

Canada's Investment in

Cancer Survivorship Research, 2005–2021

CANADIAN CANCER RESEARCH SURVEY

Since 2005, CCRA members have prioritized the quantification of Canada's cancer research funding. To that end, the CCRA's Canadian Cancer Research Survey (CCRS) was created, a database that has evolved over time to track the research investments made by over 40 organizations.

The CCRS is estimated to cover about 60–80% of the research investments made in Canada through peer-reviewed processes. For the area of cancer survivorship, there may be funding from large foundations and other organizations not captured in the CCRS that could affect the overall investment picture.

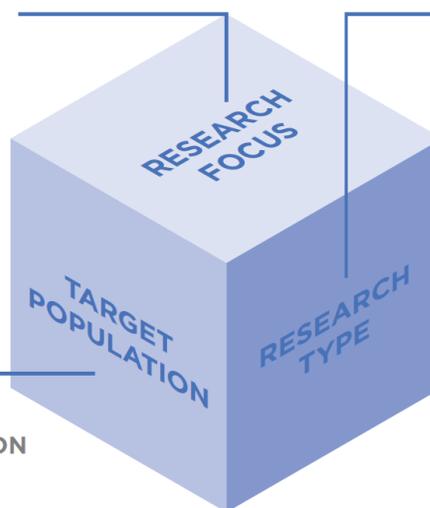
Data are updated and corrected annually and will vary from previously published reports. Investment numbers may differ from those reported by contributing organizations because of methodological conventions like prorating of budgets.

THIS REPORT

This brief report provides an overview of the level and nature of research investment in cancer survivorship made by Canadian research funding organizations. Page 3 of this report presents annual investment data, while page 4 shows the proportion of the investment by key attributes for 2021 (graphs) and for the three five-year periods (tables). Data were coded to the classification below. Full definitions of the dimensions in this classification can be found on the CCRA website.¹

RESEARCH FOCUS

- Physiological effects
- Psychological effects
- Quality of life
- Social needs/social support
- Economic sequelae
- Care delivery, access and quality
- Thanatological issues



RESEARCH TYPE

- Model systems
- Descriptive
- Intervention
- Prediction/assessment
- Knowledge synthesis
- Other support

TARGET POPULATION

- Patients
- Family/caregivers

The cancer survivor population is diverse—there are many kinds of cancer and people are diagnosed at different stages and receive different treatments. Treatment outcomes and long-term effects can be further complicated by the patient's age and pre-existing health conditions. A pan-Canadian research framework for cancer survivorship research was released in 2017 to help prioritize research investment in this area.

Cancer survivorship has not yet received the priority it is due within Canada's health system and work is needed to improve provider competencies to ensure comprehensive and equitable systems of care for people living with and beyond cancer.^{2,3,4} In 2021, the Canadian Partnership Against Cancer released a “Models of Care” toolkit, which provides detailed information on innovative, evidence-informed models of care to support providers.⁵ The following year, AYA Oncology became a formally credentialled area of focused competence by the Royal College of Physicians and Surgeons of Canada.⁶

Access interactive visualizations and a related slide deck at

www.ccra-acrc.ca.

 @CCRAAlliance

1 The CCRS technical manual is available at <https://www.ccra-acrc.ca/reports/>.
 2 Truant TLO, Lambert LK, Thorne S. (2021). Barriers to equity in cancer survivorship care: perspectives of cancer survivors and system stakeholders. *Global Qualitative Nursing Research*, 8:1–9. <https://doi.org/10.1177/23333936211006703>
 3 Chaput G, Sussman J. (2019). Integrating primary care providers through the seasons of survivorship. *Current Oncology*, 26(1):48–54. <https://doi.org/10.3747/co.26.4687>
 4 Watson L, Lambert L, Chapman K, Fitch MI. (2020). Improving the outcomes for cancer survivors in Canada: An interactive approach to competency development using the newly released CANO/ACIO Survivorship Manual. *Canadian Oncology Nursing Journal*, 30(4):321–6. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7597778/>
 5 <https://www.partnershipagainstcancer.ca/topics/models-of-care/models-of-care-summary/>
 6 Amirrtha Srikanthan A, Karpinski J, Gupta A. (2023). Adolescent and young adult (AYA) oncology: A credentialled area of focused competence in Canada. *Cancer Medicine*, 12(2): 1721–8. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9883556/>



Investment Trend

From 2005 to 2021, \$340M was invested in cancer survivorship research and this represented 4% of the overall cancer research investment. Investments climbed steadily from 2005 to 2016, dipped in 2017 and 2018, re-bounded in 2019, and rose substantively in 2020 and 2021. Targeted programs played an important role in this trend. In addition, in the latest five-year period, 2017–21, 22% of the total cancer survivorship research investment was relevant to children and adolescents.



Major Funders

Of the organizations tracked in the CCRS, most had some level of investment in cancer survivorship research over the 17 years. Well over half of the research investment (61%), however, was made by two organizations: the Canadian Institutes of Health Research (CIHR) and the Canadian Cancer Society (CCS).



