CAPCA

Canadian Association of Provincial Cancer Agencies

Pan-Canadian Strategic Oncology Workforce Report

A Focus on Key Oncology Professions

Supported by: Canadian Cancer Society

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1.0 Executive Summary

The oncology workforce in Canada faces significant challenges that threaten the sustainability and accessibility of cancer care. Key constraints include workforce shortages, recruitment and retention difficulties, a demanding work environment contributing to provider burnout, an education and training system that is not keeping pace with workforce needs, and the rising costs of care. With cancer incidence and mortality rates projected to rise by 40% and 44%, respectively, by 2040 due to population growth and aging, the need for a robust, resilient, and sustainable oncology workforce has never been more urgent.

The Canadian Association of Provincial Cancer Agencies (CAPCA) is a federation of pan-Canadian cancer control system leaders from each of the Provincial Cancer Programs that come together to discuss and collaboratively address issues that affect the delivery of cancer care in Canada. Its strategic directions are to enhance access and quality, support innovation and research, and promote person-centered care and outcomes. Developing a sustainable, pan-Canadian approach to health human resources was identified as a priority in CAPCA's 2023-2026 strategic plan.

CAPCA, with financial support from the Canadian Cancer Society, undertook a Pan-Canadian Strategic Oncology Workforce Project to assess the current state of the oncology workforce, identify successes and challenges, and explore opportunities to enhance workforce sustainability. The initiative was guided by a collaborative, pan-Canadian approach, engaging key system partners, including Provincial Cancer Programs, national professional associations, and workforce experts, to identify meaningful opportunities that can address workforce constraints.

A Compelling Case for Change: Key Challenge Identified

A key challenge uncovered in this work is the limited pan-Canadian oncology workforce data. Within provincial jurisdictions, available data supports local oncology workforce planning, allowing provinces to develop strategies that address their specific oncology workforce challenges, though some variation may exist across jurisdictions. However, system partners agree that, given the realities of the current state and the evolving innovations and trends in cancer care, a provincial workforce view is no longer sufficient. A pan-Canadian view of the workforce must be established, not only to strengthen provincial planning, but also drive transformation in pan-Canadian workforce approaches, such as models of care, education and training, and workforce distribution.

While there are many sources of oncology workforce data, there is no pan-Canadian workforce standard or minimum dataset. As a result, there is no centralized repository that provides a complete, standardized view of workforce supply and demand to enable pan-Canadian oncology workforce projections and planning.

Notable Successes: Collaboration, Commitment, Innovation

Despite data challenges at a pan-Canadian level, this initiative has highlighted significant achievements, demonstrating strong pan-Canadian collaboration and a commitment to continued improvement in the oncology workforce landscape:

- **Collaboration amongst Provincial Cancer Programs and System Partners**: The engagement process highlighted the willingness of jurisdictions and system partners to collaborate, share best practices, and contribute to a collective vision for oncology workforce sustainability. Over 200 system partners were engaged, providing valuable insights that will inform future strategies.

- **Commitment to Data Sharing and Advancing Workforce Planning**: While data gaps exist, Provincial Cancer Programs and partners have shown a keen interest in improving pan-Canadian data collection, standardization, and accessibility. Data was shared in an open and collaborative way.
- **Innovation in Models of Care and Workforce Strategies Are Converging**: Jurisdictions are implementing innovative models of care that optimize workforce capacity, including digital innovations and strategies to support recruitment and retention of the oncology workforce.

Key Opportunities and Promising Practices Identified: Insights from System Partners

Through extensive engagement with system partners, several key opportunities and promising practices have been identified that can be leveraged and scaled across provinces to support oncology workforce sustainability. These include:

1. **Strengthening Models of Care and New Roles**: Advancing team-based models of care that integrate innovation and optimize roles to improve access, equity, and efficiency in cancer services.
2. **Leveraging Digital Innovation and Artificial Intelligence (AI) to Support Providers and Enhance Patient Outcomes**: Utilizing AI and digital health solutions to streamline administrative tasks, enhance diagnostics, and improve patient monitoring.
3. **Creating a Healthy Workplace**: Implementing strategies to support recruitment and retention, including flexible work arrangements, career progression pathways, and workplace well-being and provider experience initiatives.
4. **Supporting Training, Education, and Regulatory Systems to Better Meet System Needs**: Expanding training opportunities, including support for electronic medical record integration, aligning education with system needs, and exploring multi-jurisdictional licensure to improve workforce mobility.
5. **Enabling Patients and Caregivers as Partners in Oncology Care**: Strengthening patient engagement, education, and self-management initiatives to enhance the role of patients and caregivers as partners in care.
6. **Strengthening Pan-Canadian Oncology Workforce Data and Planning Capabilities**: Advancing pan-Canadian oncology workforce data standards and implementing pan-Canadian workforce modeling and forecasting to inform national planning and policy decisions.

The Path Forward: Recommendations for Future Direction

This initiative has reinforced the importance of continued collaboration and investment in a sustainable, pan-Canadian approach to oncology health human resources. The following key areas should be prioritized:

1. **Supporting Knowledge Transfer Among Provincial Cancer Programs**: Establishing mechanisms for sharing oncology workforce insights and best practices to drive local impact.
2. **Scaling and Spreading High-Impact Oncology Workforce Opportunities**: Adapting and implementing proven workforce strategies, such as digital innovations and AI technologies, across jurisdictions based on local needs.
3. **Examining the Education and Training Landscape:** Exploring the current capacity and gaps within the cancer care education and training system, including a focus on specialized programs, distribution, and impact.

4. **Advancing Pan-Canadian Oncology Workforce Data**: Developing a standardized minimum dataset for the oncology workforce to support pan-Canadian workforce planning.

In summary, while oncology workforce challenges persist, this initiative has demonstrated that strong collaboration and innovative strategies are converging that can help drive meaningful progress to close the gap between oncology workforce supply and demand. In addition, the availability of pan-Canadian oncology workforce data can be a powerful accelerator to oncology workforce sustainability in Canada, enabling transformation in pan-Canadian workforce approaches, such as models of care, education and training, and workforce distribution.

2.0 Introduction

The Canadian Association of Provincial Cancer Agencies (CAPCA) is working to collaboratively advance high quality cancer care and address issues that are affecting the delivery of cancer care in Canada. A key challenge identified in the 2023-2026 Strategic Plan is the urgent need for a sustainable, pan-Canadian approach to health human resources (HHR) in oncology. In response, CAPCA, with financial support from the Canadian Cancer Society (CCS), is leading a collaborative initiative to assess the current state of the Canadian cancer care workforce and data landscape, as well as identify opportunities to enable a sustainable workforce for the future.

Delivering this initiative required engagement across system partners. This included oversight from the CAPCA Board, and the appointment of a project Steering Committee comprised of representatives from Provincial Cancer Programs, CCS, Patient and Family Advisors, and guided by a global health workforce expert. At the outset, the Steering Committee informed the approach and scoping of the initiative by using the following four-step logic model to identify oncology professions that would be included in this work:

1. Brainstorming a fulsome list of potential professionals based on project goals
2. Developing a shortlist of professions through engagement with Provincial Cancer Programs and system partners
3. Assessing data of the shortlisted professions and further streamlining based on data review findings
4. Refining the professions, as needed, through further engagement

Applying this model, seven professions were selected for the current state assessment and data collection, based on their role in oncology diagnosis and treatment, as well as the availability of workforce data. These professions included: Medical Oncologists, Malignant Hematologists, Radiation Oncologists, Medical Physicists, Medical Radiation Technologists (MRT) – Radiation Therapists, Oncology Nurses, and Oncology Pharmacists.

It is important to note that the project Steering Committee recognized the initial focus of this work was only to be on a subset of oncology professions, with the understanding that this focus will evolve and expand over time. For instance, it is acknowledged that future work will be essential to address other key disciplines in oncology diagnosis and treatment, such as surgical oncology, cancer genomics, and pathology. Therefore, while this initiative was not comprehensive in scope (i.e. encompassing the entire oncology workforce), it provided a practical starting point to begin to better understand the current state of the oncology workforce and the opportunities to shape a robust and sustainable pan-Canadian workforce approach.

