ONTARIO CANCER PLAN 2011-2015

"I want to live... I'm still young, many people in my family have lived to be 100. I want to be around to watch my grandchildren grow up. Screening saved my life, I tell everybody to talk to their doctor about screening."

– Eugnia Prountzopoulos, colorectal cancer survivor

Cancer Care Ontario

Ontario

Cancer is a process that begins with a small series of genetic changes within cells. It culminates in a life-changing journey for patients involving family, friends, healthcare professionals, and ultimately, the entire healthcare system.

In Ontario, someone is diagnosed with cancer every eight minutes. With an aging population and increasing life expectancy, more than 400,000 Ontarians will be living with or have survived cancer by 2015. Cancer continues to be the number one cause of premature death in Ontario.

Cancer Care Ontario (CCO) is the provincial government's cancer advisor. We are the agency responsible for continually improving services to ensure that patients receive the right care, at the right time, from the right person, in the right place, at every step of their journey with cancer.

This is the third Cancer Plan we have developed since 2005. It is a roadmap for how CCO, healthcare professionals and organizations, cancer experts and the provincial government will work together to reduce the risk of Ontarians developing cancer while improving the quality of care and treatment for current and future patients.

This Cancer Plan is centred on people and patients in prevention, screening, diagnosis, treatment, follow-up, and palliative care. It is driven by a commitment to quality and guided by our vision of providing Ontarians with the best cancer system in the world.

Better cancer services every step of the way

contents

Message from Terrence Sullivan

I am proud to present the 2011-2015 Ontario Cancer Plan.

This plan brings together the best ideas of our partners – the Ministry of Health and Long-Term Care, clinical and management leaders, Regional Cancer Programs, Local Health Integration Networks, family doctors, the Canadian Cancer Society, the Ontario Institute for Cancer Research, patients and patient groups – on how to position the cancer system to meet the challenge of cancer over the next four years.

It continues the transformation of cancer services across Ontario, including the development of new, patient-centred models of care delivery. It is driven by a commitment to quality in prevention, screening, diagnosis, treatment, follow-up and palliative care as the most effective way to manage cancer. It will pay off in delivering value for money, managing long-term cost growth, improving outcomes and increasing patient satisfaction.

Building on a strong foundation

We have laid a solid foundation since Canada's first provincial cancer plan was developed in Ontario in 2005. Prevention and early detection strategies are proving successful in saving lives. More patients are living longer with cancer. Wait times have been reduced. Clear standards for care are in place in every Regional Cancer Program in the province. Ontarians no longer need to travel out of the province to find radiation treatment. More people are surviving cancer. In short, we have averted the pending crisis in cancer care that Ontario faced at the beginning of the last decade.

But as Ontario's population grows and ages, the cancer system faces new challenges. The number of people diagnosed with cancer will inexorably rise. Over the next decade, Ontario will see an increase of more than one third in the number of people living with or beyond cancer. That equates to more than 400,000 Ontarians, compared with 300,000 in 2007. In the process, cancer touches the lives of virtually every Ontarian, either directly or through family, friends and colleagues who know someone with cancer.

Meeting the challenge

Continuing to improve survival rates for cancers, and providing care and treatment for more people who are living with cancer will require ongoing investments in capacity and infrastructure.

Newer, more sophisticated approaches are also required to ensure the long-term sustainability of cancer services. Patient-centred care and our province-wide focus on quality will be expanded in this Plan to help ensure the financial sustainability of the cancer system while improving

patient outcomes and satisfaction. These initiatives are also aligned with government priorities including the government's healthcare transformation agenda and Bill 46, the *Excellent Care for All Act.*

Core lines of business

In addition to driving quality in the cancer system, Cancer Care Ontario plays a key role in driving quality in other areas of healthcare delivery including Access to Care, the newly formed Ontario Renal Network, and specialized services such as Positron Emission Tomography (PET). They demonstrate how the systems and processes that we have developed for the cancer system in Ontario can be extended into other areas of healthcare to drive quality, enhance patient-centred care and deliver increasing value for money.

"This Plan will bring us a major step closer to realizing our vision of creating the best cancer system in the world."

Pragmatic, measured investments

This Plan is ambitious but not extravagant. It calls for pragmatic, measured investments in areas that our partners, cancer patients, and our own performance measures are telling us need to improve.

It includes a more focused emphasis on prevention, early detection and research-informed ways to manage growth in costs, particularly as we enter the era of personalized medicine. It places increased emphasis on bringing cancer care as close to home as quality permits for more Ontarians. It involves all of our partners in a drive to improve quality.