Research Focus

From the first to the latest five-year period, there were substantial increases in the research investments on physiological effects (\$37M), and care delivery, access, and quality (\$20M). In terms of physiological effects, the highest increased investment was on research related to cardiotoxicity/vascular issues (\$12M).



Researchers

523 nominated principal investigators (PI) received one or more award/grant focused on survivorship over the 17 years. There were 280 nominated PIs with funded for research projects during the 2017–21 period and a large percentage (48%) were working in institutions in Ontario.



Investment by Funding Sector

Collectively, funders within the federal government represented well over 40% of the cancer survivorship research investment regardless of period. The charitable sector, however, accounted for a higher proportion of the cancer survivorship research investment than it did in terms of the overall cancer research investment.



Investment by Cancer Site

Regardless of period, the largest proportion of the cancer survivorship research investment was focused on breast cancer. Increases in investment from the first to second period were notable for prostate cancer and leukemias. From the first to the third period, there was a more than fourfold increase in the research investment on ovarian cancer.



Research Type

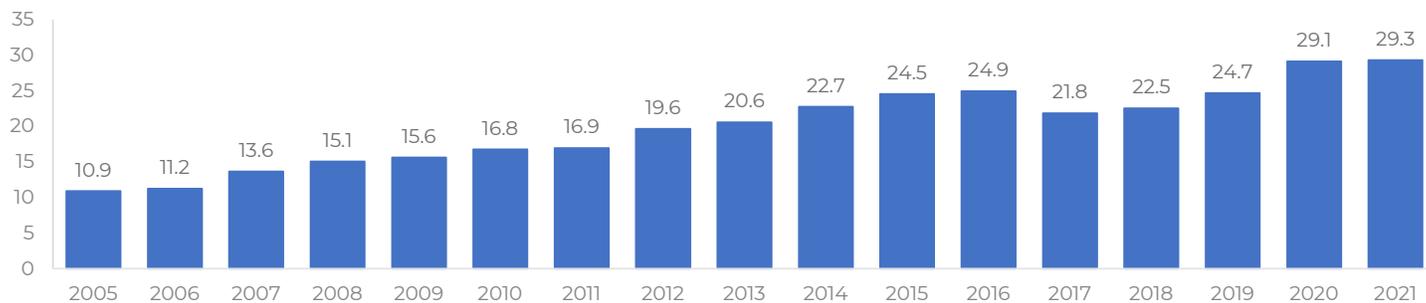
Testing of new approaches to support cancer survivors is critically important. Four of every \$10 invested in cancer survivorship research in 2021 involved interventions.



Trainees

Although most trainees are supported from diverse sources like provincial or institutional programs, internships or operating grants, a small group of trainees receive awards through the grant peer-review process. Over the 17 years, 560 trainees received awards. The investment in trainee awards focused on survivorship research was \$5M more in the 2017–21 period than the 2007–11 period.

Annual Investment (\$M)



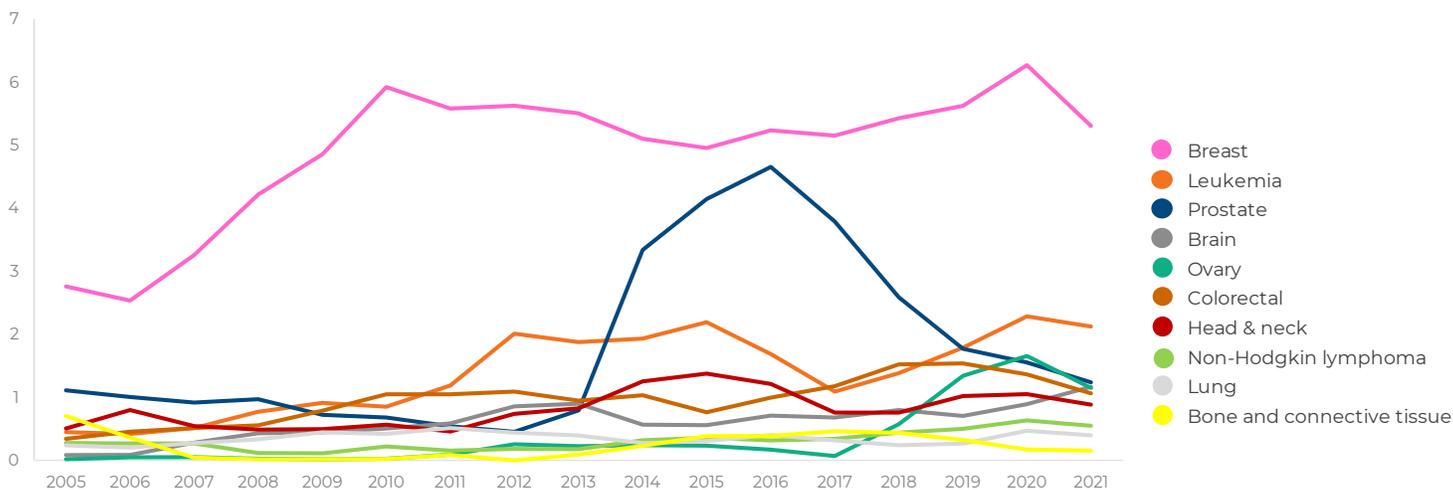
Investment by Funder (\$M) [1]

