

The Cancer Workforce Scoping Study: A Report from the Front Lines of Canada's Cancer Control Workforce

Summary Report

March 2010

Table of Contents

Introduction	1
Acknowledgements	1
Executive Summary	4
Cancer Workforce Scoping Study Overview	9
Background.....	9
Purpose	10
Methodology	11
Key Findings.....	11
Recommendations	11
Effective planning, management and co-ordination of health human resources.....	12
Planning for a sustainable cancer control workforce	15
Adapting and developing approaches to service delivery to optimize the time and talent of Canada's cancer control workforce	20
Conclusion	24

Introduction

While all Canadian provinces and territories are developing cancer control planning and modelling approaches, little, if any, specific focus is being given to the urgent matter of the cancer control workforce. The stakeholder consultations that led to the development of the former Canadian Strategy for Cancer Control identified human resources in cancer control as one of five key strategic areas.

In 2007, the Canadian Association of Provincial Cancer Agencies (CAPCA) and the Canadian Partnership Against Cancer-Human Resources Action Group (CPAC-HRAG), through funding from the Public Health Agency of Canada, commissioned the *Cancer Workforce Scoping Study* (CWSS). This study was jointly directed by CAPCA and CPAC-HRAG.

In this *Summary Report* you will find an executive summary and an overview of the study's findings, its conclusions and recommendations. A separate *Technical Report* provides a detailed and comprehensive discussion of the issues, challenges and trends facing the cancer control workforce.

Acknowledgements

Canadians can be proud of our cancer control workforce – the people who, every day, put their hearts and souls on the line to provide care to cancer patients and their families. CAPCA and CPAC-HRAG salute them.

During the *Cancer Workforce Scoping Study*, many people freely gave their time, talents and knowledge to help us with our work. We are both humbled and honoured by their participation and contributions, and the information that they entrusted to us. We appreciate that, in spite of their heavy workloads and schedules, they took the time to meet with us – often on their breaks or their “own” time.

CAPCA and CPAC-HRAG thank the Joint CAPCA-CPAC Cancer Workforce Scoping Study Steering Committee. Their dedication, commitment and enthusiasm guided us every step of the way and made the study a success.

The Joint CAPCA-CPAC Cancer Workforce Scoping Study Steering Committee

Dr. Andrew Padmos	Chair	Royal College of Physicians and Surgeons of Canada
Lynda Buske	Member	Canadian Medical Association
Bill Evans	Member	Canadian Association of Medical Oncologists
Brenda Hubley	Member	Canadian Association of Medical Radiation Technologists
Eshwar Kumar	Member	New Brunswick Cancer Network
Robert Kyte	Member	Canadian Institute of Health Information
Lisa Little	Member	Canadian Nurses Association
Julie McAuley	Member	Statistics Canada
Louise Meyer	Member	Health Canada
George Normandin	Member	Cancer Care Manitoba
Michael Rajendram	Member	Canadian Institute of Health Information
Brent Schacter	Member	Canadian Association of Provincial Cancer Agencies
Pat Sevean	Member	Canadian Association of Nurses in Oncology
Steve Slade	Member	Association of Faculties of Medicine
Paula Bond	Corresponding Member	BC Ministry of Health
Antoine Loutfi	Corresponding Member	Ministère de la Santé et des Services sociaux
Mike Milosevic	Corresponding Member	Canadian Association of Radiation Oncologists

Our thanks to:

- everyone who helped us in organizing interviews, site visits and focus groups across the country
- Muneerah Kassam, who managed the project and supported the Steering Committee and provided us with the assistance and input we needed throughout the project
- Beth Morrison, librarian at the British Columbia Cancer Agency, for her critical contribution to working out useful strategies for the literature reviews
- staff at Statistics Canada, who promptly responded to our requests for database information

- Neil Berman of the British Columbia Cancer Agency for his helpful advice
- the Canadian Association of Provincial Cancer Agencies, the Canadian Partnership Against Cancer and the Public Health Agency of Canada for their support for this study.

Finally, a special thanks to you, the readers of this report. By taking the time to read, reflect and consider our findings and recommendations, you honour the time and commitment of everyone who participated in the study. They did so with the hope that their contributions will lead to improvements in their work lives, the cancer control care system – and, most importantly, to better outcomes for patients and their families. Your interest in this report and your sharing and discussing its content with others are critical steps to achieve this.

We hope that this report will jumpstart:

- an ongoing process of documenting and sharing the challenges and successes that the cancer control workforce faces
- the process of developing a coherent and pan-Canadian approach to fully use the potential of the people who work in cancer control so they may deliver high quality, appropriate compassionate care to Canadians – within acceptable wait times – to produce the best possible patient outcomes.

The Public Health Agency of Canada provided funding for this publication. The opinions expressed in this publication are those of the authors and do not necessarily reflect the official views of the Public Health Agency of Canada.

