meeting on shift work to focus on prevention and interventions.



- Hold 2010 OCRC Research Day.
- Plan a 2011 scientific meeting. Topics under consideration include a: 1) meeting with organizations who may have data suitable for establishing occupational cohorts to explore research opportunities, 2) conference to assemble information on successful interventions on occupational cancer, and 3) occupational cancer among women and minorities.

## **2.2 Facilitate the development of research platforms including data set assembly, cohort development, and innovative research methods.**

The development of research platforms is seen as a desirable activity to enhance occupational cancer research capacity in Ontario and elsewhere in Canada. Efforts are needed to support collaborative efforts in the establishment of accessible data sets, in developing and sustaining cohorts, and in the development of new research methods to further the field.

### **YEAR 1 ACCOMPLISHMENTS**

- OCRC scientist engaged in the development of the occupational and environmental survey supplement for the Ontario Health Study (OHS).
- Considered ways to support the Sudbury Miners Cohort.
- Responded to stakeholder requests for information primarily through the website.
- Provided consultations about occupational cancer issues including 1) discussion of information on the carcinogenicity of various workplace exposures for a steelworker in relation to compensation and 2) discussion of workplace cancer clusters with OHCOW.

### **YEAR 2 PLANS**

- Continue ongoing link with the OHS and explore opportunities to evaluate workplace exposures and carcinogenic mechanisms.
- Support development of CAREX Ontario.
- Other ideas under discussion:
  - Pooling of occupational cohorts or case-control studies of cancer in Canada to provide research platforms for the research community - need to decide how, when, and which efforts should be undertaken;
  - Develop a resource to document successful intervention efforts on occupational exposures; and
  - Assemble opportunities for new cohort studies.
- Provide advice and support upon request.
- Develop an effective process for responding to requests for information and/or consultation.

## **2.3 Attract students, pre and post doctoral scientists, and researchers in other disciplines to occupational cancer research.**

Attracting and supporting the next generation of researchers to the field is important to the Centre.

### **YEAR 1 ACCOMPLISHMENTS**

- Students supported included:
  - Minh Do, PhD Student, Epidemiology, DLSPH. (Lorraine Marrett)
  - Manisha Pawha, MPH Student, Occupational and Environmental Health, DLSPH. (Shelley Harris)
- Awarded two OCRC Student Research Prizes at the November 2009 Research Day to Minh Do, University of Toronto and Anne Grundy, Queen's University.
- Recruited a Post Doctorate Scientist – Dr. Laura Anderson (Epidemiology, University of Toronto).
- Recruited a Junior Research Associate - Daniel Bukvic (Occupational and Environmental Health, UT).

### **YEAR 2 PLANS**

- Support (funding, practicum experience) 1-2 PhD and/or Masters students.
- Participate in seminar series at DLSPH, CCO, IWH and others as identified.
- Consider offering student travel grants.

## **Years 3-5 Strategic Direction**

Plans for years 3-5 for Strategy 2: Build Research Capacity include:

- Develop initiatives to support and engage OCRC affiliated scientists, other collaborating researchers, and talent in related fields through seed grants, student funding and awards, and researcher practicum opportunities.
- Inventory and facilitate access to occupational cancer databases, e.g. cohorts.
- Help to expand and strengthen CAREX Ontario.
- Develop a Prevention of Occupational Cancer Award available to both researchers and stakeholders.

## STRATEGY 3: DELIVER AND EXCHANGE KNOWLEDGE

### Summary

The Centre recognizes the value of active information exchange with stakeholders to ensure an effective occupational cancer research and prevention program.

Effective interaction between the Centre and various stakeholders and audiences is essential to the success of the Centre. Developing the Centre as a credible voice in occupational cancer research requires development of the Centre's brand, messages about role and performance, useful information in an accessible format, and strong relationships with the various stakeholder communities.

The chart below outlines the objectives in support of *Strategy 3: Deliver and Exchange Knowledge* for the five-year period. The following pages provide accomplishments by objective for Year 1, activities for Year 2, and strategic directions for Years 3-5.

STRATEGY 3: DELIVER AND EXCHANGE KNOWLEDGE	
<b>STRATEGIC PLAN:</b> To establish effective ways to build awareness for occupational cancer, inform/influence policy and practice, and encourage dialogue and the emergence of new research questions.	<b>OBJECTIVES:</b> 3.1 Support awareness building and knowledge exchange for occupational cancer surveillance, causes, prevention and intervention at the policy, workplace, and community levels. 3.2 Develop and disseminate materials that are accessible and useful to the broad stakeholder communities. 3.3 Support stakeholders' occupational cancer initiatives to effect change at the policy, workplace, and community levels.