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
CIHR	4.6	4.5	4.5	4.7	4.8	6.6	6.1	7.5	8.2	8.6	8.7	7.8	6.5	8.4	9.8	12.5	14.0
CCS	3.2	3.2	4.0	4.5	4.6	4.7	4.4	5.5	5.6	4.8	4.1	4.0	4.1	4.4	5.2	6.7	5.3
Alberta Innovates [2]	0.5	0.8	0.9	1.1	1.2	0.9	0.9	0.6	0.4	0.3	0.5	1.8	2.1	2.1	2.0	1.7	0.8
Movember Canada	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	2.3	3.4	3.9	2.8	1.6	0.9	0.2	0.0
Fonds de recherche du Québec - Santé	0.3	0.4	0.4	0.3	0.3	0.3	0.6	0.8	0.9	0.8	0.9	0.9	0.9	1.1	0.8	0.9	1.6
Canada Research Chairs Program	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.5	0.5	0.6	0.6	0.8	1.2	1.5
Public Health Agency of Canada	0.2	0.2	0.3	0.4	0.5	0.5	0.7	0.7	0.9	1.2	1.3	1.2	0.8	0.4	0.1	0.0	0.0
Alberta Cancer Foundation	0.1	0.1	0.2	0.4	0.6	0.5	0.4	0.3	0.1	0.5	0.9	0.8	0.4	0.4	0.7	1.2	0.9
Ontario Institute for Cancer Research	0.4	0.2	0.2	0.0	0.0	0.1	0.3	0.4	0.4	0.7	0.9	0.8	0.7	0.6	0.7	0.9	0.7
Ontario Health - Cancer Care Ontario	0.0	0.1	0.1	0.1	0.2	0.4	0.5	0.6	0.5	0.5	0.4	0.4	0.2	0.2	0.0	0.0	0.0
Other	1.1	1.4	2.7	3.2	2.9	2.3	2.6	2.7	2.5	2.4	2.9	2.8	2.7	2.9	3.4	3.7	4.6

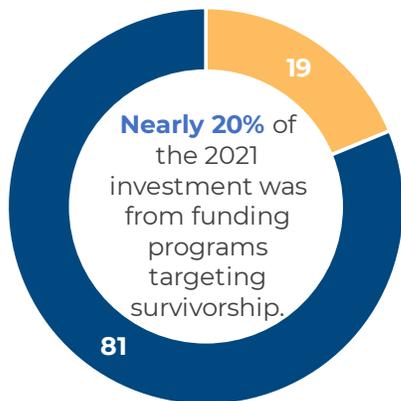
[1] The ten organizations with the highest 17-year investments are identified by name.

[2] Alberta Innovates did not submit data for years 2020 and 2021.

Investment by Cancer Site (\$M)

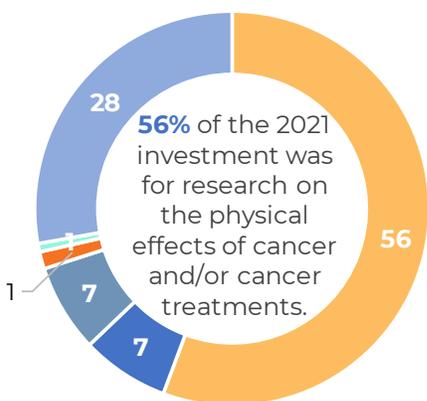


Program Type (%)



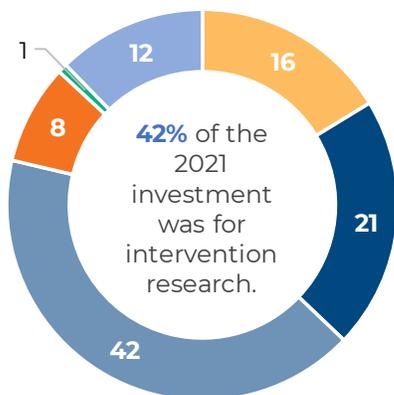
	2017–21	2012–16	2007–11
Targeted	19	27	12
Other	81	73	88

Research Focus (%)



	2017–21	2012–16	2007–11
Physiological effects	56	55	45
Psychological effects	7	12	19
Quality of life	10	14	17
Social needs/social support	1	3	2
Economic sequelae	2	2	2
Care delivery, access and quality	24	15	14

Research Type (%)



	2017–21	2012–16	2007–11
Model systems	15	10	10
Descriptive	23	30	38
Intervention	37	37	27
Prediction/assessment	9	15	8
Knowledge synthesis	1	1	2
Other support	14	8	16