Leslie Gaudette and Christine Da Prat of the Association Strategy Group prepared this report for the Canadian Partnership Against Cancer's Steering Committee of the Cancer Workforce Scoping Study project.

Executive Summary

In 2007, the Canadian Association of Provincial Cancer Agencies (CAPCA) and the Canadian Partnership Against Cancer-Human Resources Action Group (CPAC-HRAG), through funding from the Public Health Agency of Canada, commissioned the *Cancer Workforce Scoping Study* (CWSS) to be conducted under their joint direction.

The Joint CAPCA-CPAC *Cancer Workforce Scoping Study* (CWSS) was the first of its kind in Canada. Its purpose was to:

- Map out the trends and challenges that the cancer control workforce faces.
- Provide information and recommendations that will lead to the development of a human resources strategy in cancer control.

The study included:

- a comprehensive review of the scientific literature and relevant databases
- cross-Canada consultations with representatives drawn from 10 selected occupations (family physician, palliative care physician, pathologist, medical oncologist, radiation oncologist, surgical oncologist, registered nurse [oncology specialist], nurse practitioner, medical physicist and radiation therapist) and with stakeholder groups (e.g., provincial cancer agencies and educational institutions). The consultations included interviews, site visits and focus groups.

An Era of Uncertainty for the Cancer Control Workforce

The members of the cancer control workforce and the system that supports them face many uncertainties:

- Who will replace them when they retire?
- Where will the next new hire for their group come from?
- Will their provincial/territorial economies be able to provide financial resources to support their programs?
- How much longer can they keep up with the increasing flow of patients and survivors?

A Period of Unprecedented Technological Change

Intricate and innovative technology and new, expensive equipment continue to be introduced. Cancer control workers are both excited and challenged by the need to adapt to these innovations that, while considered advanced today, may be obsolete in five years.

New technology necessitates continuous on-the-job training, more formal education, and continual review and redesign of work processes – all while keeping in mind patient needs, work efficiencies and quality assurance.

Technological changes increase the capacity to plan more precise and personalized treatments. This adds to the planning time, but patients and workers share the rewards of better patient outcomes.

Health System Reform

Like everyone in the health sector, the people working in cancer control do so in a time of major health care system reform and ongoing change. This includes the:

- implementation of the electronic health record
- need to balance training on new equipment and meeting wait time guarantees
- move to inter-professional education and team-based approaches to providing care
- reorganization of health care into, and now out of, regional health care authorities
- need to provide better care to rural, remote and aboriginal communities.

Collaborative Care Delivery

Canada's cancer control workforce often serves in the front lines. Increasingly, its members are working with the broader health care workforce to meet cancer patient needs.

Treatment successes are leading to an ever-growing number of cancer survivors. Many people receive care in their local community. Increasing survivorship and new treatment options mean greater integration of cancer care into both acute care and community settings and the management of cancer as a progressive chronic disease. Central support (e.g., telehealth, increasing digital capabilities to share medical results, the emerging electronic health record) makes this possible.

Restoring Protected Time

Cancer control workers are stretched to the limit, and beyond. Their regular working hours are consumed with the ever-increasing clinical demands from the growing number of patients and survivors. In many areas of care, the system appears close to the breaking point. Protected time for workers has rapidly dwindled, if it exists at all. This time is essential and must be consciously built back into the system.

Protected time makes possible:

- ongoing training to learn new procedures and equipment
- being a preceptor for students and on-the-job trainees
- coaching, mentoring and supervision to develop administrative and managerial skills for tomorrow's leaders
- ongoing and continuing education to keep up with new knowledge
- participating in research projects to document better ways to provide cancer control services
- making presentations and publishing leading practices
- assessing and designing new processes that ensure effective quality control, effective job design and shift scheduling for cancer control medical and professional staff.

Challenges that Cancer Control Workforce Managers Face

Cancer control workforce managers are committed, resilient and creative in finding solutions to the many challenges they face. They are ingenious at working with the available resources to design viable models of service delivery and attempting to deal with the new roles of workers – physician assistants, nurse practitioners, clinical nurse specialists or patient navigators.

However, managers are frustrated by the:

- failure of funding to match the growth in the need for cancer control services
- lack of recognition in federal and regional funding formulas for the increasing complexity of care that they must somehow provide
- lack of basic information such as data, planning models, knowledge translation and health services research to support national sharing of models of best practice. Due to varying approaches used in different jurisdictions, Canada has many natural experiments underway – yet the published literature documents only the tip of the iceberg.

A Workforce in Transition and Stretched Beyond Its Limits

Canada's cancer control workforce is in transition. It is fighting from the trenches on many fronts simultaneously. It is stretched to the point where the ability to deliver quality patient care is being impaired.