Data per profession was gathered through engagement with Provincial Cancer Programs, national professional associations, and public data sources (e.g., Canadian Institute for Health Information (CIHI)). An assessment of the data completeness, confidence, and overall quality was developed. Where possible, a synthesis of data metrics across jurisdictions was conducted (e.g., vacancy). The analysis of both qualitative and quantitative information led to several key findings being identified. To validate the key themes in the current state and define opportunities for change, additional engagement occurred through partner interviews and a two-day oncology workforce conference, which included researchers, professional associations, Provincial Cancer Programs, government agencies, Patient and Family Advisors, and other collaborators. In total, over 200+ partners were engaged over the course of this project. Further refinement of the current state assessment, data findings, and opportunities for change was guided by a global health workforce advisor and CAPCA's Board.

3.0 Current State of the Oncology Workforce in Canada

3.1 Overview: Pan-Canadian Workforce Challenges

The Reality of a Health Workforce Crisis & the Uniqueness of Oncology Care

The global healthcare system is facing an unprecedented crisis – a significant healthcare workforce shortage exacerbated by a growing demand for services. The World Health Organization (WHO) projects a shortfall of 10 million health workers by 2030, which will impact countries across all levels of socioeconomic development. [1] This crisis stems from challenges in recruiting, retaining, educating, training, as well as planning for the health workforce worldwide.

In Canada, the oncology workforce is under exceptional strain, a reflection of the broader global health workforce crisis, but with unique challenges that make it particularly critical. Oncology care requires a highly specialized workforce to address the complex and rapidly evolving nature of cancer treatment. Moreover, care delivery demands a multidisciplinary approach, with various oncology professionals collaborating across settings to provide high-quality patient care throughout the cancer care continuum. The shortage of any one group can disrupt the entire system, leading to delays in treatment, increased workloads for healthcare providers, and poor outcomes for patients.

Rising Departures and Vacancies are Driving Critical Shortages in Cancer Care

Currently, the Canadian cancer care workforce is facing critical shortages and rising vacancies across oncology disciplines, some of which is driven by an increasing number of individuals leaving their positions or profession altogether. The departure rates have been alarming, such as a 129% spike in departures amongst Medical Physicists across Canada between the years 2021 and 2022.[2] Additionally, Radiation Oncologists had an average increase of 14.8% in departures between 2019 and 2022.[3] These vacancies are not merely statistics; they represent significant gaps in patient care. For example, radiation oncology has seen 71.6 FTE vacancies, accounting for 17% of total FTE positions.[4] In 2020, the Canadian Radiation Oncology Work Engagement and Burnout Survey found that nearly half of Canada's Radiation Oncologists described their work atmosphere as chaotic, and 41% had considered leaving their institution in the past three years, with 51% contemplating reducing their full-time equivalent (FTE).[5] If these levels of dissatisfaction are not addressed, the profession may face further attrition, leading to reduced access to cancer care and placing additional strain on an already overburdened healthcare system.

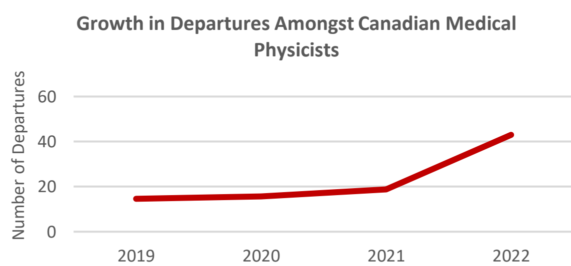

Figure 1 - Growth in Departures Amongst Canadian Medical Physicists

Notably, the impact is felt across various specialties. For Radiation Therapists, vacancies have reached 100 FTEs, or 5.7% of the total positions available in 2022. In one province alone, vacancies for Radiation Therapists increased

[1] WHO: Health Workforce, 2024
[2] Healthcare Human Resources Survey Results, 2023
[3] Healthcare Human Resources Survey Results, 2023
[4] Healthcare Human Resources Survey Results, 2023
[5] Canadian Radiation Oncology 2020, Work Engagement and Burnout Survey, 2020

over 40% between 2023 and 2024.[6] The 2022 survey by the Canadian Association of Medical Radiation Technologists (CAMRT) and the Organizations for Health Action (HEAL) revealed that 35% of Medical Radiation Therapists (MRTs) were considering leaving their profession, of which 85% were looking to leave permanently.[7] Similarly, based on data provided by participating Provincial Cancer Programs, 14% of total FTE for Oncology Nurses in treatment and diagnosis, were vacant.[8] These findings indicate that attrition across oncology professionals is widespread and not isolated to specific healthcare providers.

Workforce challenges are even more pronounced in rural areas, where the shortage of healthcare providers is compounded by geographical disparities.[9][10] Professionals often choose urban centres with public transit and social amenities, leaving rural and remote regions critically underserved. Ultimately, these trends underline a critical issue: the existing workforce is dwindling faster than can be replenished.

Professionals Who Remain in the Sector are Faced with Challenging Working Conditions and Burnout

Amid these challenges, rising vacancies and increasing workloads have led to higher rates of burnout, moral distress, and mental and emotional health issues among healthcare providers.

77% *of BC Medical Oncologists had negative scores in at least one of the three burnout domains – exhaustion, cynicism, or inefficacy according to the British Columbia Medical Journal.*

Workloads are rising across several oncology professions, significantly impacting provider retention and workplace engagement. For example, according to a recent Radiation Oncology HHR Survey, high workload was the second most common cause for departures across all radiation-related professions.[11] Concerns regarding work engagement included inefficiencies in workflow (50%), heavy workloads (over 50%), poor work-life balance (68%), lack of control over the work environment (47%), and insufficient recognition from administrators (45%).[12] Similarly, Medical Oncologists have also seen increasing workloads, a trend that began before the COVID-19 pandemic. In 2019, it was reported that half of the Medical Oncologists in Canada were already exceeding the yearly recommended target of 160-175 new patient consultations.[13] This can be further demonstrated through a study based in Nova Scotia, which showed a 9.5% increase in all forms of patient care encounters per year between 2014 and 2022 for Medical Oncologists.[14] Since the pandemic, this trend has only continued, with Canadian Association of Medical Oncologists (CAMO) reporting that 83% of respondents to a recent survey noted increased workloads since the pandemic began.[15] Evidence suggests growing workloads for Medical Oncologists are negatively impacting oncology providers' work-life balance, well-being, and emotional health. Similarly, as reported in a 2022 study, 73% of practicing cancer care physicians (surgical, medical, radiation, gynecologic

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[6] Healthcare Human Resources Survey Results, 2023
[7] Based on data received from CAMRT, 2024
[8] Based on data received from Provincial Cancer Programs, 2024
[9] Building bridges between clinic and community: Supporting patients and caregivers living in rural and remote Canada, 2023
[10] Canadian Cancer Society Report on Advancing Health Equity Through Cancer Information and Support Services, 2023
[11] Canadian Radiation Oncology 2020, Work Engagement and Burnout Survey, 2020
[12] Canadian Radiation Oncology 2020, Work Engagement and Burnout Survey, 2020
[13] Is the Medical Oncology Workforce in Canada in Jeopardy? Findings from the Canadian Association of Medical Oncologists' COVID-19 Impact Survey Series, 2024
[14] Is the Medical Oncology Workforce in Canada in Jeopardy? Findings from the Canadian Association of Medical Oncologists' COVID-19 Impact Survey Series, 2024
[15] Is the Medical Oncology Workforce in Canada in Jeopardy? Findings from the Canadian Association of Medical Oncologists' COVID-19 Impact Survey Series, 2024

oncology, and hematology) in Ontario had symptoms of burnout attributed to a hectic or chaotic atmosphere and marginal control over workload. [16]

Workloads are just one of many factors impacting oncology provider well-being, along with organizational support, emotional exhaustion from acuity of care, grief, compassion fatigue, and the complexities of rising patient needs. Poor well-being and burnout can increase the risk of medical errors, reduce the quality of care, lead to job dissatisfaction, and may even drive providers to consider leaving the profession altogether.[17][18] In cancer care, challenges related to work-life balance, well-being, and job satisfaction are being seen across oncology professions.

