

FUTURE OF CANCER IMPACT

RECOMMENDATIONS

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CANCER INCIDENCE

Incidence is defined as the number of new cases of cancer occurring each year, and is an important measure of cancer impact for populations and health care systems. The incidence of cancer in Alberta is projected to increase considerably by 2040, driven primarily by an aging population and population growth.

1. Projected declines in the overall age-standardized incidence rate suggest that prevention initiatives are working. **Support expanded cancer prevention efforts in the areas of tobacco smoking, obesity, physical inactivity and alcohol consumption to further reduce cancer incidence rates.**
2. While prevention efforts will continue to have a positive impact on reducing incidence rates overall and for certain cancers, the numbers of new cancer cases will continue to increase over the next two decades. **Plan and prepare the health care system for the projected increase in cancer cases, beginning with detailed examination of the workforce, equipment, and infrastructure needs.**

3. Greater participation in population-based screening programs is likely to have a positive impact on mitigating the increasing incidence of cancer in Alberta. **Implement targeted approaches in specific populations to improve prevention and screening.**
4. Develop a systematic approach to monitoring trends in incidence, augmented with additional socio-demographic variables. **Integrate data systems to identify and address issues and changes as they emerge.**

CANCER PREVALENCE

Cancer prevalence is defined as the proportion of people who are alive after being diagnosed with cancer either recently or in the past. Projections of cancer prevalence provide useful information in predicting the demand for future cancer-related health care and social services, and in planning for anticipated challenges.

5. The projected increases in cancer prevalence will pose a considerable impact on the utilization of services. **Undertake planning to optimize the cancer care workforce.**

6. The proportion of people living with cancer has been growing due to considerable improvements in cancer care. **Examine and understand the needs of people living longer with cancer, and explore innovative ways of delivering care.**

CANCER MORTALITY

Cancer mortality quantifies the number of deaths that were a direct cause of cancer. Examining cancer mortality over time allows the progress in reducing cancer deaths to be measured and helps determine the relative importance of cancer compared to other causes of death.

7. The largest increases in mortality are projected for the top five most common cancer sites. **Target improved primary prevention and population-based screening programs for the most common cancers to reduce the mortality associated with these cancers.**
8. Among the most common cancers, decreases in cancer-related mortality are partly attributable to treatment advances. **Invest to develop/implement/evaluate novel therapies and overall advances in treatment and treatment pathways.**



CANCER SURVIVAL

Survival statistics reflect the patient diagnosis, treatment, journey, impact of health care and outcomes, which are not fully captured by incidence or mortality. One-year survival represents survival during treatment and reflects stage of diagnosis. Five-year survival represents survival after treatment and typically reflects those who have been “cured” of disease. Ten-year survival reflects long-term survivorship.

9. Accurate and reliable data can be used by physicians, researchers, public health planners and policy-makers to reduce the future impact of cancer. **Create a data monitoring system that can report on cancer survival in a timely fashion to highlight improvements or gaps in outcomes.**
10. Survival is improving for several cancers, likely due to increased participation in and access to screening programs, technological advances in diagnosis and staging, and wider access to novel therapeutic approaches. **Continue to support implementation of focused screening and therapy programs.**
11. Identifying biomarkers as targets for novel cancer therapies may substantially improve survival. **Enhance infrastructure for the implementation and evaluation of molecular diagnostics to support targeted and other novel therapeutic approaches.**
12. Access to advanced radiotherapy treatment technology (e.g. Linac-

MR, MR-simulation, protons, etc.) promises improved treatment options for some cancers that may lead to higher survival and/or reduced treatment toxicity (and corresponding improved quality of life). **Continue to support development and implementation of these advanced technologies.**

13. Greater efforts are needed for cancers where survival remains poor, including lung, esophageal and pancreatic cancer. **Encourage continued research investment in high-fatality cancers.**

PREVENTION & SCREENING

Cancer prevention includes primary (e.g., environmental and behavioural changes, increased access to immunization), secondary (e.g., population-based cancer screening) and tertiary (e.g., reducing cancer morbidity through behaviour and treatment) measures. Interventions at each of these levels can decrease the number of cancer diagnoses, and they should work in concert to reduce the impact of cancer.

14. Modifiable risk factors that could be targets for primary cancer prevention include tobacco smoking and human papillomavirus (HPV) infections. **Prioritize population-based HPV testing and lung cancer screening programs.**
15. Cancer screening participation rates are not meeting targets and the rates differ across health zones and subsets of the population in Alberta, highlighting issues

around availability, accessibility and acceptability of screening.