Canada has no strategy and no systems in place to plan for or manage its cancer control workforce – a real challenge given its many stakeholders. The lack of information in key areas is a serious obstacle to planning. There are information gaps about many key occupations and what services health care providers actually provide to cancer patients. Yet, existing databases have a wealth of information that could be put to good use in human resources planning.

Conclusions

When it comes to the cancer control workforce:

- Planning is fragmented.
- Canadian research on health human resources is limited.
- No overall perspective exists for Canada's cancer control workforce.
- Many key problems are highly fragmented. The presence of many stakeholders makes it impossible for any one jurisdiction to resolve the problems it faces on its own. The labour pool in Canada for some of the more specialized occupations amounts to a few hundred people. These numbers are too small to manage supply and demand effectively within each provincial health care system.

To solve these challenges and ensure a sustainable supply of cancer control workers throughout the country, Canada's cancer control providers are consistently calling for pan-Canadian human resources co-ordination and planning. Such an approach would include co-ordinated:

- health services research
- information exchange
- knowledge sharing of service delivery approaches
- planning of workload standards development
- quality assurance mechanisms that "have teeth."

Recommendations

The *Cancer Workforce Scoping Study* proposes eight recommendations. They are drawn from the ideas and suggestions of the people who participated in the study and from the Joint CAPCA-CPAC Cancer Workforce Scoping Study Steering Committee.

Recommendation 1: Co-ordinate a pan-Canadian approach to cancer control workforce planning.

Recommendation 2: Develop a human resources strategic action plan for cancer control.

Recommendation 3: Forge networks to promote collaboration among all stakeholder groups to enhance human resources planning, starting with a knowledge/information exchange forum for stakeholder groups and a network to build research capacity:

Recommendation 3.1: Create a forum for stakeholder groups, including governments, to collaborate and exchange knowledge and ideas on educational needs, issues and challenges.

Recommendation 3.2: Build research capacity by creating a network of researchers, data analysts and program planners to work towards addressing the data gaps, and continue to share knowledge and approaches to common problems.

Recommendation 4: Develop and implement strategies to retain and recruit health care providers in cancer control.

Recommendation 5: Develop program implementation models and human resources planning standards and guidelines that ensure the care is appropriately and safely delivered.

Recommendation 6: Document leading practices to demonstrate the effectiveness of innovative approaches to service delivery and provide working models to show how these may be effectively integrated into the cancer control system, recognizing that larger and smaller centres may have different needs.

Recommendation 7: Develop better work processes through process mapping approaches to optimize the use of competencies and ensure effective use is made of all resources, including technology and informatics, to deliver care and ensure smooth workflow.

Recommendation 8: Assess the effectiveness of inter-professional teams in providing patient-centred care and determine the enablers and barriers to their effective implementation.

Cancer Workforce Scoping Study Overview

Background

Canada's cancer control system is facing unprecedented challenges. Each year brings a relentless increase in the number of newly diagnosed patients requiring treatment. The number of new cancers diagnosed in Canada has more than tripled over the past four decades, to an estimated 171,000 in 2009. The number of new cases and deaths continues to rise, due to population growth and aging. At the same time, treatment advances and other interventions have a multiplier effect by increasing cancer prevalence. These interventions lead to better patient outcomes, which in turn, produce lower mortality rates. More patients are living longer and require ongoing cancer care.

The cancer control continuum includes prevention, screening and early detection, diagnosis and staging, treatment, supportive and rehabilitative care and palliative care. Health care providers deliver a wide range of services across this continuum. The *Cancer Workforce Scoping Study (CWSS)* identified 82 occupations — most providing care in more than one phase of the continuum.

Cancer care¹ workers are on the front lines in providing quality, compassionate care to the ever-increasing number of newly diagnosed patients and survivors. But this is not the only challenge they face.

Canada has experienced ongoing health care reform in Canada for nearly 20 years. Managers and their staff must contend with new and innovative directions to ensure they have the right provider in the right place to provide the right service to the patient within an appropriate timeframe. Health reform includes:

- increasing regionalization of health care delivery
- new approaches to primary health and patient-centred care
- reduced wait times in key areas
- the development of the electronic health record
- an emerging focus on inter-professional education
- an emphasis on performance measurement.

¹ For the purposes of this report, cancer care encompasses all health services provided along the cancer control continuum, from preventive services, screening, diagnosis, treatment to supportive and palliative care — to well Canadians and to cancer patients, cancer survivors and their families.

Over the last 20 years, chronic, recurrent and widespread human resources shortages have occurred in the cancer control workforce's priority health professions. These include:

- oncologists (medical, radiation, paediatric and surgical)
- medical physicists
- radiation therapists
- oncology pharmacists
- other occupations (e.g., oncology nurses, pathologists, oncology social workers and cancer epidemiologists).

