

# Canadian Institutes of Health Research (CIHR) Institute of Cancer Research (ICR)

## Breast Cancer

CIHR has a long and successful partnership with the Canadian Breast Cancer Research Alliance (CBCRA) to support innovative research in the prevention, detection, and treatment of breast cancer. The CBCRA brings together multiple partners from government, health charities and industry to support breast cancer research. CBCRA is a major funder of breast cancer research in Canada. It has supported 488 research projects since its founding in 1993, for a total investment of more than \$162 million.



The Medical Research Council of Canada (now CIHR) was one of CBCRA's four founding partners in 1993. The MRC's initial commitment was a contribution of \$2 million annually from 1995 to 2000 to support CBCRA's operating grant program. In CBCRA's second phase, the MRC/CIHR committed to an additional \$2 million annually from 2000 to 2005. In the third phase, with a two year extension, CIHR has committed a total minimum investment of \$14 million dollars from April 2004 to March 2011 to support breast cancer-related CIHR funded operating grants. To date CIHR has invested more than \$20 million in breast cancer research grants. In 2005 alone, CIHR funded over \$11 million in breast cancer research.

### Canadian Breast Cancer Research Alliance Members

- Avon Flame Foundation
- Canadian Breast Cancer Foundation
- Canadian Breast Cancer Network
- Canadian Cancer Society
- Canadian Institutes of Health Research
- Health Canada
- Public Health Agency of Canada
- National Cancer Institute of Canada

The CIHR Institute of Cancer Research (ICR) has also supported breast cancer research outside of the open Operating Grants competitions through CBCRA's Translation Acceleration Grants for Breast Cancer Control initiative and additional ICR strategic initiatives: Non-Cytotoxic Cancer Clinical Trials and Palliative and End-of-life Care.



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## Translation Acceleration Grants for Breast Cancer Control

ICR partnered with the CIHR Institute of Gender and Health (IGH) and the CBCRA in 2002 and again in 2004 to support breast cancer research through the Translation Acceleration Grants for Breast Cancer Control program. The goal of the program was to accelerate the translation of basic breast cancer research findings into practice.

The objectives of the program are:

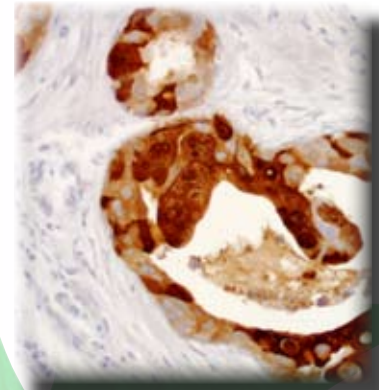
- To support new and existing multidisciplinary research teams involved in the translation of basic research findings into novel effective clinical therapies and/or interventions, services, programs, and policies for breast cancer control; and
- To support more vigorously the clinical development of novel basic findings in breast cancer research through further testing, refinement and implementation.

ICR has co-funded three projects through the two rounds of this initiative for a total ICR investment of over \$1.7 million dollars from 2003 to 2009.

Principal Investigator	Institution Name	Project Title
Foley, S. Ronan	Hamilton Health Sciences Centre	Therapeutic cell genetic immunization for breast cancer.
Gelmon, Karen	BC Cancer Agency	Translating target discovery into better health outcomes for women with breast cancer.
Pollak, Michael	Sir Mortimer B. Davis Jewish General Hospital	IGF and insulin signalling pathways in breast cancer.

The goal of the “*Therapeutic cell genetic immunization for breast cancer project*,” led by Dr. Foley, is to develop an effective novel cancer vaccine to treat patients with metastatic breast cancer. The research team is examining the potential use of a modified common cold virus, called adenovirus, which contains a unique gene sequence of the HER-2 protein to stimulate an immune response in patients that would kill cancer cells or stop their growth.

Dr. Gelmon’s team investigated three genetic changes to breast cancer cells to determine if the different genetic changes can be used to predict which cancers will return and which will respond to anticancer drugs.



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Dr. Pollak's team is working on several different projects which may result in novel approaches for the treatment and prevention of breast cancer. Projects include: examining if vitamin D and calcium supplementation will reduce the risk of breast cancer; exploring the link between resistance of hormone insulin to a poor prognosis in breast cancer; and investigating the relationship between clinical outcomes in patients and specific molecules or activation of molecular pathways within cancer cells.

## Non-Cytotoxic Therapeutic Intervention Clinical Trials

In 2004 ICR contributed funds to the CIHR Clinical Trials Program, through a priority announcement for applications on non-cytotoxic therapeutic interventions. ICR supported one breast cancer related project through this initiative.

### Breast Cancer Related Non-Cytotoxic Therapeutic Interventions Clinical Trials Projects

Principal Investigator	Institution Name	Project Title
Whelan, Timothy	McMaster University	3D conformal radiation therapy for accelerated partial breast irradiation (RAPID) trial.

Breast irradiation is given to about 70% of patients over three to five weeks following breast conserving surgery to reduce the risk of cancer recurrence and to prevent the need for mastectomy. Breast irradiation is associated with fatigue, breast pain, skin redness and irritation. In contrast, accelerated radiation therapy of one week is delivered only to the surgical site and appears to be well tolerated. Dr. Timothy Whelan's team is examining if accelerated partial breast irradiation delivered in one week is as effective as whole breast irradiation delivered in three to five weeks.



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## Palliative and End-of-life Care

In June 2003, CIHR and partners launched a palliative and end-of-life care initiative that reflected the multiple needs of the palliative care research community. This multidisciplinary initiative supported nineteen Pilot Projects, nine New Emerging Team Grants, and one Career Transition Award. Two pilot projects related to breast cancer were funded through the Pilot Project program.

### Breast Cancer Related Palliative and End-of-Life Care Pilot Projects

Principal Investigator	Institution Name	Project Title
Grunfeld, Eva	Dalhousie University	Quality indicators for end-of-life breast cancer care: is there agreement between stakeholder groups in two provinces?
Grunfeld, Eva	Dalhousie University	Quality indicators for end-of life breast cancer care: testing the use of administrative databases in two provinces.

Both pilot projects were led by Dalhousie University's Dr. Eva Grunfeld. One pilot project, "Quality indicators for end-of life breast cancer care: testing the use of administrative databases in two provinces," evaluated the feasibility of using administrative data to measure population-based indicators of quality end-of-life care for patients with breast cancer, through an assessment of the administrative data from Ontario and Nova Scotia.

Dr. Grunfeld's second project, entitled "Quality indicators for end-of-life breast cancer care: is there agreement between stakeholder groups in two provinces?" sought to determine if there was agreement among breast cancer stakeholder groups in two provinces on the identification of indicators of quality end-of-life care for breast cancer patients.

