

## **Training the next generation of researchers in psychosocial oncology: an innovative transdisciplinary multimethod approach**

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### **Abstract**

This paper reports on an ongoing research training program that brings together experienced mentors, promising graduate students, and the best research evidence available to date. Various means are used (e.g., multiple information technologies, videoconferencing, face-to-face interactions) to gather additional stakeholders such as clinician-scientists, health administrators and health care providers to advance the science and future of psychosocial oncology. PORT (Psychosocial Oncology Research Training) builds on the extant knowledge from various relevant disciplines such as psychology, nursing, medicine, health care management, human kinetics, epidemiology, and philosophy at four participating Canadian universities to share in their findings pertaining to the development, implementation and dissemination of innovative psychosocial interventions that optimally assist individuals in their adjustment to cancer. This approach facilitates academic exchanges across different disciplines, institutions and geographical regions while also relying on diverse approaches of inquiry including quantitative, qualitative, and mixed methods. Within these broader contexts, the benefits and challenges of this transferable program are reviewed to encourage the development, dissemination and sustainability of similar programs elsewhere.

**Keywords:** Transdisciplinary research training, Psychosocial oncology, Innovation in teaching and research, Distance education.

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## **Introduction**

With the incidence of cancer steadily increasing, the need has never been greater for innovative, effective, and patient-centered strategies to help those diagnosed with cancer and their families adjust across the spectrum of prevention, screening, diagnosis, treatment and follow-up (see Helgeson, 2005; Holland, 2004; Turner et al., 2005 for relevant reviews). Interventions in the domain of psychosocial oncology are intended to soften the blow of a cancer diagnosis and treatment for those affected and their relatives as well as mitigate the intergenerational impact of cancer. Some of Canada's leading researchers, in the field of psychosocial oncology including Principal Investigator Carmen Loiselle and Co-Investigators Joan L. Bottorff, Lorna Butler and Lesley Degner have taken a leadership role in this domain by developing strong clinically-based research programs and by establishing a most innovative cross-Canada research training program in the field called the PORT (Psychosocial Oncology Research Training) program (Loiselle, Bottorff, Butler & Degner, 2004).

## **Overview of the PORT program**

Canada's commitment to the next generation of health researchers was demonstrated in the Strategic Training Initiative in Health Research (STIHR) first competition which resulted in the funding of 51 training programs in 2002. In 2003, the PORT Program was funded in the second wave of competition and began operations in 2004. PORT (Loiselle et al., 2003), is a transdisciplinary, multi-university graduate program designed to prepare a new generation of scientists in the development, implementation, evaluation, and transfer of theoretically-based psychosocial approaches to oncology care (Loiselle, 2005). Funded primarily by the Canadian Institutes of Health Research – Institute of Cancer Research (CIHR) and the National Cancer Institute of Canada (NCIC), with additional funds provided by the CURE and the Newton Foundations, PORT offers graduate-level fellowships and awards to young researchers aiming to test psychosocial cancer-care interventions that will make a significant difference in the lives of people facing the threat of cancer.

A joint initiative shared by four Canadian universities (Dalhousie, McGill, University of Manitoba and the University of British Columbia), the program has initially engaged the core disciplines of nursing, psychology, and health-care management to increase the capacity for high-impact research in psychosocial oncology. To date, the fields of psychology and nursing have contributed significantly to the advancement of psychosocial oncology as a specialty area in health care. However, psychosocial oncology research traditionally has focused on the identification, measurement, and prevalence of selected clinical variables, with limited testing of theoretically-based

psychosocial approaches to oncology care or psychosocial oncology health services research. The high prevalence of psychosocial distress among those living with or at risk for cancer demands not only the development and systematic evaluation of theoretically-guided psychosocial interventions in high-risk populations, but knowledge of how to successfully embed these interventions in health-care organizations. The innovative inclusion of health-care management scientists as key partners in PORT ensures that the knowledge generated is readily transferred to interventions that are accessible to those most in need of support (Loiselle et al., 2004).

The program's objectives are multiple and targeted by research training priorities. PORT aims to build on the existing strengths of psychosocial oncology research and health care management teams at the four participating institutions and to attract the best master's, doctoral and postdoctoral students from Canada and abroad with an interest in psychosocial oncology research. These students come from a broad range of health-related disciplines such as nursing, psychology, and medicine, but also from the fields of management, human kinetics, epidemiology, and philosophy. The transdisciplinary approach facilitates student exchanges across the diverse research sites as well as across disciplines and research interests and methods (including quantitative, qualitative, and mixed methods). The program delivers high-quality student mentorship with special attention paid to the specifics of research training in psychosocial oncology, and skills in knowledge synthesis and transfer. Ongoing interactions among PORT mentors, trainees and PORT alumnae foster transfer of new knowledge into effective and accessible health-care practices and health-system design and management that ultimately contribute to the well-being of patients and their families. The program also offers itself as a widely accessible virtual resource centre for oncology researchers, clinicians, patients and their families, health managers and administrators, and policy-makers, and by so doing hopes to make connections between health-policy and management experts who will play key roles in developing the health-care system of the future, by ensuring that trainees are exposed to decision-making forums (Loiselle et al., 2004). In addition, the well structured program, academic activities, and evaluation methods have been made available to countries such as the United States and India who have been keenly interested in developing similar programs.