These shortages have meant:

- longer wait times for important and essential services for cancer prevention, screening, diagnosis, treatment and supportive care
- frustration and disgruntlement on the part of cancer health professionals and patients.

The Canadian cancer system needs a planned human resources strategy. More information, evidence, research, innovation and strategizing will help make sure that Canadians have the health care professionals who can meet the country's future cancer service needs – and provide greater support to the health care professionals working on the front lines of cancer control every day.

Purpose

The purpose of the *Cancer Workforce Scoping Study* (CWSS) was to:

- Complete a pan-Canadian situational analysis of the cancer control workforce.
- Provide information and recommendations that will lead to the development of a strategy for human resources in cancer control.

Methodology

Under the direction of the Steering Committee, the study:

- completed comprehensive reviews of the scientific and grey literature, and key health human resources databases
- conducted cross-Canada consultations with representatives drawn from 10 selected occupations (family physician, palliative care physician, pathologist, medical oncologist, radiation oncologist, surgical oncologist, registered nurse [oncology specialist], nurse practitioner, medical physicist and radiation therapist) and with stakeholder groups (e.g., provincial cancer agencies and educational institutions). This included 146 in-person and telephone interviews, site visits in five locations, which included facility tours, and both homogenous and heterogeneous focus groups across Canada.

Key Findings

Participants in the CWSS consistently reported that Canada needs effective and co-ordinated cancer control human resources planning. Carrying out this kind of planning takes an understanding of:

- the current and future demands of Canadians for cancer care (*see footnote 1, page 9*)
- the supply of health care providers
- the needs of the existing workforce
- innovations in technology
- new ways to deliver care.

Recommendations

The CWSS proposes eight recommendations. These reflect input from both consultation participants and the steering committee. The recommendations address three themes:

- effective planning, management and co-ordination of health human resources
- planning for a sustainable cancer control workforce
- adapting and developing approaches to service delivery to optimize the time and talents of Canada's cancer control workforce.

Effective planning, management and co-ordination of health human resources

Canada's health human resources labour pool, while currently managed largely at the provincial level, is mobile both inter-provincially and internationally. Some key cancer control workforce occupations employ a relatively small number of people. If only a few people leave, it can have a debilitating impact on a community's or a region's access to, and wait times for, cancer care.

Recommendations #1 and #2 propose the development of a centralized analytic capacity to address workforce issues and a human resources strategic action plan.

Recommendation 1: Co-ordinate a pan-Canadian approach to cancer control workforce planning

The cancer control community should implement a co-ordinated, pan-Canadian approach to educate, train, recruit and retain a sufficient number of cancer control providers who can meet the increasing demands for cancer care, new technologies, treatment advances and new approaches to service delivery.

- A pan-Canadian approach should include support for an infrastructure to co-ordinate the ongoing study, monitoring and public reporting of health human resources needs for cancer care across the country.
- Governments, medical schools and professional organizations need to work together to ensure adequate policies are in place for a healthy and sustainable cancer control workforce. They must continue to collaborate and develop new ways to organize care and improve the continuity of care for patients by forging links across the health care system. Greater systemic collaboration at a pan-Canadian level is needed to address the new, emerging and growing demands of caring for patients in today's health care environment and to assure effective and efficient delivery of cancer care services.

Long-Term Planning Is Key

Increasing the supply of workers alone will not address all the health human resources challenges. Members of the cancer control workforce must have the opportunity to participate in finding innovative and creative solutions to achieve efficiencies and improve patient outcomes. This includes analyzing service delivery practices and understanding the need for services, and then determining education, and retention and recruitment strategies.

The recent report, *Taking the Next Step: Options and Support for a Pan-Canadian, Multi-Professional HHR Planning Mechanism*,² proposes a national co-ordinated approach to planning: “[co-ordination at a pan-Canadian level is essential] to take into account changes that are occurring elsewhere in the system both at the level of health human resources planning and in terms of non-health human resources changes in the organization and delivery of services.”

The summary report of the 2007 National Physician Survey findings also calls for a co-ordinated, pan-Canadian approach to educate, train, recruit and retain a sufficient number of physicians to meet the needs of an aging population with increasingly complex health problems (which include cancer).

Participants who were consulted during the CWSS strongly supported its pan-Canadian premise. Health care provider and manager interviewees said the lack of pro-active planning for human resources leads to frustration and pressures when the necessary staff are unavailable to meet increased service demands.

Planning for the future can be very difficult. Often, plans are tied to receiving scarce funding from hospitals or provincial governments. Better planning means:

- letting managers know what their funding will be over an extended time period (e.g., up to five years) so they can plan accordingly – for example, being able to hire and/or train new people to meet patient needs
- knowing the current and future availability of health care specialists and their needs.

Effective long-term planning at every level of management will achieve long-term goals and positively affect worker satisfaction.