Radiation Oncologists	In 2019, the Canadian Medical Association's Radiation Oncology Profile reported that 42% of Radiation Oncologists across Canada were dissatisfied or very dissatisfied with the balance of their personal and professional commitments.[19] By 2021, that number rose to 44%. [20]
Medical Oncologists	For Medical Oncologists, CAMO reported that in 2024, 47% of Medical Oncologists were dissatisfied with their work-life balance. [21] Research also shows that at least one in three Medical Oncologists experience burnout, which negatively impacts their health and job satisfaction. [22] In the same 2024 CAMO survey, 35% of respondents indicated they are considering leaving the field of oncology entirely due to repetitive physical and mental burnout. [23]
Medical Radiation Technologists	Similarly, studies have consistently shown a high incidence of emotional exhaustion among MRTs. A mental health survey conducted in 2022 by CAMRT and HEAL revealed that emotional exhaustion and wellbeing concerns were widespread across MRTs. Over 50% of MRTs reported that mental health concerns, including depression, anxiety, and burnout were their top issues, while over 57% of MRTs across all disciplines reported experiencing moderate to high levels of emotional exhaustion, and 32% reported not feeling valued or respected in their workplace. [24]

In addition, a systematic review and meta-analysis of nurse burnout found that burnout among nurses is closely linked with lower levels of patient satisfaction and quality of care. [25]

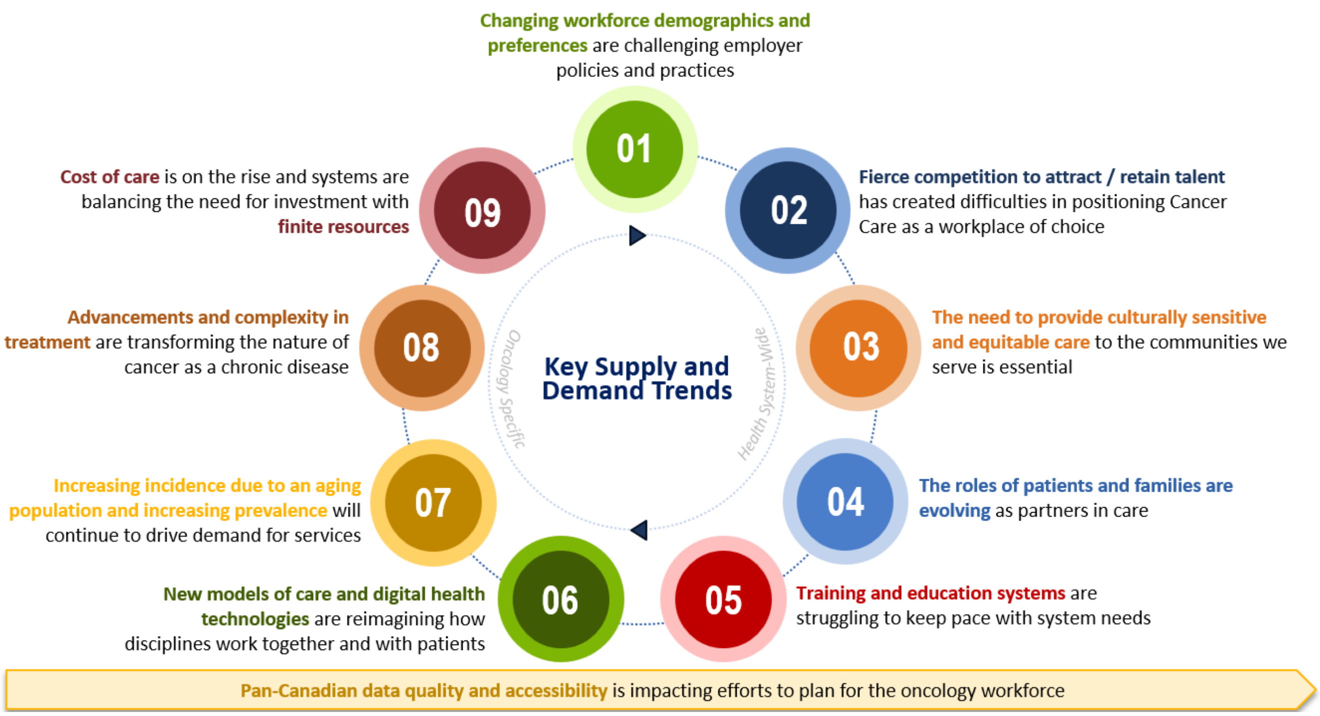
These statistics signal a pressing need to improve workplace conditions and well-being support for the oncology workforce. If left unaddressed, we could see higher departures from roles or the profession altogether. For those

[16] Prevalence and Workplace Drivers of Burnout in Cancer Care Physicians in Ontario, Canada, 2022
[17] Canadian Medical Association Journal, Do doctors experiencing burnout make more errors, 2018
[18] National Centre for Biotechnology Information, Burnout among public health workers in Canada: a cross-sectional study, 2024,
[19] Canadian Medical Association, Radiation Oncology Profile, 2019
[20] Canadian Radiation Oncology 2020, Work Engagement and Burnout Survey, 2020
[21] Is the Medical Oncology Workforce in Canada in Jeopardy? Findings from the Canadian Association of Medical Oncologists' COVID-19 Impact Survey Series, 2024
[22] ESMO Resilience Task Force recommendations to manage psychosocial risks, optimise well-being, and reduce burnout in oncology, 2024
[23] Is the Medical Oncology Workforce in Canada in Jeopardy? Findings from the Canadian Association of Medical Oncologists' COVID-19 Impact Survey Series, 2024
[24] Based on data received from CAMRT, 2024
[25] Nurse Burnout and Patient Safety, Satisfaction, and Quality of Care: A Systemic Review and Meta-Analysis, 2024

that remain in their role, the burden only increases, contributing to higher rates of morale distress, burnout, and diminished coping abilities.

3.2 Key Findings: Workforce Supply and Demand Trends

Looking forward, workforce challenges are anticipated to worsen due to key supply and demand trends. Specifically, findings from this initiative indicate that there are nine supply and demand trends that are converging to amplify the pressure on sustaining Canada's oncology workforce. As outlined in the diagram below, these trends are complex, multifaceted, and difficult to solve due to their interconnected and evolving nature.



1. Changing Workforce Demographics and Preferences Are Challenging Employer Policies and Practices

On the supply side, demographics and preferences of the workforce are shifting, exacerbating retention challenges and departures across oncology. Not only is the population aging, but the oncology workforce is as well. Baby Boomers and Generation X comprise a large majority of the oncology workforce, creating looming retirement surges across many disciplines, thereby reducing the oncology workforce. For example, only 24% of Medical Oncologists were ≥ 50 years old in 1994, compared with 40% in 2020, bringing retirement age closer for a large proportion of the profession.[26] The COVID-19 pandemic has further accelerated a reduction in the

[26] Canadian medical oncology workforce and cancer incidence trends: Supply and proxy demand analyses from 1994 to 2020

workforce with many healthcare providers opting for early retirements as a result of concerns for personal health, coupled with the desire to prioritize family and well-being after enduring the stress and challenges of the pandemic. For instance, 56% of Canadian Medical Oncologists indicated that they are considering retiring or reducing total working hours in the next 5 years. [27] As these professionals prepare to leave the workforce, a significant gap in expertise and patient care continuity can be expected.