The program plans to also progressively integrate the fields of education, engineering, epidemiology, journalism, occupational/physiotherapy, nutrition, and social work to maximize opportunities for interdisciplinary exchanges, multi-method research, and the development of innovative health education materials and technologies. To date, 18 PORT trainees have received fellowships and have been networking with PORT's 23 psychosocial researchers based at the four participating universities.

## **Evidence-based seminar**

Each cohort of PORT fellows register for a 3-credit graduate-level seminar conducted by video-conference\*. The seminar sessions are led by alternating PORT mentors, who bring to the discussion their own expertise in specific areas of psychosocial oncology research (Table 1 depicts seminar topics and name of facilitators). The video-conference format allows trainees on opposite coasts (and at points in between) to participate simultaneously in discussion and allows the PORT program to fully harness the resources of the participant universities.

The rotating cast of seminar facilitators provides trainees with the opportunity to make direct contact with the authors of the research materials they are studying (Table 2 provides a sample of required readings for one seminar lecture). The variety of seminar facilitators also allows students the opportunity to experience a similarly wide variety of seminar leadership approaches: certain facilitators provide frame questions to guide the seminar discussion in a specific direction, whereas others encourage a free discussion which uses the week's readings as a starting point for a broader engagement with a particular theme or series of themes (Olliffe, Howard, Bottorff, Hislop, Loiselle, in press).

Within this video-conference seminar, the transdisciplinary aspect of the PORT program is fully actualized. Nursing, management, psychology, and philosophy students are able to discuss debate and collaborate on key psychosocial oncology issues from their own academic perspectives. For instance, a PORT fellow commented:

In terms of interprofessional education, it was particularly insightful to have direct access to, and engagement with the frameworks used by other health-care professionals. Conversations with epidemiologists, psychologists and counselors provided opportunities to thoughtfully consider the diversity and complexities embedded in that question. Further, the research methods, epistemological and ontological viewpoints that were shared revealed distinctly different ways of conceptualizing and designing psychosocial oncology research – which in turn helped students develop skills, knowledge and creatively think about their, and others research. (Olliffe et al., in press.)

In addition to the regular video-conference seminar sessions, the group participates in other periodic interactive video-conference sessions called VIBS (Virtual Interactive Brainstorming Sessions). VIBS sessions take place on a semi-regular basis with either PORT Mentors or Fellows leading interactive videoconferencing sessions on specific subjects related to a dissertation, collaborative project, or research findings. Past VIBS sessions have focused on decision-making among individuals with cancer, health care providers' beliefs and attitudes towards complementary and alternative medicine, and cancer and issues of masculinity. The seminar class also features other standard online components, so that video-conference discussion can continue through and be augmented by email and WebCT (Loiselle, 2005).

**Table 1** - Weekly topics: Psychosocial Oncology Research graduate seminar

<b>Week</b>	<b>Topic</b>	<b>Seminar Leader</b>
1	Introduction and the state of theorizing in psychosocial oncology	Dr. Carmen Loiselle McGill University
2	Intervention in psychosocial oncology: Methodological and practical concerns	Dr. Tom Hack University of Manitoba
3	Coping with cancer: A child's perspective	Dr. Roberta Woodgate University of Manitoba
4	Coping with cancer: An adult's perspective	Dr. Tom Hack University of Manitoba
5	Search for meaning and spiritual issues related to cancer	Dr. Virginia Lee McGill University
6	Marginalized groups, remote populations and access to oncology care	Drs. Greg Hislop & Lynda Balneaves University of British Columbia
7	Family care giving and quality of life	Dr. Michelle Lobchuk University of Manitoba
8	Patient/family/health care provider communication	Dr. Lesley Degner University of Manitoba
9	Information needs and decision-making in cancer	Dr. Joyce Davison University of British Columbia
10	Cancer Prevention and Cancer Risk	Dr. Joan Bottorff University of British Columbia
11	Couples and sexuality	Dr. Deborah McLeod Dalhousie University
12	Innovative psychosocial approaches and interventions	Dr. Carmen Loiselle McGill University
13	Future avenues for research in psychosocial oncology	Dr. Carmen Loiselle McGill University