Improve promotional and recruitment strategies to address low participation rates in cancer screening. Physician-linked programs can be especially valuable as they allow physicians to empower and promote among eligible patients.

16. **Support research in the following priority areas: reduction of the variation in cancer screening, equitable access to cancer prevention and screening, patient engagement in cancer prevention and screening research, and methods for prevention research implementation and mobilization of what is known about how to reduce the risk of cancer in Alberta.**

CANCER DIAGNOSIS

Organized initiatives to facilitate cancer diagnosis are effective in reducing wait times, improving the patient experience, and using health system resources more efficiently. Improving cancer diagnosis may also have major downstream effects – an earlier stage at diagnosis may require less complex therapy and have better outcomes.

17. The Alberta Cancer Diagnosis (ACD) initiative will anchor all cancer diagnosis pathways and establish a single point of access for patients and providers. **Develop a research framework to support the ACD initiative, with an emphasis on person-centered care, outcomes and experiences, and value for the health system.**



18. Molecular diagnostics are becoming more widely used to stratify cancers for prognosis and to guide treatment. **Enhance infrastructure for molecular diagnostics to support the movement towards multi-target sequencing for most cancers in the province. Molecular diagnostics would also benefit from a research infrastructure developed to support the ACD.**
19. Leveraging existing research platforms such as the OncoSim framework may be helpful to fill research and evaluation gaps regarding cancer diagnosis. **Expand outcome reporting to allow for greater understanding of the effectiveness of diagnostic programs and to help to justify continued or expanded governmental support.**

CANCER TREATMENT

Cancer treatment can have different goals depending on the type of cancer, stage of cancer, and patient preferences or characteristics. CCA provides cancer treatment and support for many aspects of the cancer continuum at its 17 cancer centres in partnership with clinical support services, Zone partners, and other health care providers and services including community, primary care and volunteer/not-for-profit organizations.

20. **Implement a robust research framework for collecting and using patient reported outcomes and experience measures to support design and evaluation of current and new treatments as well as current and novel models for delivering care.**

21. **Establish a robust set of quality indicators related to the full range of services available in Alberta with equity considerations and ensure that quality care is provided across all aspects of quality including acceptability, accessibility, appropriateness, effectiveness, efficiency, equity and safety.**
22. Clinical trials allow researchers to discover new ways in which to prevent, diagnose, treat, and manage cancer, thus helping to improve patient outcomes. **Expand access to clinical trials.**
23. **Develop comprehensive approaches to assessing outcomes for trial participants and those exposed to different lines/modes of cancer treatment in routine care.**
24. Investment in radiation oncology research has led to the development of world-leading technology and treatment protocols. **Prioritize continued investment in these directions to ensure Albertans receive the highest quality care, in a timely manner.**

CANCER MANAGEMENT COSTS

As a leading cause of death and disease in Canada, cancer not only takes a significant toll on the health of patients and survivors, but it also has a high financial impact. The high financial cost of cancer is largely paid by the public health system, but a considerable amount is still paid by the patients diagnosed with cancer and their families.

25. Focus future studies on evaluating optimal patient care pathways that optimize patient outcomes and value.

26. Managing cancer through treatment and care is expensive, due to both an increasing number of people diagnosed with cancer and rising price of drugs and care in general. **Expand research infrastructure to examine cost-effectiveness of approved therapies as well as potential cost savings for biosimilars and other off-patent therapies.**
27. **Prioritizing long-term planning for routine updating and replacement of capital equipment (e.g. critical treatment machines such as linear accelerators, which have an approximate lifespan of 10 years) will create stability and minimize disruption to patient treatments.**
28. The safe and accurate delivery of radiation relies on stable staffing of highly trained professionals. **Staffing models need to be based on relevant national benchmarks, and efforts for recruitment and retention of highly qualified personnel need to be bolstered in order to maintain the standards of care that Albertans expect.**
29. **Explore and assess the direct and indirect financial burden of cancer treatment on Albertans and the health system.**
30. **Understand costs of cancer care to the Alberta health system and cancer outcomes compared with other provinces to determine areas of success and areas of opportunity for increased efficiency.**



SUPPORTIVE CARE

Supportive care is an overarching concept that describes the health care services that people awaiting a diagnosis of cancer, or who already have a diagnosis of with cancer, and their families need beyond anti-cancer medical, surgical and radiation interventions. It can include physical, emotional, social, psychological, cultural, functional, informational, spiritual and practical support for patients and their families.