Managing Workloads

A key challenge to cancer control workforce planning is how to manage workloads. This is essential in order to provide quality, compassionate care within guaranteed wait times for the ever-increasing number of cancer patients. A first step is setting workload ratios or human resources planning standards (or guidelines), especially for pathologists, radiation oncologists, medical oncologists and medical physicists.

With experience, these ratios and standards can be adjusted to take into consideration the inter-professional teams that work with them in

² T. McIntosh, Torgerson, & Wortsman, 2007

delivering services to patients. For the radiation oncology team, in particular, there is a need for a greater understanding about the appropriate percentage of cancer patients who should receive treatment. There is some evidence to support that radiation therapy team workloads would be even higher if all patients who could benefit from radiotherapy actually received treatment.

Managers face workload challenges, particularly with time-consuming administrative tasks. Most managers have both administrative and clinical roles. Some CWSS participants suggested that support staff could take on additional administrative activities. This would give managers more time to spend on leadership-related responsibilities. Others noted that managers' increased workload is due to their lack of management and leadership experience – leading to a longer learning curve.

CWSS participants said that there is a need for specific management training and career development opportunities to develop people for management positions. With impending retirements anticipated in the medium- and long-term, succession planning should be considered. This is particularly true for management and senior-level positions. One suggestion for addressing the looming retirement bulge was to create communities of practitioners *emeriti* (i.e., retirees willing to contribute on their own terms). Organizations in other sectors are considering these kinds of practices to keep corporate knowledge and transfer it to new employees and to current employees who are progressing within an organization.

Recommendation 2: Develop a human resources strategic action plan for cancer control

The CWSS has generated useful information. Stakeholder groups in cancer control and across Canada's health care system can use the information to collaborate and develop a strategic action plan for human resources in cancer control. This action plan should identify:

- short-, medium- and long-term actions
- the stakeholder groups who should participate in implementing these actions
- areas for further research to provide the information and directions for action.

Many CWSS participants called for national co-ordination of planning, research and data collection efforts. They said they would welcome a centralized analytic capacity to address workforce issues.

Planning for a sustainable cancer control workforce

Effective planning, management and co-ordination of health human resources includes the need to plan for a sustainable workforce. This requires understanding:

- the current and future demands of Canadians
- the supply of health care providers
- the needs of the existing workforce
- innovations in technology
- new ways to deliver care.

Each organization is responsible for its own planning. At a high level, provincial and territorial governments – with the collaboration of provincial and territorial health care organizations – carry out human resources planning. This planning focuses on the needs of the health workforce as a whole. The specific concerns of the cancer control workforce are seldom addressed. Recommendations #3 and #4 will help in the development of a sustainable cancer control workforce by strengthening collaboration and broad-concept thinking.

Recommendation 3: Forge networks to promote collaboration among all stakeholder groups to enhance human resources planning, starting with a knowledge/information exchange forum for stakeholder groups and a network to build research capacity.

A network approach is familiar to many areas of the cancer world, from the success of the Canadian Council of Cancer Registries in building the Canadian Cancer Registry, the Canadian Breast Screening Initiative and the networks of palliative care researchers that the Canadian Institute for Human Resources (CIHR) funds.

Collaborative projects will help to break down provincial reticence to share knowledge and information relevant to human resources. A network of researchers working on human resources issues is already in place for nursing. A pan-Canadian network of planners, cancer epidemiologists, clinicians and health services researchers is needed to increase the level of trust and encourage information sharing to find solutions to their common challenges for the cancer care workforce.

CAPCA and CPAC can be agents to consolidate information and help provinces. CPAC action groups and CAPCA policy advisory committees are establishing connections, across cancer agencies, that affect human resources issues. Networks will also help provide opportunities to find

colleagues in other areas (e.g., health ministries, other cancer control facilities). Several CWSS participants said federally funded meetings that bring colleagues together are very useful. Collaboration among all stakeholder groups in cancer control and in health care overall will promote idea and information exchange. These kinds of co-operative and collaborative efforts can identify and conduct projects of common interest. This will reduce duplication and help human resources planning across Canada.

Existing organizations like CAPCA and CPAC should be supported and used for this purpose. While provincial and territorial stakeholder group collaboration is necessary, national level partnerships are equally important in bringing a co-ordinated approach to planning. This will meet the needs of diverse stakeholders and provinces, both large and small.

Recommendation 3.1: Create a forum for stakeholder groups, including governments, to collaborate and exchange knowledge and ideas on educational needs, issues and challenges.

This kind of forum will provide the venue to plan for the appropriate supply of health care providers that Canada greatly needs. The issues it should deal with include:

- considering the current and future supply of faculty
- putting strategies and actions in place to address the anticipated potential shortfalls
- addressing the issue of clinical placement experiences and the declining supply of preceptors
- finding solutions that include innovative technologies to expand clinical practice experiences
- examining preceptors' remuneration.