Along with the week-to-week classroom dynamism and the geographic boundary-conquering of the PORT seminar format, the reliance on video-conferencing can also present some unique challenges. Coping with the etiquette of the video-conference can be a disadvantage for the inexperienced student during the first few weeks of the course. Negotiating the proper moment to engage with the ongoing main interaction, choosing when to keep remarks site-specific and when to broadcast them, and timing statements and responses to account for the technologically-imposed time lag are all skills which students acquire at varying speeds. The monetary costs of internet video-conferencing are also not negligible: the extra bandwidth required to support the signal and the hardware required at each conference site make for a significant expenditure. The costs and seminar protocol learning curve challenges of video-conferencing are negligible, however, when compared to the logistical problems of bringing trainees and seminar facilitators together. As stated in a formal evaluation of the PORT seminar:

Through various media technologies, individuals are able to communicate, share ideas and support each other's specific area of interest. The founding belief of the PORT program is to help in connecting a group of experts train novice researchers to develop

and implement evidence base interventions in their professional lives. Iatauro (2006, p.9)

### **Annual PORT Meeting**

Although many components of PORT's operation rely on technology, every year all PORT trainees and key mentors gather at different geographical locations to network, discuss research findings, and meet face-to-face. The two-day workshop focuses on a theme salient to that year's core theme. Past PORT annual meetings have included topics such as "Key Concepts in Psychosocial Oncology Research: Contributions and Challenges", "Innovations in Psychosocial Oncology Interventions and Research", and "Highlights from PORT Trainees' Programs of Research".

As one PORT fellow indicates:

The PORT experience (PORT course and annual meeting) has provided me with a broadened understanding of the multidimensional issues in psychosocial oncology, excellent exposure to theoretical diversity, and the opportunity to continue to develop writing and publishing skills and presenting opportunities. (personal correspondence, PORT Trainee, 2006)

**Table 2** - Required readings for the 10<sup>th</sup> seminar lecture:  
 "Intervention research in psychosocial oncology: Methodological and practical concerns" led by Dr. Thomas Hack

Chochinov, H.M., Hack, T.*, McClement, S.*, Kristjanson, L., & Harlos, M. (2002). Dignity in the terminally ill: A developing empirical model. <i>Social Science &amp; Medicine</i> , 54(3), 433-443.
Hack, T.F.*, Chochinov, H.M., Hassard, T., Kristjanson, L.J., McClement, S.*, & Harlos, M. (2004). Defining dignity in terminally ill cancer patients: A factor-analytic approach. <i>Psycho-Oncology</i> , 13, 700-708.
Hack, T.F.*, Pickles, T., Bultz, B.D., Degner, L.F.*, Katz, A., & Davison, B.J.* (1999). Feasibility of an audiotape intervention for patients with cancer: A multicenter, randomized, controlled pilot study. <i>Journal of Psychosocial Oncology</i> , 17(2), 1-15.
Hack, T.F.*, Pickles, T., Bultz, B.D., Ruether, J.D., Weir, L.M., Degner, L.F.*, & Mackey, J.R. (2003). Impact of providing audiotapes of primary adjuvant treatment consultations to women with breast cancer: A multisite, randomized, controlled trial. <i>Journal of Clinical Oncology</i> , 21, 4138-4144.
McClement, S.E.*, & Hack, T.F.* (1999). Audio-taping the oncology treatment consultation: A literature review. <i>Patient Education &amp; Counselling</i> , 36, 229-238.
Newell, S.A., Sanson-Fisher, R.W., & Savolainen, N.J. (2002). Systematic review of psychological therapies for cancer patients: Overview and recommendations for future research. <i>Journal of the National Cancer Institute</i> , 94(8), 558-584

Note: \*PORT Mentor

Following the meeting, PORT trainees and mentors participate in the annual Canadian Association of Psychosocial Oncology conference and disseminate research findings through panels or scientific presentations. Samples of innovative studies conducted by PORT trainees include the role of physical activity on stress perceptions and quality of life among breast cancer survivors using a daily diary approach, the impact of hormonal therapy on mood and cognition among men with prostate cancer, the use of humor and interactivity in newly developed websites to promote healthier eating habits among youth, and the exploration of various illness-related information-seeking styles among individuals coping with cancer.

## Internship

PORT also offers internships in the form of financial support to fellows who wish to extend their research training beyond their home universities. The internship is consistent with the program's mandate of encouraging collaborations among health-related disciplines to shape both the future of the science of psychosocial oncology as well as the context for cancer care delivery. The internship must take place at a PORT site or at another North American or international university and must demonstrably

augment the fellow's research skills in the field of psychosocial oncology. Each fellow who qualifies for the internship chooses a host mentor and designs a series of research activities consonant with the aims of the program. A recent trainee said that the unique value of the off-site collaboration helped her gain "the kind of knowledge which is difficult to explain or teach, and is most often learned through trial and error", and that the experience encouraged "a spirit of discovery and innovation" (Wilkins, 2006).