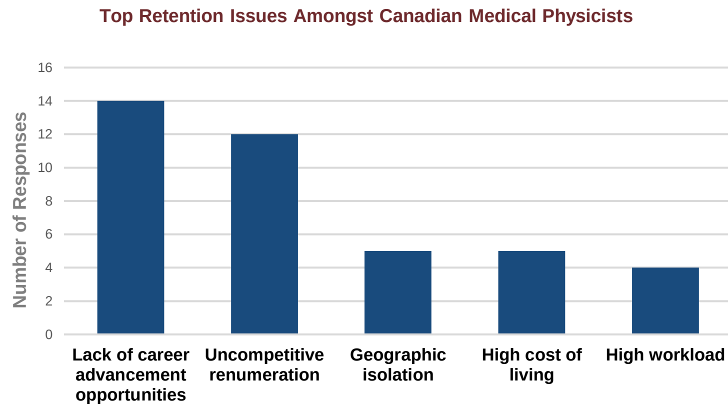


Figure 1 - Top Retention Issues Amongst Canadian Medical Physicists

At the same time, younger generations, particularly Generation Z, are entering the workforce with different priorities and employment preferences. This generation is less inclined to accept traditionally demanding and inflexible schedules common in healthcare. Based on qualitative responses received from a recent pan-Canadian Radiation Oncology HHR Survey, as well as data submissions from Provincial Cancer Programs, the younger workforce is placing a higher emphasis on work-life balance, career development opportunities, competitive compensation, and flexible work arrangements. For example, demand for flexible work hours and remote work options are growing in popularity which conflicts with the hands-on, patient-facing nature of oncology roles. These factors are among the top recruitment and retention issues reported across all Canadian regions that are already experiencing retention challenges as a result.[28]

Spotlight: *Workforce Preferences Amongst Oncology Registered Nurses*

With rising vacancies across the country, Oncology Registered Nurses now have more control over their employment choices. This, in turn, has led to increased competition for Oncology Registered Nurses among different programs. Key trends amongst the workforce include a strong preference for permanent positions over temporary ones and a growing desire for part-time roles rather than full-time. Many nurses are moving into lower FTE positions and favoring Monday to Friday day shifts, avoiding weekend or overnight work. These preferences are driving significant internal movement within organizations, requiring continual orientation for staff in new program areas. Additionally, Oncology Registered Nurses are becoming less willing to endure high workloads and exhaustion and are instead leaving to join private agencies.[29]

The oncology workforce is also becoming more diverse and racialized, reflecting broader demographic shifts across Canada. While this trend brings several benefits, such as improved patient care experience and representation, it also has led to racialized oncology providers being subject to discrimination in the workplace. For example, in a study conducted in 2024 with the members of the Canadian Association of Radiation Oncology (CARO), 42% of Radiation Oncologists reported experiencing discrimination in the last five years, with 8% facing it regularly. The main focus of discrimination included gender (26%) and race and ethnicity (20%). The primary

[27] Is the Medical Oncology Workforce in Canada in Jeopardy? Findings from the Canadian Association of Medical Oncologists' COVID-19 Impact Survey Series, 2024
[28] Healthcare Human Resources Survey Results, 2023
[29] Healthcare Human Resources Survey Results, 2023

sources of discrimination were workplace staff (68%) and patients/family members (32%). Of the respondents who faced discrimination from colleagues, 48% indicated the colleague held a position of power.[30] The systemic issues surrounding discrimination and inadequate support structures highlight the urgent need for policy and practice reforms within the workplace. Addressing these issues is essential for the well-being of providers and retaining a healthy workforce.

2. *Fierce Competition to Attract and Retain Talent has Created Difficulties in Positioning Cancer Care as a Workplace of Choice*

Domestic and global competition for skilled labour is attracting the workforce to other jurisdictions, countries, and alternative industries. Due to widespread vacancies across the country, oncology professionals have greater leverage in choosing their workplace, allowing them to move to roles that offer attractive incentives and better align with their working preferences (e.g., flexibility). This creates difficulties in retaining the existing workforce and filling growing vacancies. The trend is particularly noticeable among younger professionals with less experience. For example, the pan-Canadian HHR Radiation Oncology Survey found that the primary challenge in recruiting oncology professionals is uncompetitive remuneration, as indicated by over 30% of responses.[31] As a result, many professionals are moving abroad where salaries can be up to double those offered in Canada. The heightened competition has ultimately contributed to longer time-to-fill for vacancies, with jurisdictions reporting timelines ranging from 6 to 24 months.

Spotlight: *Escalating Departures and Staffing Challenges Among Canadian Medical Physicists*

Between 2019 and 2022, Medical Physicist departures in Canada grew 52% on average per year, with a 129% spike from 2021 to 2022. While the average 3.2% retirement rate contributed to the growing departures, most departures can be attributed to Medical Physicists, with 3-4 years of experience, who are increasingly leaving for higher-paying jobs abroad. Particularly in the U.S., competitive salaries averaging $232K CAD are attracting Medical Physicists, compared to the average $152K CAD salary in Canada.[32] As a result, 42 FTE vacancies were reported in 2022.[33] Since this time, some jurisdictions have adjusted Medical Physicist compensation models. This data brings attention to the ongoing challenge of offering a competitive salary to attract and retain talent. Compounding the issue is a bottleneck in residency programs, with only 20 graduates annually to fill vacant positions, despite an average of 45.1 residency-ready Medical Physicist graduates per year between 2018 to 2022. (Note: Not all provinces have training programs for Medical Physicists.)

3. *The Need to Provide Equitable and Culturally Sensitive Care to the Communities We Serve Is Essential*

As Canada's population grows more diverse, cancer care services must adapt to meet evolving expectations and needs. Diversity factors can influence patients' perception of disease, their acceptance of life-prolonging measures, their responses to treatment, and their overall relationship with oncology providers. Many racialized, newcomers, and LGBTQ2S+ individuals face significant barriers such as discrimination and language challenges, leading to disparities in access to care and treatment outcomes. For example, First Nations, Inuit, and Métis

[30] Radiation Oncologists in Canada: A Comprehensive Survey of Gender Identity, Sexual Orientation, Disability, Race, Ethnicity, Religion and Workplace Harassment and Discrimination Experience, 2024
[31] Healthcare Human Resources Survey Results, 2023
[32] Canadian Organization of Medical Physicists Report, 2022
[33] Healthcare Human Resources Survey Results, 2023

populations often experience late-stage diagnoses and poorer outcomes due to inequitable access to care.[34] Economic disparities also play a role, as studies show that communities with higher income levels—disproportionately benefiting some racial groups—tend to have improved cancer survival rates. In contrast, those with lower income levels, often represented by racialized and marginalized groups, suffer worse outcomes.[35]

Addressing these health equity challenges requires more than just ensuring the availability of healthcare providers. Health systems must also focus on accessibility to ensure the equitable distribution of healthcare providers, particularly in underserved areas. In addition, acceptability is critical, ensuring that healthcare providers, regardless of their sex, language, culture, or age, can treat patients with dignity, build trust, and meet diverse needs.[36] The Canadian Partnership Against Cancer (CPAC) has acknowledged this need, advancing cultural competency in cancer care as a strategic priority through their initiative "Culturally Appropriate Care Closer to Home." This approach aims to provide holistic, equitable care that reduces disparities. Organizations that provide culturally competent cancer care are likely to see improved therapeutic outcomes and may help reduce disparities in medical care.

As a result, cultural competency must be developed not only within the oncology workforce, but also across health systems and structures. Achieving cultural competence involves addressing potential biases and fostering cultural awareness, knowledge, sensitivity, skills, proficiency, and the ability to adapt. Doing so successfully requires the workforce to manage additional complexities in the care process, which includes language barriers, nuances in patient communication and approaches, and the impact of patients' health and wellness beliefs on treatment choices. Ultimately, balancing these individual needs across the patient population can advance care outcomes, but it also creates a more demanding environment for the workforce.

Spotlight: *Gaps, Barriers, and Challenges in Care Amongst Immigrants and Refugees*

Immigrant and refugee populations in Canada often face health inequities, with their health status often declining upon arrival in the country. A population-based study in Ontario examined the impact of ethnicity on breast cancer stage at diagnosis, comparing South Asian and Chinese patients with the general population. The study found that South Asian women were more likely to be diagnosed with stage II breast cancer than stage I, compared to the general population. In contrast, Chinese women were less likely to be diagnosed at stage II than stage I. Over 60% of the patients had been living in Ontario for more than 15 years. Despite making more visits to their primary care practitioners within the preceding 24 months compared to the general population, South Asian women were significantly less likely to have undergone prior screening mammography. These findings highlight the health inequities faced by immigrant and refugee populations in Canada.[37]

4. The Roles of Patients and Families Are Evolving as Partners in Care

The roles of patients, families, and caregivers (formal and informal) are evolving to play a more active role in care delivery. Harnessing patient power can improve quality of care, reduce associated costs, and alleviate workloads

[34] Canadian Cancer Society, Advancing Health Equity Through Cancer Information and Support Services, 2023
[35] Current Challenges and Disparities in the Delivery of Equitable Breast Cancer Care in Canada, 2023
[36] WHO: Health workforce: The health workforce crisis , 2009
[37] Current Challenges and Disparities in the Delivery of Equitable Breast Cancer Care in Canada, 2023

for healthcare providers, particularly in managing chronic diseases. Despite this, many patients experience barriers to developing skills and abilities in self-management to actively and safely participate in decision making. Doing so successfully requires a significant shift in the relationship between patients and the oncology workforce, building new skills for both groups, and transforming every aspect of the care process. This type of patient engagement and skill development needs to be embedded in workforce training and education programs. The oncology workforce must work closely with patients, families, and caregivers to develop their skills to participate in shared decision-making processes by building understanding of their condition and treatment options. A key challenge that is preventing the workforce from achieving this is the lack of system infrastructure and the capacity to do so given existing workload demands.