Some of the other issues the forum can take on are:

- determining how to promote and support the integration of Inter-Professional Education (IPE) into health workforce educational programs
- determining enablers and barriers of effective IPE integration into current educational programs
- reviewing and discussing residency position funding, control and access to ensure the availability of an appropriate number of spaces for specialized cancer professions

- creating linkages between educational institutions using new e-learning technologies to deliver distance learning programs for rural and remote regions
- collecting consistent information on faculty members such as retirement projections and demographic information (e.g., age, gender)
- exploring innovative remuneration structures for faculty and building case examples
- investigating clinical placement costs in all disciplines by systematically tracking direct and indirect budget line costs, intangible costs and tangible and intangible benefits to ensure hands-on apprenticeships/mentored clinical practice
- identifying leading practices in “just-in-time” curriculum development to respond to ongoing technological change and documenting methods, enablers and challenges (as in other sectors)
- providing ongoing continuing education courses for health care providers working in cancer control, including the faculty delivering the education.

Recommendation 3.2: Build research capacity by creating a network of researchers, data analysts and program planners to work towards addressing the data gaps, and continue to share knowledge and approaches to common problems.

Developing data, tools and networks is necessary to support planning for a sustainable cancer control workforce. The *Cancer Workforce Scoping Study* identified gaps in the human resources research data and information.

Some data do exist but, in many cases, data sets need to be linked and analyzed to increase their usefulness for cancer control workforce planning. Considerable potential exists to mine cancer control workforce data that are already available, including data compiled in national data bases (and corresponding provincial data sets) maintained by organizations such as the Canadian Institute for Health Information, Statistics Canada and larger professional organizations. In addition, some data collected by smaller professional associations have limited dissemination to the broader public.

Gaps in – and the limited availability of – data make it challenging to document the total number of people providing cancer control services. The 82 occupations that the CWSS looked at are in all phases of the cancer control continuum. Data are very limited on how many people

work in some occupations. For others (e.g., physicians and nurses), little is known about how much of their time is devoted to cancer care.

The CWSS analysis reveals that cancer care accounts for about 70 to 80 per cent of the workload for palliative care physicians and pathologists. It can be assumed that most or all of the care that radiation oncologists, medical physicists, radiation therapists, medical oncologists and surgical oncologists provide is for cancer patients. However, little is known about what services the registered nurses, nurse practitioners and family physicians occupations, as a whole, provide and how much of their workload is directed to cancer patients, recent National Physician Survey results, and other studies, are starting to shed light on this issue.

Recent trends indicate an increase in the proportion of nurses and physicians per 1,000 population in the workforce, although this trend has fluctuated over the years. The fluctuations, stemming in part from budget cutbacks in the early- to mid-1990s, have contributed to today's cancer control workforce shortages. Further, the trend to decreases in the average number of hours that both male and female physicians work weekly, equates to a reduction in the effective supply of physicians. The impact of upcoming retirements is also a concern for most of the 82 cancer control occupations in the study.

Given all of the above, participants identified the need for a cancer control workforce information strategy. This should be part of an overall cancer information strategy to effectively incorporate data available from the electronic health record. Better integration and linkage of clinical and administrative data sets will help in understanding cancer care delivery to populations. A thorough analysis of existing data sets will lead to the development of recommendations on what information the enhancing of existing data sets could provide, and what topics would need new data collection. Stakeholders involved in these activities should include regulators and licensing bodies that may also do data collection.

The CWSS identified the following areas for data development and analysis:

- demographic and trend data pertaining to the cancer control workforce
- integrated and linked data sets
- knowledge of the services provided to patients by the cancer control workforce
- a dynamic population-health-based HR planning system

- population-based understanding of utilization rates and workload ratios
- the health and quality of life of the cancer control workforce.

Recommendation 4: Develop and implement strategies to retain and recruit health care providers in cancer control.

Generational changes in attitudes to work-life balance are having a significant effect on the supply of health care providers delivering cancer control. Family medicine and specialist physicians are reducing their average weekly hours worked. In other occupations, workers report attempting to fill the gap between the increasing workload demands and what they can supply by working both paid and unpaid overtime, working through coffee and lunch breaks and/or cutting back on vacation time. However, several key reports document that working longer hours can be counterproductive. This practice can lead to job dissatisfaction, burnout, increased absence due to illness and a potential for more errors that put patient safety at risk.

Highly skilled health professionals want protected time for non-clinical activities. These include research, teaching responsibilities, continuing medical/professional education, management and administration. Many CWSS participants said that clinical demands have increased so much that cancer care providers are challenged to fit in all of these required tasks. Clearly, any reduction in time spent on clinical activities will contribute to a greater demand for health care providers.