### 3.1 Support awareness building and knowledge exchange for occupational cancer surveillance, causes, prevention and intervention at the policy, workplace, and community levels.

A primary commitment of the Centre is to support greater awareness of occupational cancer risks and prevention measures. A unique advantage for OCRC is the commitment from the partners including WSIB, CCO, CCS and USW to support this work through their communication networks and efforts.

#### YEAR 1 ACCOMPLISHMENTS

- Held OCRC launch event March 2009.
- Discussed with partners the role of OCRC in supporting awareness efforts.
- Held 2009 Research Day (see appendix 4 for Summary Report) November 2009 to serve as a mechanism to provide information on occupational cancer to the stakeholder communities and to receive information from them regarding their views about Centre activities.
- Distributed stakeholder consultation results to Research Day participants and posted on the website.



- Performed outreach activities including meetings with, and presentations for, various stakeholder groups to describe Centre activities and plans, to elicit collaborations, and to exchange information. Presentations included:
  - Blair, A., Harris, S.A., Pichora, E., Brown, J., Marrett, L.D. Ontario's Occupational Cancer Research Centre (OCRC). CSEB/APHEO 2009 Joint Conference. May 25-28, 2009. Ottawa, Ontario.
  - Blair, A. Agricultural exposures and cancer. WSIB, July 9, 2009.
  - Blair, A. Confounding and Exposure Misclassification in Occupational Epidemiologic Research. Dalla Lana School of Public Health. October 8, 2009. Toronto, Ontario.
  - Blair, A. Occupational Cancer Research Centre. IAPA Safety Solutions 2009 Regional Conference & Trade Show. October 6, 2009. Sudbury, Ontario.
  - Blair, A. Occupational Cancer: Knowledge and Needs. IWH. November 4, 2009.
  - Blair, A. Results of the 2009 OCRC Stakeholder Consultation. OCRC Research Day. November 19, 2009.
  - Do, Minh T.; Marrett, Loraine D.; Purdham, James; Lou, Wendy; and Payne, Jennifer I. Ionizing Radiation Exposure and Risk of Gastrointestinal Cancers: A Study of Ontario Uranium Miners. Canadian Society for Epidemiology and Biostatistics 4th National Student Conference. May 23-25, 2009. Ottawa, Ontario.
  - Do, Minh T.; Marrett, Loraine D.; Purdham, James; Lou, Wendy; and Payne, Jennifer I. Ionizing Radiation Exposure and Risk of Gastrointestinal Cancers: A Study of Ontario Uranium Miners. Canadian Society for Epidemiology and Biostatistics (CSEB) and Association of Public Health Epidemiologists in Ontario (APHEO) Joint Conference. May 25-28, 2009. Ottawa, Ontario.
  - Harris, S.A. The Ontario Health Study (OHS): Occupational and Environmental Research Priorities, Exposure Assessment Strategies, Challenges, and Opportunities. OCRC Research Day. November 9, 2009. Toronto, Ontario.
  - Marrett, L. Occupational Cancer Research Centre: a partnership for the prevention of occupational cancer. Canadian Cancer Society Ontario Division, Community Development Managers Meeting. May 25, 2009. Toronto, Ontario.
  - Marrett, L. and McLaughlin, J. Update of the Occupational Cancer Research Centre, May 19, 2009. Toronto, Ontario.
  - Marrett, L. Occupational cancer research: future directions. University of Toronto Epidemiology Seminar Series. January 14, 2009. Toronto, Ontario.

## YEAR 2 PLANS

- Hold Shift Work symposium April 12<sup>th</sup> 2010.
- Participate at May 2010 CARWH meeting.
- Hold 2<sup>nd</sup> Research Day in the fall of 2010.
- Explore opportunities for OCRC to provide information and/or consultation of use to partners.



### **3.2 Develop and disseminate materials that are accessible and useful to the broad stakeholder communities.**

The development and dissemination of information for use by the broad range of stakeholders is a priority of the Centre. A Stakeholder Engagement Strategy has been drafted that outlines our proposed dissemination approach(es) by stakeholder group. Upon the direction of the Steering Committee, a working group is being developed to further the development of this strategy. See Appendix 6 for listing of publications and presentations.

#### **YEAR 1 ACCOMPLISHMENTS**

- Developed an interim webpage on CCO website
- Developed an initial design for new website; and procurement and RFP paperwork for hiring of consultants to develop new website.
- Developed an OCRC communications ‘tool kit’ including a backgrounder, generic slide deck, key messages (including messaging on behalf of CCO, CCS, WSIB, USW), and an occupational cancer research poster for use by Centre staff and to share with others.
- Developed two Cancer Fact Sheets: one on Mesothelioma and the other on the results of the research agenda consultation survey.
- Posted Research Day presentations on the website.
- Developed the OCRC logo and positioning statement – *toward a cancer free workplace* (launched at OCRC Research Day).