5. Training and Education Systems are Struggling to Keep Pace with System Needs

Canada's training and education capacity, curriculum, and responsiveness to change is inadequate to meet rapidly evolving demands of the healthcare system. The limitations of planning insights and workforce data inhibits the ability to plan for future state training requirements to meet the demand of population health needs. In addition, not all provinces have been planning and investing in the appropriate number of residency positions. As a result, constraints in training capacity (e.g., residency seats) limit the number of qualified new graduates that are entering the workforce annually, leading to workforce vacancies going unfilled. For example, there are only 20 residency positions available annually for Medical Physicists across the country, despite an average of 45.1 Medical Physicist graduates being residency-ready each year.[38] Similar constraints are seen in other oncology specialties. Recruitment difficulties are even more pronounced in remote regions, as well as in care centres that have greater specialized job requirements or organizational policies.

Spotlight*: Recruitment Challenges for Malignant Hematologists in Atlantic Canada*

Recruiting Malignant Hematologists to Atlantic Canada is difficult due to compensation disparities and competition with larger jurisdictions, such as Ontario. An additional challenge in certain cancer centres within Atlantic Canada is the requirement for Hematologists to manage both benign and malignant cases, as well as support general internal medicine shifts for inpatient units and emergency departments.[39] These policies make it more challenging to find and retain qualified candidates willing to take on such broad responsibilities, further complicating recruitment efforts in the region.

The gap between what is being taught in training programs and the realities of modern oncology practice is widening. As technology and treatment protocols rapidly evolve, new competencies are required beyond traditional skill sets. However, educational curricula have been slow to adapt, leaving new graduates underprepared for the complexities of contemporary cancer care. In addition, the departure of experienced professionals due to retirement or burnout is affecting the mentorship and support systems that are crucial for new providers. Ultimately, due to the specialized nature of cancer care, many roles require extended education and training, meaning program changes (e.g., expansion) occurring today will not have true system impact for years to come.

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[38] COMP Report, 2022
[39] Healthcare Human Resources Survey Results, 2023

6. New Models of Care and Digital Health Technologies Are Reimagining How Oncology Disciplines Work Together and With Patients

New challenges associated with adopting patient-centered, integrated models of care and new technologies are placing increasing demands on the healthcare workforce. The shift towards a patient-centered approach prioritizes holistic care by addressing the physical, mental, and social aspects of a patient's well-being. By integrating care across various professions, continuity and personalized treatment are enhanced, while home-based and community-based models bring care closer to patients' homes. For example, at least two provinces have introduced General Practitioner Oncologists (GPOs) at community oncology sites, enabling patients to receive treatment locally.[40] Nurse Practitioners have independently led oncology clinics, which optimizes the roles of all members of the care team. Across Canada, other innovative models, such as a Primary Nursing Model and collaborative clinical practices, are being implemented to ensure integrated and continuous care for patients. While these advancements enhance the patient experience, they require professionals to adapt to new ways of working while managing mounting daily challenges.

To enable new models of care and reduce the strain on healthcare, professionals are leveraging emerging technologies, such as electronic health records (EHRs) and artificial intelligence (AI) to support the demand of care services. The adoption of telemedicine and virtual care, particularly during the COVID-19 pandemic, has been another key development. In Nova Scotia, patients reported high satisfaction with virtual consultations, which overcame barriers such as distance and travel costs.[41] While virtual care offers flexibility, it requires teams to adapt to new technologies and workflows, adding greater complexity to their roles. Similar to virtual care, new technologies can introduce additional challenges, such as increased administrative burdens during times of transition and the need for specialized, ongoing training. Balancing these tools with the realities of clinical practice requires ongoing adjustments and adaptation across the workforce.

Spotlight: *Ontario's Primary Nursing Model of Care for Radiation Oncology Services*

Some cancer care centers in Ontario have implemented an innovative Primary Nursing Model to improve cancer care, shifting to a nurse-led approach for both in-person and virtual consultations. In this model, nurses take the lead in managing radiation review appointments, with Radiation Oncologists seeing patients only at the final review stage. Ontario recognizes that this model is challenging to maintain as it redistributes responsibilities, enabling more efficient use of Radiation Oncologists, while simultaneously increasing the workload for nurses, who will play a further critical role in patient management throughout the treatment process.[42]

7. Increasing Incidence due to an Aging Population and Increasing Prevalence Will Continue to Drive Demand for Services

Demand for oncology services continue to rise due to Canada's growing and aging population. In 2023, Canada's population grew by 3.2%, marking the highest annual growth since 1957.[43] Canada's aging population is driving a

[40] Based on data received from Provincial Cancer Programs, 2024
[41] Impact of the COVID-19 Pandemic on Medical Oncology Workload: A Provincial Review, 2023
[42] Healthcare Human Resources Survey Results, 2023
[43] Statistics Canada. (2024). Canada's population estimates: Strong population growth in 2023.

significant increase in cancer incidence with older adults, particularly those over 65, accounting for about 67% of all new cancer cases in 2023. Younger populations are also experiencing rising cancer rates, with studies showing an increase in colorectal and breast cancers among those under 50.[44]

In addition to continuous growth in cancer incidences, Canada is also facing the after-effects of COVID-19, which led to delays in key cancer services. In 2021, roughly half of all cancer patients said their care appointments had been cancelled, postponed, or rescheduled.[45] In regions like Nova Scotia, screening for breast and colorectal cancer dropped by 62%, leading to a backlog of undetected and delayed cases that the system is now struggling to catch up on.[46] This surge in demand, combined with ongoing workforce shortages, is intensifying pressure on healthcare professionals.

8. Advancements and Complexity in Treatment Are Transforming the Nature of Cancer

Advancements in oncology, including targeted therapies, immunotherapies, and precision medicine, are transforming cancer care and significantly enhancing patient outcomes. Targeted therapies, such as Imatinib, have notably improved survival rates, with the five-year relative survival rate for chronic myeloid leukemia (CML) rising from 36.0% to 60.9% between 1992-1994 and 2006-2008.[47] As advancements in cancer treatment improve survival rates, the oncology workforce is now managing not only new patients but also long-term survivors who require ongoing, complex care. This chronicity of care required for these long-term patients impacts the ability of the workforce to take on new patients.[48] The future of cancer care, therefore, involves managing this chronic care while continuing to provide quality care to all patients.

A 2022 report from the Canadian Cancer Society shows that, as of 2018, approximately 1.5 million individuals in Canada had been diagnosed with cancer within the previous 25 years. Around 60% of these individuals received their diagnosis between 5 and 25 years ago, underscoring the significant number of people living long-term with or beyond cancer.[49] Cancer survivorship in Canada has improved dramatically over the past decades. This situation has important implications for the workforce, as it requires providing care that may extend over a period of 10 to 15 years, resulting in an increasing demand for care inside and outside of cancer centres.