High staff turnover in some occupations is a problem, particularly for medium- and smaller-sized centres. This is due, in part, to the increasingly greater workloads. These, in turn, create job stress, burnout and, ultimately, an unhealthy workplace culture. For organizations and individuals, burnout has serious consequences. At the organizational level, it results in absenteeism, high turnover rates and reduced productivity. At the individual level, burnout contributes to psychological and physical health problems.

There is a need for more information, specific to the cancer control workforce, to understand work issues like turnover rates, absenteeism, stress and job satisfaction. This will help employers to develop and roll out appropriate strategies to retain workers. In addition, strategies should be developed to promote residents continuing to work in the same location and environment, after their licensure or certification.

Jurisdictions are implementing retention strategies to keep the much-needed health care workforce in their regions. Such strategies include

bursary programs, retraining initiatives, return-of-service agreements, reducing workload and physical demands, improving the workplace environment, enhancing roles, providing continued education and professional development opportunities, developing collaborative practices and increasing salary and benefits. Many regions in Canada are educating and training “their own” health care providers with the hope that some of these providers remain in the region, post-graduation.

Recruitment is particularly difficult in oncology because of its association with high stress levels, toxic agents, complex research protocols – and the fact that many patients die. Most current cancer control recruitment is traditional, using methods such as word-of-mouth, advertisements in local, provincial/territorial and national newspapers and on association websites. There is a need for more innovative strategies to compete for scarce human resources with inter- and intra-provincial recruiting of cancer control health providers, with other sectors of health care in Canada, and globally. This involves offering incentives that reflect the desires and needs of the new generation of workers, addressing, in particular, work and personal life balance and the inclusion of protected time for continuing professional development, research and other work activities. Traditional incentives are not as appealing to the new generation of workers.

Many managers have resorted over the years to recruiting from abroad. Recruiting Internationally Educated Health Professionals (IEHPs) adds to managers’ workloads and time demands, given the amount of time, effort and paperwork from the first contact to full integration of the IEHP into the workforce in Canada. Furthermore, there is no guarantee that the IEHP will stay in that location – or in Canada.

Adapting and developing approaches to service delivery to optimize the time and talent of Canada’s cancer control workforce

The need to adapt and develop approaches to service delivery and to optimize the skills of the cancer control workforce is part of human resources planning. Stakeholders in health care and cancer control are exploring innovative approaches to delivering optimal service and care in light of inadequate human resources and ever-increasing health costs. More work is needed to fully assess and document best practices across the country, and perhaps internationally. Recommendations #5 to #8 propose ways to address the need to enhance the care and service that patients and families receive and make the most of the available cancer control human resources.

Recommendation 5: Develop program implementation models and human resources planning standards and guidelines that ensure the care is appropriately and safely delivered.

The ultimate goal of cancer control programs is improving patient outcomes, whether to prevent the development of cancer, reduce mortality from cancer or improve the quality of life of those living with cancer. These programs are ideally implemented within a health system that uses a population-health approach to balance investments in prevention, screening and effective treatments. The availability of evidence-based clinical practice guidelines (CPGs) may be seen as the first critical step to guide planning of cancer control programs. For example, evidence-based CPGs focus on the best treatment for the tumour while more work is needed to determine how best to deliver the service to a given population. There is a need to build on CPGs to develop program implementation models and human resources planning standards that ensure appropriate and safe delivery of care.

The CWSS found that cancer care service delivery approaches are in transition. Many natural experiments are taking place across the country to develop more effective ways to deliver care. While the consensus on models of care is that “one size does not fit all,” managers are working creatively within resource constraints to adapt existing models or develop new ones to deliver effective services to their patient populations.

More discussion and collaboration among the cancer control stakeholder groups is necessary to identify the current planning assumptions. These will need to be adjusted over time, as service delivery roles and models evolve. These planning assumptions are integral to guiding the decision-making and actions roll out that will ensure a sustainable cancer control workforce.

Recommendation 6: Document leading practices to demonstrate the effectiveness of innovative approaches to service delivery and provide working models to show how these may be effectively integrated into the cancer control system, recognizing that larger and smaller centres may have different needs.

Stakeholder groups in health care and cancer control are exploring innovative approaches to delivering optimal service and care in light of scarce human resources and ever-increasing health costs. The CWSS *Technical Report* describes, in more detail, some approaches to service delivery. Further work is required to fully assess and document leading practices, across the country and internationally.

The CWSS identified three current models that could be used and/or developed to make the most of the available cancer control competencies. These models illustrate what can be expected with new and emerging roles in cancer control.

The Primary Care Model – The ongoing and gradual implementation of the primary health care model that is occurring throughout Canada has important implications in co-ordinating care for cancer patients across the cancer control continuum. The primary health care model is developed from population health principles. It provides patient-centred care through inter-professional teams. This model is particularly important for prevention, screening, rehabilitation, supportive and follow-up care, and community and home-based palliative care. An important ongoing concern is to ensure that cancer control programs are effectively integrated into primary care and to document the challenges family physicians face in delivering cancer control programs.

