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MEDIA RELEASE

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For immediate release

First study of its kind reveals educational outcomes of childhood cancer survivors in British Columbia

A new population-based study by researchers from the BC Cancer Agency, Child & Family Research Institute at BC Children's Hospital and the University of British Columbia (UBC) shows that some childhood cancer survivors, in particular those diagnosed with brain tumours, experience learning difficulties in school.

Currently published online and appearing in the May 15 edition of *CANCER*, a peer-reviewed journal of the American Cancer Society, this is the first comprehensive study examining educational late effects of survivors of all forms of childhood cancers. Late effects are problems that occur or persist after cancer treatment and may be related to the disease or its treatment.

The study found that brain tumour survivors had significant problems in the areas of math and reading compared to the general student population, while survivors of other cancers performed as well as other students in most educational areas. Survivors were also twice as likely to be enrolled in special education; and females and those who have received radiation treatment (particularly cranial radiation) were at increased risk for poor educational outcomes.

"Thanks to advances in treatment, survival rates for children diagnosed with cancer have increased dramatically, resulting in a growing number of survivors in the school system," says Mary McBride, principal investigator and senior scientist at the BC Cancer Agency, an agency of the Provincial Health Services Authority. "Unfortunately, some childhood cancer survivors are at risk for learning difficulties."

The study compared 782 childhood cancer survivors who attended B.C. schools from kindergarten to Grade 12 to a randomly selected comparison group of 8,386 B.C. school children. Grade repetition, Foundation Skills Assessments (province-wide, standardized tests that assess student performance with respect to basic academic skills), graduation-year examinations, and special education enrollment were compared.

"The results confirm that some survivors are at risk for significant educational difficulties," says Dr. Karen Goddard, co-investigator and BC Cancer Agency radiation oncologist. "As clinicians, we are reminded of the long-term consequences some patients live with after completing cancer treatment. This drives the search for new and better ways to treat cancer."

"Although it's reassuring that some childhood cancer survivors are doing as well as their peers in school, this study has identified those who are particularly at risk of experiencing learning challenges," says Dr. Linda Siegel, co-investigator and professor in the Faculty of Education, UBC. "Our new findings will help direct development of education interventions, including preventive and rehabilitative programs, to support this group of survivors."

The study – a part of the Childhood, Adolescent, and Young Adult Cancer Survivors (CAYACS) Research Program – is funded by the Canadian Cancer Society. CAYACS is a population-based research program examining the long term outcomes and care of cancer survivors diagnosed under the age of 25 in B.C.

"The Canadian Cancer Society was delighted to fund this important research. It is not good enough to just improve survival rates. We need to ensure that as many cancer

patients as possible become more than cancer survivors; rather, we hope to have post-cancer *thrivers*," says Barbara Kaminsky, CEO, Canadian Cancer Society, BC and Yukon.

"The next step in our research is to address whether the education difficulties faced by childhood cancer survivors persist over time. How do they do after high school? Do they enter post-secondary at the same rates as their peers?" explains McBride.

The BC Cancer Agency, an agency of the Provincial Health Services Authority, is committed to reducing the incidence of cancer, reducing the mortality from cancer, and improving the quality of life of those living with cancer. It provides a comprehensive cancer control program for the people of British Columbia by working with community partners to deliver a range of oncology services, including prevention, early detection, diagnosis and treatment, research, education, supportive care, rehabilitation and palliative care. The BC Cancer Foundation raises funds to support research and enhancements to patient care at the BC Cancer Agency.

Article: "Educational outcomes among survivors of childhood cancer in British Columbia, Canada," Maria Lorenzi, Amy J. McMillan, Linda S. Siegel, Bruno D. Zumbo, Victor Glickman, John L. Spinelli, Karen J. Goddard, Sheila L. Pritchard, Paul C. Rogers, and Mary L. McBride. *CANCER*; Published Online: March 26, 2009 (DOI: 24267); Print Issue Date: May 15, 2009.

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Background

Co-investigators in the study are from the following organizations:

The University of British Columbia is one of Canada's largest public research and teaching institutions and consistently ranks among the top 40 institutes in the world. It offers a range of innovative undergraduate, graduate and professional programs in the arts, sciences, medicine, law, commerce and other faculties. UBC has particular strengths in biotechnology, and ranks in the top 10 universities in North America and number one in Canada for commercializing research, and for its patent activity in the life sciences.

BC Children's Hospital, an agency of the Provincial Health Services Authority, provides expert care for the province's most seriously ill or injured children, including newborns and adolescents. BC Children's is an academic health centre affiliated with the University of British Columbia, Simon Fraser University, and the Child & Family Research Institute. For more information, please visit www.bcchildrens.ca.

The Child & Family Research Institute (CFRI) conducts discovery research, clinical investigation, and applied health research to benefit the health of children and families. It is the largest research institute of its kind in Western Canada. CFRI works in close partnership with BC Children's Hospital and Sunny Hill Health Centre for Children, and BC Women's Hospital & Health Centre, agencies of the Provincial Health Services Authority; BC Children's Hospital Foundation; the University of British Columbia and Simon Fraser University. For more information, visit www.cfri.ca.