These advancements in cancer treatment also bring increased complexity in care delivery. Expanded treatment options, such as targeted therapies, necessitate more frequent patient monitoring and place higher demands on healthcare professionals' knowledge. The complexity of modern cancer treatments means that the care team must stay informed about an expanding array of therapies, as well as their potential interactions and toxicities, especially when patients are undergoing multiple therapy lines concurrently. For example, as of 2019, Medical Oncologists were spending only 27.5 hours or 51% of their weekly hours on direct patient care, including both clinical and teaching. Other activities, such as doing research, fulfilling leadership roles, and completing administrative tasks, consumed the remainder of their work weeks, with an average of 3.1 hours per week dedicated to continued professional development.[50]

[44] Challenges accessing treatment and care – Canadian Partnership Against Cancer
[45] Challenges accessing treatment and care – Canadian Partnership Against Cancer
[46] Impact of the COVID-19 Pandemic on Medical Oncology Workload: A Provincial Review, 2023
[47] Increasing survival from leukemia among adolescents and adults in Canada: A closer look., 2016
[48] Wait times even longer for cancer patients: Cancer Care Alberta report, 2024
[49] New Canadian Cancer Statistics report reveals over 1.5 million people in Canada are living with or beyond cancer, 2022
[50] Medical Oncology Profile (cma.ca), 2019

The Canadian healthcare system faces significant challenges in adapting to these advancements, as there is already a critical shortage of specialized roles, such as Oncology Pharmacists. With the current system struggling to keep pace with existing innovations, it is insufficiently prepared for future advancements. Without substantial systemic changes, Canada will continue to face greater difficulties in leveraging the benefits of both ongoing and upcoming advancements in oncology.

Spotlight: *The Impact of Oral Anti-cancer Medications on Oncology Pharmacists*

Oncology Pharmacists in Canada have observed a notable increase in workload due to the rise in oral anti-cancer medications. The share of total oncology sales held by oral medicines in Canada increased over time. For example, in 2010, oral medications accounted for 37% of oncology sales and by 2019, this had increased to 50%.[51] This advancement has increased the workload for Oncology Pharmacists, requiring more consultations, patient education, therapy management and other interventions. This requires specialized training, a greater focus on patient care, and a significant change in how Oncology Pharmacists work.

9. Cost of Care is Rising and Systems Are Balancing the Need for Investment with Finite Resources

The cost of providing and receiving oncology care has been increasing in line with the advancement of treatments. The proportion of oncology sales in Canada's total prescription pharmaceutical sales has doubled, rising from 7.1% in 2010 to 14.6% in 2019.[52] The market has seen a shift towards more expensive drugs, with oncology medicines costing over $7,500 for a 28-day treatment, accounting for 55% of oncology sales in 2019, a significant increase from 16% in 2010.[53]

Healthcare systems face significant challenges in making the best use of finite resources, including funding and workforce support, as system needs rapidly evolve. Rising costs of cancer care and the need for efficient resource utilization call for innovative approaches to managing budgets while providing high standards of care. This includes intricate resource allocation across funded positions, training and education programs, technology and innovation, and key recruitment and retention initiatives. The impacts of these constraints are being felt across professions and jurisdictions. For example, in one province, nearly 60 additional FTE funded Oncology Nursing positions would be required to satisfy unmet need in the system today.[54] Without adequate support to build system capacity, jurisdictions will continue to face difficulties in both growing and retaining the talent needed to meet the increasing demands of cancer care.

3.3. Critical Foundation is Missing: Pan-Canadian Oncology Workforce Data

There is growing recognition across health systems that to ensure the sustainability of Canada’s health workforce, there is a need to not only strengthen health workforce data and planning, but also ensure efforts are coordinated

[51] Oncology Medicines in Canada: Trends and International Comparisons, 2010–2019
[52] Oncology Medicines in Canada: Trends and International Comparisons, 2010–2019
[53] Oncology Medicines in Canada: Trends and International Comparisons, 2010–2019
[54] Based on data received from Provincial Cancer Programs, 2024

and learnings are shared nationally. Throughout this initiative, partners strongly voiced the need for Provincial Cancer Program-led workforce planning with standardized data definitions and coordinated approaches to address challenges, and where applicable, at a pan-Canadian level. These efforts are anchored in the aim that better data and planning will help understand current state challenges, proactively plan for future needs, and ultimately ensure the right supply, mix, capabilities, and distribution at a pan-Canadian level.

After collating and synthesizing the data collected as part of this initiative, there was only one of the seven professions - Radiation Oncology - where complete pan-Canadian data could be gathered. Pan-Canadian radiation oncology data was obtained from a 2024 research study titled "Supply and Demand for Radiation Oncologists in Canada: Workforce Planning Projections From 2020 to 2024" (authored by Loewen S.K., Ruan Y., Wu C.H.D., Arifin A., Kim M., Bashir B., Halperin R., McKenzie M., Archambault J., Thompson R., Ringash J., Brundage M., Brenner D., and Stuckless T.). The purpose of the paper was to update a previously developed needs-based workforce planning model (developed in 2009) to ensure appropriate staffing levels for Radiation Oncologists, given anticipated increases in cancer care demand.

Despite a great deal of workforce data being shared by Provincial Cancer Programs, national associations and system partners, meaningful oncology workforce data synthesis of the other 6 focused professions, including current and anticipated future state, could not be conducted at a pan-Canadian level due to several data challenges (see Table 1 below).

Table 1: Pan-Canadian Data Synthesis Challenges

Theme	Description
Inconsistent data metrics across jurisdictions	There is a lack of standardized datasets and definitions across jurisdictions, which complicates the formation of a comprehensive pan-Canadian perspective.
Limited historical data access	Some jurisdictions struggle with accessing historical data, relying primarily on point-in-time metrics.
Cumbersome data retrieval processes	The complexity of data retrieval hinders participation in data collection for some jurisdictions as they balance ongoing system demands
Varied data availability	Discrepancies in data availability exist across jurisdictions and professions. There is currently no centralized repository which holds national supply, demand, and forecasting data.
Gaps in critical workforce data	Some jurisdictions lack access to metrics for understanding current workforce gaps, such as FTE vacancies and additional FTE needs to meet demand. Further, it has been noted that available vacancy data may not reflect the true need of positions within the system.
Challenges in specialized oncology data:	Professions, such as Oncology Nursing and Oncology Pharmacists, present unique challenges in data availability, with limited or non-existent oncology-specific data (e.g., current FTE Oncology Pharmacists) in some jurisdictions.

Pan-Canadian data is held across disparate sources within the system. This includes CIHI, Canadian Resident Matching Service (CaRMS), Canadian Post-MD Education Registry (CAPER), National Professional Associations, National Professional Colleges, Provincial Cancer Programs, OncoSim, and point-in-time data collection efforts. Each data source also uses its own inclusion and exclusion criteria, leading to difficulties with data comparability and an ability to form a cohesive pan-Canadian picture of the oncology workforce. The fragmented data landscape limits the potential for a comprehensive view of the pan-Canadian oncology workforce, hindering pan-Canadian workforce modeling and projections. Available workforce data is used and is effective to support local Provincial Cancer Program workforce planning needs, but highlights an opportunity to advance the pan-Canadian data landscape.

Some jurisdictions are building strong momentum on enhancing their cancer data collection and usability. For example, in Alberta, Cancer Care Alberta has formed a Precision Analytics team whose first project is to create data-driven tools to better support workforce planning and resource allocation. Meanwhile, Newfoundland and Labrador Health Services is working on automated dashboards to enhance transparency and accountability in cancer care. However, these initiatives remained isolated to their regions and standardized data sharing practices have yet to be utilized across jurisdictions.

Given the realities of the current state and the evolving innovations and trends in cancer care, a pan-Canadian view of the workforce is needed to not only strengthen provincial planning but also drive transformation in pan-Canadian approaches to models of care, education and training, and workforce distribution.

4.0 Key Opportunities and Promising Practices Identified

Across the sector, partners recognize challenges associated with the oncology workforce and have a collective interest in contributing to the development of meaningful opportunities to address them. This collective interest was one of the driving forces behind the 2-day oncology workforce conference. The conference was designed to bring partners together from across the system to have a collective voice in defining opportunities that will strengthen, sustain and transform the oncology workforce, and to share learnings related to promising practices in workforce optimization.

The collaborative spirit and commitment to action during the 2-day conference was evident in many ways. Where it was most strongly on display was at the 'solution-building spaces'. Together, focused on key themes from the current state, partners shared ideas, learnings and practices. After the walls were filled with these insights and inspiration, six key opportunities emerged with promising practices that can be scaled across provinces.