Diagnostic Centres – A second innovative model is the move towards establishing diagnostic centres to reduce wait times for patients by providing “one-stop shopping” for all diagnostic tests. The time period for diagnosis can be very stressful to the patient and family, with referrals from one test to another. Wait times add up quickly. Telehealth provides opportunities for mentoring and quality control by linking smaller centres to larger ones. There is a need for good case studies and evaluations to demonstrate the effectiveness of the diagnostic centre model and how to effectively integrate it into the cancer control system in both large and small communities.

Community Networks – A third model is the increasing development of networks and the capacity to deliver systemic therapy for curative and palliative care in communities closer to the patient’s home. Both patients and care providers enthusiastically support these community networks. They are based on a patient-centred approach that involves inter-professional teams, and require a commitment from the central hub located in a regional cancer centre or provincial cancer agency. The hub provides specialist support, training and co-ordination.

The implementation of this model depends on effective telehealth and some form of an electronic health record. CWSS participants had concerns about shortages of family physicians, nurses and pharmacists, although pharmacy technicians are being used to support the pharmacy component of this model. Another key issue is how to integrate the systemic therapy units with broader primary health care initiatives in the community – particularly physician-patient relationships with the

family physician who provides the oncology care and the patient's regular family physician. More is needed to identify all of the implementation issues and to optimize the use of this approach to service delivery. This includes documenting comparative leading practices.

Recommendation 7: Develop better work processes through process mapping approaches to optimize the use of competencies and ensure effective use is made of all resources, including technology and informatics, to deliver care and ensure smooth workflow.

Some programs use process mapping to develop efficient and effective ways to deliver programs that make the best use of available resources and build in quality assurance. There is a need to build work processes to consider the skills and resources available to deliver care and ensure smooth workflow.

There are challenges to implementing new roles or optimizing competencies. These include care provider and patient attitudes and cultural issues, together with the traditional medical hierarchy, which impedes the ability to move forward.

Recommendation 8: Assess the effectiveness of inter-professional teams in providing patient-centred care and determine the enablers and barriers to their effective implementation.

The CWSS found incremental steps are taking place in most areas of the cancer control continuum to optimize service delivery:

- Various programs are exploring the use and implementation of new roles to alleviate shortages and to contribute to optimizing competencies and smoothly functioning teams.
- Inter-professional teams (seen as the “gold standard”) are not without challenges. These include scheduling meetings to accommodate team members and the lack of administrative support. More evaluation and case studies of effective inter-professional teams in Canadian settings are needed to identify enablers and barriers to their further use.
- Inter-professional education (IPE) involves training in the “softer skills,” such as conflict resolution, communication, and managing and working in a team environment. Equipping new students and health care providers who are already in the cancer control workforce with these skills and knowledge base will benefit the inter-professional team environment and lead to the provision of optimal care to the

patient and family. There is a general interest in incorporating IPE into health sciences programs, although implementation is just starting. Educational institutions are faced with a number of obstacles to achieving this, including traditional professional attitudes among some faculty members and health care providers, course scheduling challenges and programs that are already full.

- Innovative physician remuneration structures are welcomed as current inflexible structures challenge the implementation of inter-professional approaches to delivering care.

Conclusion

The eight recommendations that the CWSS proposes call for the cancer control community to engage in effective planning, management and co-ordination of health human resources, to plan for a sustainable workforce, and to adapt and develop approaches to service delivery that will optimize use of the cancer control workforce today and in the future.

Decision-makers know the pressures on the cancer system. They have taken action to deal with some immediate challenges:

- Academia is working towards producing more graduates and providing continuing professional development opportunities to the current cancer control workforce.
- Employers are using new retention and recruitment strategies. These include innovative remuneration packages to attract new providers and retain existing workers, and continued international recruiting.
- Managers and employers are seeking to optimize the use of workers through effective approaches to service delivery, including creating new roles for current health care providers.
- Policy- and decision-makers are recognizing the need to sustain effective overall management of the cancer control workforce through effective policy development and implementation at the program or facility level and in the broader pan-Canadian arena.

The *Cancer Workforce Scoping Study's* findings and recommendations are intended to lead to more discussions among decision- and policy-makers and to provide them with useful insights on how to enhance patient and family care and to promote a healthy and satisfied workforce.

For more information, please contact:

Canadian Partnership Against Cancer
1 University Avenue, Suite 300
Toronto, ON M5J 2P1
Tel: 416-915-9222
Toll free: 1-877-360-1665
e-mail: info@partnershipagainstcancer.ca
website: www.partnershipagainstcancer.ca