- 31. Alberta has an extensive network of supportive care services, including the volunteer sector, municipal supports, primary care and AHS. **Assess the extent to which supportive care access can be tailored to people’s needs by leveraging what already exists. Evaluate the impact of supportive care on quality of life.**
- 32. An opportunity exists to strengthen and integrate the relationships between the patient’s medical home (PMH), community services and supports, and the formal cancer system to meet the medical, emotional, spiritual and social needs of people with cancer and their families in a comprehensive manner. **Optimize integration and better coordination across sectors with the goal of better patient experience and improved outcomes, both at an individual and system level.**

PALLIATIVE & END-OF-LIFE CARE (PEOLC)

PEOLC is a crucial component of improving the quality of life for people living with serious illness, including but is not limited to people living with advanced cancer.

- 33. In addition to the Alberta Health palliative review, Alberta Health and AHS have prioritized a redesign and evolution of home care to improve quality and access to care for all Albertans. Both of these reviews will inform the work to be done ahead to continue to improve quality access to PEOLC. **Conduct further research and quality improvement projects to enhance access to quality PEOLC services for people with cancer and non-cancer diagnoses across the province.**
- 34. **Have research informed by patients, families and practitioners at a community level, and supported by an enhanced capacity to access, use, and interpret data on service provision and patient needs including those of vulnerable populations.**

MODELS OF CARE

A model of care in oncology outlines the way in which health services are created and provided for patients as they move through the stages of cancer. With an aging and growing population, appropriate delivery of care requires balancing patient needs, health care resources and fiscal constraints.

- 35. As the number of people with cancer and the complexity of treatments increases, it is important that the care system can adapt appropriately. **Invest in a detailed workforce plan to address the growing needs of the cancer care system while accounting for recent changes and trends in models of care delivery.**
- 36. While virtual care technology has mainly been used to provide care in remote or rural populations, this method of care delivery may be a feasible adaptation across the province regardless of geographic location. **Evaluate the impact of virtual care and home care on patient outcomes, experience and satisfaction.**
- 37. Innovations in models of cancer care are needed to support the patient population now and into the future, as the traditional models may no longer be sufficient or sustainable in all settings. **Examine the impact of changes in care delivery during the pandemic to understand whether some of the forced changes to care delivery result in similar outcomes that might be more sustainable.**
- 38. To work towards the goal of optimizing person-centered care, the health care system in Alberta will need to adopt technology and new processes that continue to put the patient and family needs at the centre of the care, while ensuring that systems are in place to evaluate innovations and adapt as required. **Examine how to enhance cancer care to meet the evolving needs and expectations of patients and families, while working to optimize patient outcomes and experiences.**



HEALTH EQUITY

Disparities in cancer outcomes are preventable and are in many instances the result of social and historical hierarchies that can lead to structural discrimination and marginalization. Equity reflects the need to act on these disparities and create opportunities for everyone to benefit from improvements in cancer care.

39. **Increase collection of Alberta-specific data on vulnerable populations and those previously under-represented in health and population data.** Investments should focus on individuals with mental health disorders, Indigenous peoples, racialized individuals, and sexual and gender minorities to identify where resources are needed in the cancer care continuum.
40. **Investigate methods of establishing long-term staffing stability for smaller, regional radiotherapy cancer centres, to facilitate ongoing equitable access to radiotherapy across the province.**

CHILDHOOD CANCER IN ALBERTA

Childhood cancer is relatively uncommon, but remains the leading cause of disease-related death among children in Canada.

41. **Expand development of new therapies for cancers with higher mortality and relapse rates such as brain tumors and soft tissue sarcomas. Explore novel personalized targeted chemotherapy drugs, precision radiation therapy including proton therapy, and immunotherapies that hold promising results.**
42. Although Alberta has the required clinical expertise to involve children diagnosed with cancer in clinical trials, patient numbers are often too small to trigger the initiation of these studies, impeding the access by this population to novel therapies. Efforts are required to promote collaboration and to reduce barriers to initiating trials in the pediatric oncology arena. **Enhance access to early phase clinical trials and novel therapies in pediatric oncology.**

43. Children affected by cancer have unique medical and psychosocial needs, and require specialized care. **Improve access to specialized care, focusing on ensuring that treatment and supports for children diagnosed with cancer are designed specifically to serve this population and available in pediatric-appropriate formulations.**
44. Interventions that may reduce physical and psychosocial late effects of cancer treatment in children include the reduction of exposure to toxic therapies, toxicity prediction through pharmacogenomics or screening, and enhanced support to survivors in dedicated comprehensive survivorship programs. **Enhance understanding of long-term health issues related to childhood cancer and its treatment, and insights into their prevention.**



This Future of Cancer Impact (FOCI) in Alberta – Summary provides a condensed snapshot of the broader report. Please refer to the complete report for more comprehensive analysis and information, citations, data tables, figures and more.

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