1. Strengthening Models of Care and New Roles

Jurisdictions can advance team-based models of care that integrate innovation and optimize roles to improve access, equity, and efficiency in cancer services. This can be achieved by **re-designing how cancer services are organized, optimizing scopes of practice, and bolstering key enablers such as virtual care and innovations in technology**. CPAC recently published a 'Models of Care Toolkit' that explores many of these solutions in-depth and includes examples within Canada and globally that can be scaled and spread across the country. While it is recognized that transforming models of care has been an ongoing effort across health systems, there is still much work to be done. For example, new structures for care delivery such as **multidisciplinary clinics and network models are evolving to help address workforce challenges**. Multidisciplinary clinics take a collaborative approach towards planning and delivering cancer care services, with a focus on person-centred design in the coordination of clinical services. Network models allow patients to receive specialist care closer to their home through collaboration of specialists and community cancer centre providers. Evidence indicates that network models can improve timeliness of care and assessments and improve survival rates.[55]

Re-thinking roles in the care delivery team model presents another opportunity for innovation. **There are opportunities to further involve and optimize the roles of care team members in delivering care, managing symptoms, educating patients, and participating in decision-making**. This can be done by re-thinking the care setting and the primary roles within the model, as well as optimizing the tasks of specific professions. The following summarizes examples shared by partners:

- **Distributed care and community-based chemotherapy are two models that can be scaled further in communities to advance equity of care.** A distributed care model can involve multiple roles such as Advanced Practice Nurses, Registered Nurses, Medical Oncologists, and other care partners, that work to scope and all contribute to the care of the patient. Similarly, community-based chemotherapy models involve Physicians, Registered Nurses, Pharmacists, Social Workers, and other care partners with specialized cancer training to provide treatment to patients. **Roles can be further optimized and scaled to work to their full scopes of practice and enable task-shifting with other professions**, such as (GPOs), Pharmacists) and Advanced Practice Radiation Therapist (APRT). For example, in community settings, Pharmacists can support medication dosing

[55] Canadian Partnership Against Cancer: Models of Care Toolkit: Network models, 2022

and adjustments and interventions for medication-related problems, while supporting patient medication knowledge and safety. In collaboration with Medical Oncologists, GOPs can be optimized to oversee care. (Note: GOPs are not a specialty in all provinces. In Ontario, for instance, they may be Primary Care Providers that have an interest in oncology but have not completed any formal oncology training. They are often trained through mentorships and online support from the Canadian Association of General Practitioners in Oncology.) Finally, APRTs can be scaled across jurisdictions as this allows Radiation Therapists to take on some specific clinical tasks traditionally performed by Radiation Oncologists, such as some treatment planning and patient consultations.

- **Advance navigation roles in the cancer care system that focus on supporting patients and families through the complexity of a cancer journey.** Nurses, Radiation Therapists, and other professionals can serve as Navigators to help guide patients through the healthcare system, support coordinating care, provide emotional support and advocacy for patients, and connect patients with key supportive services. For example, in Alberta, the Provincial Patient Navigation Program utilizes Registered Nurses to support patient's transitions between care providers and help cancer patients access resources and community support programs.[56] **Roles can also be introduced to enhance cancer care for Indigenous, First Nations, Inuit, and Métis patients.** For example, all Regional Cancer Programs in Ontario includes roles such as an Indigenous Clinical Lead, Indigenous Nurse Navigator, and Indigenous Program Coordinator. The program aims to provide culturally appropriate navigation services for First Nations, Inuit, and Métis patients. [57] The roles include ensuring care is delivered in a culturally safe and respectful manner while improving access to health services. Other health systems can consider establishing similar new roles (e.g., Traditional Healers) to support culturally sensitive care and improve access to traditional, spiritual, and cultural services.

2. Leveraging Digital Innovation and Artificial Intelligence to Support Providers and Enhance Patient Outcomes

Jurisdictions can consider advancing AI solutions and the integration of digital innovations to support the delivery of high-quality, efficient, and personalized cancer care, while simultaneously improving diagnostic accuracy and patient outcomes. Digital innovation and AI are rapidly transforming oncology, offering significant benefits to both healthcare providers and patients that can be further scaled across the country. Examples shared by partners include:

- AI-powered software is in use in some cancer centres in Ontario and Quebec that optimizes appointment scheduling for cancer patients, resulting in increased patient throughput, reduced wait times, and decreased administrative workload.[58] In 2023, an Ontario cancer program implemented AI-powered software, cutting administrative costs by 60% and increasing the rate of patients treated within Ontario Health's (Cancer Care Ontario's) targeted time frame by 17%.[59]
- AI is making significant strides in care planning and treatment. At an Ontario cancer program, AI is now being used to generate radiation treatment plans for prostate cancer patients in minutes, dramatically reducing time and costs associated with traditional planning methods. [60, 61]

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[56] Alberta Cancer Foundation: Why We Need You
[57] Canadian Partnership Against Cancer – Patient Navigation
[58] McGill: Health e-News: Using AI to help cancer patients
[59] The Ottawa Hospital: New technology aims to improve access to cancer care
[60] University Health Network: AI Treatment Plans Used in Patients
[61] The ASCO Post: AI in Cancer Care: Embrace the Change, 2024

- AI is being used to enhance patient support services, with an Ontario-based research group developing an AI-enabled virtual therapy co-facilitator tool for online cancer support groups.[62] British Columbia has also implemented an AI system to eliminate the 18-month delay in recording cancer diagnoses in the BC Cancer Registry. [63]
- Digital innovations are supporting the transformation of cancer care in Canada. For example, Nova Scotia's Oncology Transformation Project (OTP) integrates oncology information systems to create a single access point for referrals, triage, and treatment to streamline care and reduce wait times. It enhances real-time communication between cancer centres and community sites to improve access for rural residents. The project includes a patient portal for remote symptom reporting and better connectivity with care teams.

Collectively, these advancements are allowing healthcare providers to focus more on patient care while improving overall outcomes for cancer patients, demonstrating the transformative potential of digital innovation and AI in oncology.

3. *Creating a healthy workplace*

Attraction

To attract top talent to the oncology workforce, it's crucial to **position oncology care as a career of choice for current healthcare professionals, the next generation of providers, and internationally educated health professionals (IEHPs)**. To succeed, cancer care must demonstrate opportunities for learning, robust support systems, such as supporting providers through the personal impacts of cancer care delivery, and positive workplace culture.

Targeted outreach efforts can be deployed to engage existing oncology professionals and attract new generations of the cancer workforce, including IEHPs. For IEHPs, providing community integration support, such as assistance with housing, facilitating connections to newcomer networks, providing cultural resources, and guidance on adapting to the Canadian healthcare system can help to ease their transition into the workforce, and retain IEHPs long-term. Engaging new generations of youth may involve collaboration with secondary and post-secondary schools to develop career pathway support programs to encourage early engagement in cancer work. Implementing these strategies may significantly improve the attraction of oncology professionals from diverse talent pools, helping to address the growing workforce gaps in cancer care.

Retention

To improve retention, **it is essential to meet the evolving needs of the workforce**. This can be achieved through strategies such as offering flexible work scheduling, implementing standardized supports for integrating new health professionals, and facilitating transitions for experienced professionals nearing retirement through transition-to-practice and from-practice programs. Providing dedicated time for learning and establishing formalized career pathing and laddering processes, such as enabling movement between clinical cancer settings (e.g., in-patient oncology care versus out-patient treatment), can enhance job satisfaction. Further, enhancing the capacity of team-based care and collaboration by fostering a deep understanding of each role in the patient’s journey, providing practice supports for collaboration, and offering relevant education and training is also crucial.