Most important, this Plan will more actively involve patients, providing them with the knowledge and understanding that will allow them to make informed decisions affecting their care and engage with them in opportunities that continue to improve their experience in the cancer system. The two previous Ontario Cancer Plans have demonstrated how much can be achieved in a few short years.

Since 2005, we have learned that we can make the system better. We understand what works and why. With the 2011-2015 Ontario Cancer Plan, we will apply this knowledge throughout the system and push further as we continue the transformation of prevention, treatment and palliative services across the province. This Plan will bring us a major step closer to realizing our vision of creating the best cancer system in the world.

Terrence Sullivan, PhD
President and CEO
Cancer Care Ontario

Nancy

"Having this diagnosis is a life experience that no one should have to go through," says Nancy Ridgway, who knows only too well how devastating it is to be told you have cancer. In an instant, everything changed for Ridgway when she got the news. At first, she was "very mad and very afraid." But as she met with oncologists, radiologists and other caregivers, the anxiety subsided, or at least became manageable. "Once we had a game-plan going, I was able to relax a little," she says. "Having a plan really helped." >>

cancer: impact and progress

Rick and Nancy Ridgway

Dealing with cancer also brought her thoughts into sharper focus. “It makes you appreciate your loved ones and your quality of life, and you tend to start concentrating on those things more, and forget the petty things that once seemed so important,” she says. Throughout her treatment, she has learned to continually adjust. “You have to work through the medication, which makes you tired, lethargic and ill. Then there is a shining moment when you feel better. Then you go back for the next round,” she says. She is deeply grateful for the support she receives, including her caregivers “who guide me and help me in moments of terror and confusion,” and praises the staff at the Sunnybrook Health Sciences Centre’s Odette Cancer Centre for “doing a good job under stress and strain... always maintaining good spirits.” Family support is also crucial, she says, citing the need for “someone who listens.” From her perspective the single most important factor is information, noting that being advised of the strategies and timelines helped relieve the stress, giving her a sense of what she was waiting for. And she appreciates her caregivers’ giving her just the right amount of detail. “You need to digest the information slowly,” she says. “There’s a lot of emotion, a lot of upset, a lot of decisions along the way.”

– Nancy Ridgway, lung cancer patient
After a courageous battle with cancer, Nancy passed away on June 16, 2010.

“Once we had a game-plan going, I was able to relax a little.”

Nancy Ridgway

The impact of cancer

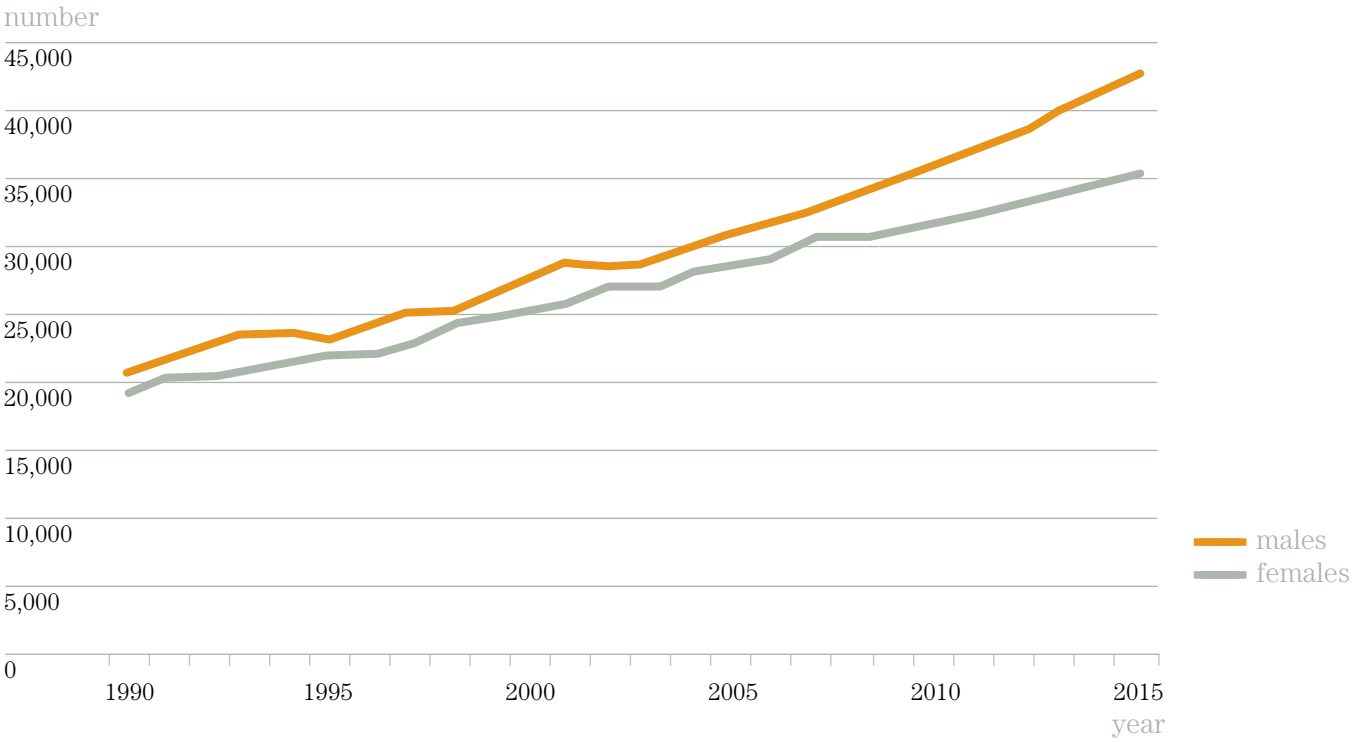
Cancer is largely a disease of aging. As Ontario's population ages and grows, the number of people diagnosed with cancer will increase. It is estimated that 45 percent of males and 40 percent of females in Ontario are likely to develop cancer in their lifetimes.