**Table 3:** Sample of recent joint publications by PORT Mentors and Trainees

Balneaves, L.*, Ohlen, J., Bottorff, J.*, & Brazier, A.** (2005) The influence of social networks on CAM decision-making among cancer patients. <i>Journal of Complementary and Integrative Medicine</i> , 2(1), 12.
Bottorff, J.*, Oliffe, J.*, Kalaw, C., Carey, J. & Mróz, L.**, & Stewart, M. (in press). Men's constructions of smoking in the context of women's tobacco reduction during pregnancy and postpartum. <i>Social Science and Medicine</i> .
Dubé, L.*, Le Bel, J., & Lu, J.** (2005). Affect asymmetry and comfort food consumption. <i>Physiology and Behavior</i> , 86(4), 559-567.
Edgar, L.*, Lambert, S.**, Herbert, R., MacDonald, J. A., Dubois, S.** & Latimer, M. (2006). The joint venture model of knowledge utilization: A tool for change in nursing. <i>Canadian Journal of Nursing Leadership</i> , 19(2), 41-55.
Howard, A. F.**, Bottorff, J.*, & Balneaves, L.* (2005). Punjabi immigrant women's experiences of breast cancer. <i>Oncology Nursing Forum</i> , 32(1), 162.
Loiselle, C. G.* & Lambert, S.** (2007). Health information-seeking behavior. <i>Qualitative Health Research</i> , 17(8), 1006-1019.
Ma, Z.**, Faber, A.**, & Dubé, L.* (2007). Exploring Women's psychoneuroendocrine responses to a cancer threat: Insights from a computer-based guided imagery task. <i>Canadian Journal of Nursing Research (CJNR)</i> , 39 (1), 98-115
Oliffe, J.*, & Mróz, L.** (2005). Men interviewing men about health and illness: Ten lessons learned. <i>Journal of Men's Health and Gender</i> 2(2), 257-60.
Rosen, N. O.**, Knäuper, B.*, Mozessohn, L., & Ho, M. H. (2005). Factors affecting knowledge of STI transmissibility in health providers: Results from a national survey. <i>Sexually Transmitted Diseases</i> , 32, 619-624.
Wilkins, K. L.**, & Woodgate, R. L.* (2006). Transition: A conceptual analysis in the context of siblings of children with cancer. <i>Journal of Pediatric Nursing</i> , 21(4), 256-265.

Note: \*PORT Mentor; \*\*PORT Trainee.

## **Cognitively-oriented research initiatives in psychosocial oncology**

PORT has been at the fore-front of developing, testing, and disseminating cutting-edge interventions in the area of cognitive psychology and cancer. Several mentors have been testing models of cancer risk perceptions and how these perceptions affect behavioral intentions and actual behaviors related to cancer preventive activities adopted by high risk individuals. In addition, how certain thoughts (e.g., intrusion, rumination, post-decisional regret) related to cancer affect subsequent psychosocial adjustment has been the focus of research among mentors and trainees alike. PORT members also follow a promising avenue for oncology research which is to study the various interrelationships between cognition and affect and their differential contributions to processes related to cancer prevention, screening, treatment decision making, monitoring of symptoms, and quality of life in later stages of the cancer experience. An added layer which makes this work so timely is the study of underlying cultural differences in cognitive and affective processes related to dealing with a potential or actual cancer threats and how cancer-related information such as preventive messages must be tailored to individuals' background and preferences. The findings of such studies have been published in various transdisciplinary journals (see [www.port.mcgill.ca](http://www.port.mcgill.ca)). In addition, a sample of collaborative work among mentors and trainees is represented by recent joint publications (Table 3).

## **Conclusion**

Through its guiding principles of innovation, high quality, mentorship, transdisciplinary collaboration, and accessibility, the PORT program offers a unique opportunity to train the next generation of researchers and clinician scientists in a new, broad model of research training. This model facilitates movement of findings across disciplines engaged in fundamental psychosocial oncology research and ultimately leads to interventions that have a significant impact on individuals with cancer and their families. (Loiselle et al., 2004). Our wish is that additional countries will join in to continue developing similar research training programs for the benefits of both, promising young researchers and society at large.

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## **Notas**

\* Note from the author: PORT is a one-time internship, where students spend 1 to 2 weeks with a researcher of their choice. The concept is different from that of a regular psychology internship, with different rotations.