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[62] Ontario Institute of Cancer Research: Bringing AI-enabled cancer support to life, 2021
[63] Canadian Partnership Against Cancer – Pan-Canadian Cancer Data Strategy, 2024

Jurisdictions can also consider key retention opportunities to **create an emotionally well and culturally safe oncology workforce**. Oncology professionals are experiencing high workloads which have led to significant impacts on provider well-being and emotional exhaustion. To address this, healthcare systems can implement approaches based on the principles outlined in the Nursing Retention Toolkit, which can be scaled and applied to other professions.[64] These approaches include implementing safe staffing practices, providing support for moral distress and injury, developing and implementing policies for adequate time off, establishing robust support networks, and fostering an inclusive work environment.[65] By focusing on these areas, healthcare systems can improve engagement and retention of oncology professionals.

4. Aligning Training, Education, and Regulatory Systems with Needs

A coordinated pan-Canadian approach to aligning training, education, and regulation with system needs can effectively meet demand for cancer care professionals. The current capacity of education and training programs does not adequately meet the demand or geographic distribution of cancer care professionals. This is due to several reasons including limitations of preceptor availability and the disproportionate distribution of training spots across Canada. To address these issues, leveraging workforce planning insights is crucial for identifying training capacity needs that align with system demands and distribution. This may involve expanding existing programs or creating new ones that allow providers to train in their local areas and exploring condensed training options. It may also require aligning curricula with advancements in cancer care delivery and supporting initiatives to engage preceptors.

A coordinated effort to update regulation to advance multi-jurisdictional licensure for oncology professionals, particularly physicians in Canada, presents an opportunity to improve cancer care delivery. Currently, licensure is regulated individually by each jurisdiction, which impacts the ease of movement for oncology professionals across the country and where services can be delivered. Implementing a multi-jurisdictional licensing system would simplify licensing processes and reduce administrative burdens associated with licensure for professionals. This approach would support mobility and resource sharing, particularly benefiting rural and remote areas where access to specialized care can be limited.[66] The recognition of this opportunity is already being evaluated by key pan-Canadian organizations. For example, the Federation of Medical Regulatory Authorities of Canada is currently working on a review of physician licensure in Canada, exploring options such as a single license to support telemedicine across all jurisdictions.[67]

5. Enabling Patients and Caregivers as Partners in Oncology Care

Jurisdictions can support patients and caregivers in being partners in cancer care and **continue efforts to empower patients and caregivers with the knowledge, tools, and resources to participate in their care decisions and self-management strategies.** Patient involvement in cancer care has been shown to have significant positive impacts for patients and healthcare systems. Several initiatives across Canada are already promoting greater patient involvement in cancer care, with potential for further expansion. Ontario Health (Cancer Care Ontario)'s Patient and Family Engagement and Experience Program ensures that every patient can provide feedback and access tools to navigate the cancer system and manage their care. In Nova Scotia, a specialized digital patient engagement platform is used to enhance communication between cancer patients and their care teams. This platform allows

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[64] Health Canada: Nursing Retention Toolkit, 2024
[65] Health Canada: Nursing Retention Toolkit, 2024
[66] Canadian Medical Association: Pan-Canadian Licensure
[67] CADTH: Inter-jurisdictional Medical Licensing to Support Telemedicine, 2020

patients to report symptoms remotely to be addressed during appointments. This approach not only improves care coordination but also ensures patients receive timely support based on their reported symptoms. [68]

Enabling caregivers and expanding the care team to include them as partners can tap into an invaluable resource that enhances patient care while reducing strain on healthcare professionals. Caregivers play a crucial role in cancer care, as they perform tasks, including attending appointments (73%), monitoring side effects (68%), managing symptoms (47%), and administering medications (34%), among other responsibilities.[69] The Ontario Caregiver Organization's Essential Care Partner Support Hub is paving the way to accelerate the adoption of programs and practices that support healthcare organizations to integrate caregivers into formal care teams.

6. Strengthening Oncology Workforce Data and Planning Capabilities

Jurisdictions can continue to strengthen their data capabilities to provide a foundation for workforce planning to occur, and in turn better meet patient needs. The oncology workforce data landscape in Canada is notably fragmented, with varying metrics available, methodologies for collection, and reporting practices across jurisdictions. As a result, there is significant complexity and barriers to formulate a pan-Canadian view of workforce supply, demand, and gaps, and it remains a challenge to link data to broader health system planning initiatives.

To address this issue, **partners can collaborate to continue advancing the oncology workforce data landscape**, in alignment with pan-Canadian efforts. This approach may include developing overarching goals and principles for data collection and use, the design of data agreements, data governance structures, and a comprehensive plan for data architecture, technology, and interoperability. A key component will be identifying a minimum standard set of data and definitions (e.g., workload measures) that can be consistently collected across jurisdictions. This work should be done in alignment with ongoing pan-Canadian efforts (e.g., CIHI data definitions, Health Workforce Canada). With improved pan-Canadian data quality, there is an opportunity to advance pan-Canadian oncology workforce modeling and projections to allow **a better understanding of current state and anticipated future state oncology workforce needs across Canada**. Pan-Canadian integrated, needs-based planning, in particular, can provide a comprehensive view of the overall cancer care system by ensuring that the oncology workforce responds effectively to emerging population health needs.

[69] Caregiver Well-being and Quality of Cancer Care, 2019

5.0 Recommendations

The challenges outlined are complex and difficult to solve due to their evolving, unprecedented nature and the impact they have on many partners across the system. Collaboration and coordinated effort are required by organizations across the system to respond to oncology workforce challenges.

1. Support knowledge transfer among Provincial Cancer Programs to share oncology workforce learnings

Convening Provincial Cancer Programs around the collective principle of sharing and learning together will drive local impact of promising practices.

As the system continues to explore ways to address health workforce challenges, a forum for knowledge exchange related to the promising practices emerging across Provincial Cancer Programs would be of high value. Cancer program system leaders would benefit from focused discussions to:

- Share learnings of promising practices across Provincial Cancer Programs,
- Problem-solve as thought partners on the challenges and opportunities,
- Explore how to advance priorities that require Pan-Canadian effort.

2. Scale and spread high impact oncology workforce opportunities to address local need

Canadian jurisdictions face unique workforce supply and demand trends and challenges that are shaped by their regional contexts. The complexity of these challenges often requires jurisdiction-specific interventions that align with each region's particular needs, healthcare landscape, and workforce composition. Promising practices, within Canada and globally, have been shared through partner engagement and workforce experts.

Provincial Cancer Programs can advance the implementation of promising practices based on local needs. Opportunities identified and associated learnings should be shared nationally and explored within jurisdictions for scaling, spreading, and implementation. A combination of all six opportunities could be advanced within each jurisdiction; however, they will look different in each region based on local challenges and ongoing work.

3. Examine the Education and Training Landscape

The findings from this initiative are clear – the current design of the education and training system for oncology professionals is not sufficient to meet current needs or the needs of a rapidly advancing cancer care system. A pan-Canadian study to explore in detail the current capacity and gaps within the cancer care education and training system, including a focus on specialized programs, distribution, and impact should be conducted.

The impact of a pan-Canadian, coordinated approach to training and education would be significant, improving cancer care accessibility in areas where people living in Canada need it most, such as rural and remote regions. By addressing these disparities, the healthcare system can move towards a more equitable distribution of skilled cancer providers across the country.

4. Advance Pan-Canadian oncology workforce data to enable pan-Canadian oncology workforce planning

Partnering to develop a pan-Canadian oncology minimum data set through coordinated effort with system partners is needed to define key workforce metrics, common definitions, and data standards. This should include learning from and leveraging novel and complementary pan-Canadian workforce modelling, forecasting, and scenario-based planning tools used in the broader health workforce community. Advancing a centralized oncology workforce data repository to make data accessible for pan-Canadian oncology workforce modelling, and forecasting is of high value.

In summary, while oncology workforce challenges persist, this initiative has demonstrated that strong collaboration and innovative strategies are converging and can help drive meaningful progress to close the gap between oncology workforce supply and demand. Although efforts to strengthen the workforce are ongoing, health systems and partners recognize there is more work to do to create a sustainable oncology workforce.

Partners are committed to continued action to strengthen the oncology workforce. There is agreement that a pan-Canadian view of workforce data is essential to not only strengthen provincial planning but also drive transformation in pan-Canadian workforce approaches, such as models of care, education and training, and workforce distribution. Pan-Canadian oncology workforce data is a powerful accelerator to pan-Canadian oncology workforce sustainability.

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