#### **YEAR 2 PLANS**

- Establish an independent OCRC website.
- Develop content for the website.
- Update OCRC Tool Kit materials.
- Develop two additional Cancer Facts Sheets.
- Prepare a scientific and lay report on the systematic review of occupational cancer prevention efforts.

### **3.3 Support stakeholders’ occupational cancer initiatives to effect change at the policy, workplace, and community levels.**

The Centre will review other community engagement and development efforts locally and internationally to identify practices that may be applicable in our context.

The Centre plans to organize forums on issues where available evidence and knowledge may be sufficient to benefit from careful evaluation of the literature to achieve consensus, identify gaps, and recommend future research needs. Individuals participating in such forums would be drawn from various stakeholder communities. Such forums could lead to the development of a demonstration project, the development of shared messaging, and/or the commitment to promote new targets to support research and prevention.



## **YEAR 1 ACCOMPLISHMENTS**

- A Stakeholder Engagement Strategy has been drafted.
- Began work to identify transferable ideas (locally and internationally) to enhance the role of the Centre's stakeholder and KTE efforts.

## **YEAR 2 PLANS**

- Establish a working group to further develop the Centre's stakeholder engagement strategy.
- Review engagement and KTE strategies used at other research centres and in other jurisdictions.
- Discuss hosting a first forum to build consensus on an intervention (target) and/or develop a demonstration project to effect change. Once a topic for collaborative intervention is identified, a working group would be established and an implementation plan developed.

## **Years 3-5 Strategic Direction**

Plans for years 3-5 for Strategy 3: Deliver and Exchange Knowledge include:

- Plan and host an annual Research Day.
- Develop an effective role for the Centre in support of stakeholder community development and KT efforts.
- Plan and host regular research symposia focused on emerging topics in the field, e.g. shift work, nano materials, pesticides.
- Establish OCRC as a 'knowledge source' on occupational cancer.
- Support the development of a group (network/consortium) of KT specialists interested in occupational cancer.
- Develop a modular occupational cancer seminar series for scientists, students and stakeholders.

## STRATEGY 4: BUILD A SUSTAINABLE CENTRE

### Summary

The funding for the Centre is for five years, running through March 31, 2014. Building a base of support beyond 2014 is a critical priority for the Centre. The following outlines three objectives for *Strategy 4: Build a Sustainable Centre*. The following pages provide accomplishments by objective for Year 1, planned activities for Year 2, and strategic direction for Years 3-5.

STRATEGY 1: BUILD A SUSTAINABLE CENTRE	
<b>STRATEGIC PLAN:</b> To build a robust Centre that attracts funding and partners in support of excellence in research and knowledge transfer and exchange (KTE).	<b>OBJECTIVES:</b> 4.1 Build a strong base of funding and strategic partners. 4.2 Develop a strong core of OCRC researchers and staff. 4.3 Build strong Centre infrastructure including committees, structures, processes, and policies.

### Objective 4.1: Build a strong base of funding and strategic partners.

A core strength of OCRC is the strong commitment of the funders and other supporters to the goals and success of the Centre. Currently the funding partners include CCO, CCS Ontario Division, and the WSIB. In addition, the USW brings critical support from the labour community. Despite the strong support from these organizations, expanding the base is required for the long-term sustainability of the Centre. Both funding and strategic operating partners are being considered by the Steering Committee.

#### YEAR 1 ACCOMPLISHMENTS

- Developed (with input from the Steering Committee and the Scientific Advisory Committee) a 5 Year Strategic Plan, Year 1 Accomplishments Plan, and Year 2 Operating Plan for submission to partners.
- Steering Committee developed a list of approximately 20 potential future Centre partners and preliminary outreach plans were developed. Meetings were held with:
  - Dr. Michael Wosnick and Dr. Christine Williams of the Canadian Cancer Society Research Institute (CCSRI) to explore potential areas of research interest. Further discussions are to be held regarding possible shared research interests and infrastructure funding opportunities.
  - Aaron Blair met with Dr. Jack Mandel to discuss Centre activities and possible interactions with the Dalla Lana School of Public Health (DLSPH) at the University of Toronto. In addition, John McLaughlin, Linn Holness, and Tony Miller, continue the dialogue to align and leverage potential recruitment opportunities.
  - Aaron Blair and Loraine Marrett met with Dr. Ray Copes of the Ontario Agency for Health Protection and Promotion (OAHPP) to discuss possible areas of collaboration. Dr. Copes also attended the Research Day and participated as a panel member.





- Developed OCRC branding materials.