Given the increasing number of Ontarians living with cancer, coupled with expensive new drugs and treatments, the cost of cancer to the healthcare system will rise and consume an ever increasing share of a limited healthcare budget. Healthcare costs already account for more than 40 percent of all provincial government spending. The cost in human terms, both to patients with cancer and to their family, friends and colleagues, is incalculable.

Changing incidence of cancer

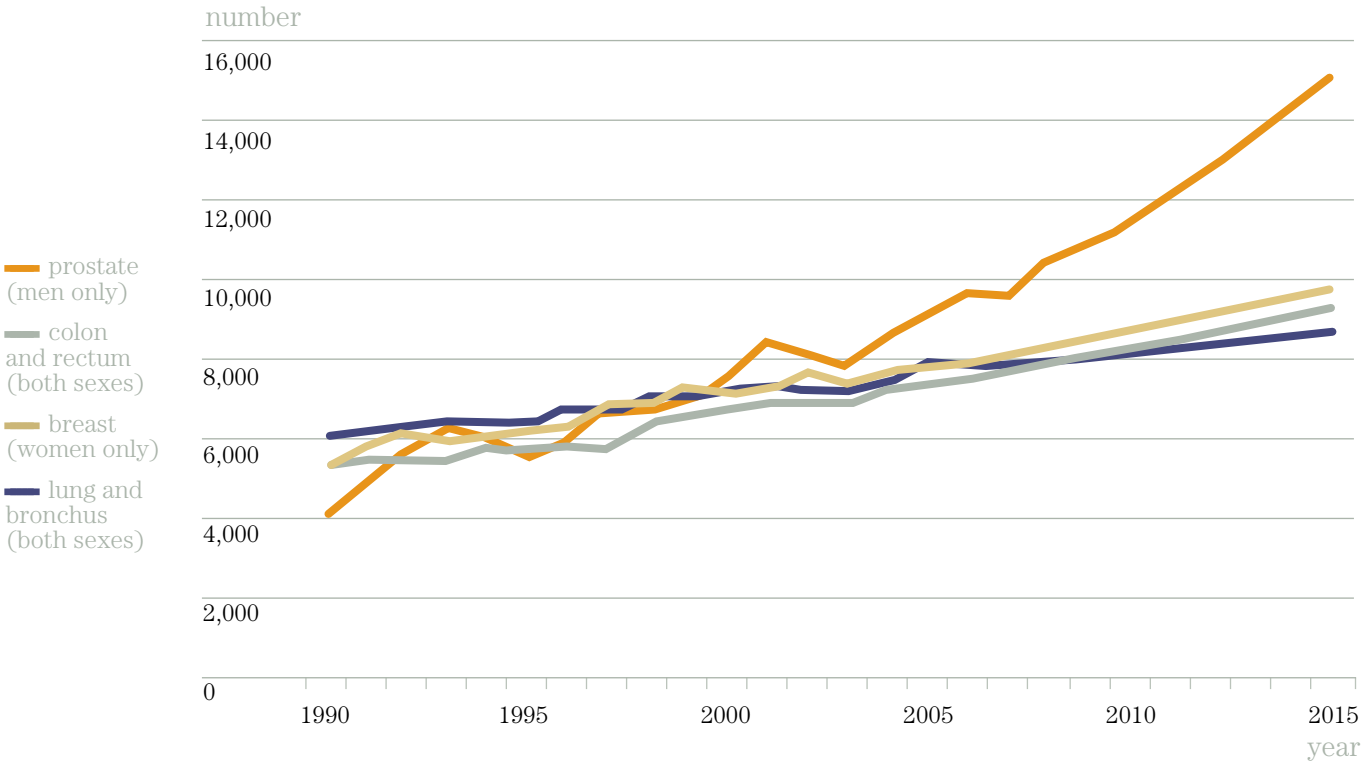
There are more than 200 different types of cancer. The four most common types – lung, prostate, breast and colorectal – account for 54 percent of all cancers in Ontario. Thanks to concerted efforts to reduce smoking, rates of lung cancer have declined dramatically in men and are remaining steady in women, reflecting the more recent drop in smoking in females. The incidence rate of colorectal cancer is also on the decline for both men and women, reflecting both increased screening and changes in lifestyle. Incidence rates are rising for some of the less