## **YEAR 2 PLANS**

- Present planning and reporting documents to partners and ensure clear understanding of expectations moving forward.
- Continue outreach activities building on efforts of 2009/10.
- Secure DLSPH as a strategic partner and seek similar arrangements with other universities.
- Further explore long-term relationship and collaboration opportunities with the Centre for Research in Occupational Disease (CREOD).
- Maintain OCRC promotional and communication materials.

## **Objective 4.2: Develop a strong core of OCRC researchers and staff.**

It is recognized that building a solid base of researchers supported by the Centre is important. This is required to provide the scientific expertise necessary to address occupational cancer research issues and to establish the Centre as an important contributor to this field. At the same time it is important that the Centre reach out to, and support, others working in the field. Maintaining this balance will be important.

It is expected that in order to move forward, the Centre will require a mix of employment, contract, and short-term placements in order to maintain some flexibility to respond to emerging areas of research priority.

## **YEAR 1 ACCOMPLISHMENTS**

- Secured Dr. Loraine Marrett as Associate Director of the Centre during the start up period.
- Recruited Dr. Aaron Blair (Interim Director, part-time), Ms. Karin Hohenadel (Research Associate, full-time), Ms. Caroline Silverman (Project Management/KTE, part-time), Ms. Janet Brown (Interim Manager, part-time), and Mr. Daniel Bukvic (Junior Research Associate, full-time).
- Involved (from CCO) Dr. Shelley Harris (Scientist), Ms. Erin Pichora (Research Associate) and Ms. Yen Borrego (Administrative Support) part-time in OCRC activities.
- Recruited permanent Centre Director after lengthy search process (starting part time summer 2010 and full time fall 2010).
- Recruited Dr. Laura Anderson as a post-doctoral fellow (starting in September 2010).

## **YEAR 2 PLANS**

- Continue to grow and develop the team.
- Recruit scientists for short-term commitments in specific disciplines, e.g. exposure assessment, or molecular epidemiology.
- Recruit staff as identified by the Director to support management, stakeholder engagement, and knowledge transfer activities.
- Seek CIHR post doc funding for 2<sup>nd</sup> post doctoral fellow.



### **Objective 4.3: Build strong Centre infrastructure including committees, structures, processes, and policies.**

The credibility of the Centre is dependent not only on the quality of the research, but also on how the Centre operates.

The governance of the Centre is well established and was described earlier. Terms of reference for the Steering Committee and the Scientific Advisory Committee are included in Appendices 1 and 2. Review of the terms of reference and membership will be undertaken in Year 2. Ongoing advice and support from these committees is invaluable.

The decision to house the OCRC within CCO has enabled the Centre to utilize CCO processes such as procurement, human resources, public affairs, legal, IT, and finance. This provides the Centre with individuals experienced in handling these activities critical to Centre operation and allows the Centre Director to remain focused on developing the research program and expanding the broad research network.

OCRC processes to manage research projects, track centre activities, manage reporting requirements, and support communication are important. The Centre is committed to provide efficient and where possible innovative management of these processes.

#### **YEAR 1 ACCOMPLISHMENTS**

- A Steering Committee was established, Terms of Reference developed, and a Chair identified. Note Appendix 1 for Terms of Reference. Membership is listed on page 11-12. Seven meetings were held over the course of Year 1.
- A Scientific Advisory Committee was established, Terms of Reference established, and a Chair identified. Note Appendix 2 for Terms of Reference. Membership is listed on page 12. Three meetings were held over the course of Year 1.
- CCO provided support to the Centre in the following areas - human resources, public affairs, procurement, legal, IT, and finance.
- Tracking and monitoring systems were developed for Centre activities.
- A Five-Year Strategic Plan and annual operating plan was developed to support reporting requirements and to align the efforts of the team and its committees.

#### **YEAR 2 PLANS**

- Review the Terms of Reference and membership for both the Steering Committee and the Scientific Advisory Committee.
- Track progress against the 2010 plan as outlined in this strategic plan.
- Complete development of the project management template for research projects.
- Document procedures for hiring, research initiation, and establishing interactions with other institutions.
- Continue to seek support from CCO, as required, to support the work of the Centre.



## **Year 3-5 Strategic Directions**

Plans for years 3-5 for Strategy 4: Build a Sustainable Centre include:

- Secure future funding beyond 2014 from WSIB, CCS, and CCO.
- Secure 2 new partners (1 minimum funding partner).
- Establish collaborations with other non research institutions with an interest in occupational cancer, e.g. OHCOW, HSAs.
- Build a multidisciplinary staff including epidemiology, exposure assessment, and toxicology expertise.
- Provide information to funding and strategy partners that can be of use to inform their respective constituents about occupational cancer issues.