Number of new cases of all cancers combined, by sex and year (actual to 2007 and projected 2008-15)



common types of cancer, in particular melanoma of the skin, thyroid, testicular, kidney (females only) and liver, but are falling for others, such as bladder, stomach, pancreas and cervix. Even though incidence rates for cancers vary according to gender and type of cancer, overall the number of new cases continues to rise due primarily to population growth and aging. For prostate cancer, if the past trends continue, the growth in the number of cases over the next five years is projected to be larger due partly to increased levels of early detection.

Number of new cases of prostate, breast, colon and rectum, and lung cancers, by year (actual to 2007 and projected 2008-15)



Living longer with and surviving cancer

More Ontarians are living longer with cancer or surviving the disease because of early detection through screening and the availability of more effective treatments.

In men, mortality rates for cancers of the lung and bronchus, prostate, colon and rectum have declined significantly since 1982. Men with prostate cancer are almost as likely as their peers without cancer to be alive five years after diagnosis. In women, mortality rates for cancers of the breast, colon and rectum have declined since 1982, while mortality rates from lung and bronchus cancer increased through the 1980s and 1990s, and have been stable since 1999.

Even with improvements in the early detection and treatment of cancer, the relative survival for certain types, particularly lung cancer remains low.

Driving quality and accountability in Ontario's cancer system

Cancer Care Ontario (CCO) is the government's provincial agency responsible for continually improving cancer services and for advising on all cancer-related issues. We drive quality and accountability through a set of initiatives that are developed according to our guiding principles, applied through a system-wide quality framework and improvement cycle, and enabled through Regional Cancer Programs which have made improvements in the cancer system.

Medical Oncologist Dr. Som Mukherjee assesses patient Dollard Morin prior to treatment.

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

Our Guiding Principles

> **Transparency:** We will adopt a transparent approach to sharing performance-related information and foster a culture of open communication with colleagues, partners and the public.

> **Equity:** We will ensure fairness across regions in the development of a strong provincial cancer system.

> **Evidence-based:** We will make decisions and provide policy advice based on the best available evidence.

> **Performance oriented:** We will advance new ideas, promote change and take action toward quality improvements in the cancer system.

> **Active engagement:** We will consult widely and collaborate with other organizations and service providers in order to achieve our goals.

> **Value for money:** We will use public resources wisely and promote the efficient use of these resources throughout the cancer system.

Based on these guiding principles, we have been able to drive performance across the cancer care system through the application of a system-wide quality framework and improvement cycle.

The Quality Framework and Quality Improvement Cycle

CCO has established a Quality Framework that includes eight dimensions of quality (i.e., safe, effective, accessible, timely, responsive, patient-centred, efficient and equitable). Each of these dimensions is integrated in the development of initiatives to improve the cancer system. These initiatives are implemented through a quality and performance improvement cycle with four key steps:

Information: The collection of system-level performance data and the development of quality indicators.

Knowledge: The synthesis of data, evidence, and expert opinion into clear clinical and organizational guidance.

Transfer: Knowledge transfer through a coordinated program of clinician engagement.

Performance: A comprehensive system of performance management through the use of contractual agreements, financial incentives and public reporting.

Family Physician Christine Tang and Surgeon Don Jones mid-cancer surgery. Surgery is one weapon in the fight against cancer.

Photo courtesy of Carlo Fidani Peel Regional Cancer Centre at The Credit Valley Hospital.

Thoracic Surgery Standards

Lung cancer can be treated with a lung resection – a surgical procedure to remove a damaged or diseased portion of a lung (lobectomy) or a whole lung (pneumonectomy). This is called thoracic surgery. Thoracic surgery is very complex. Successful outcomes, such as lower mortality and decreased complications, are linked to the number of surgeries performed (minimum volumes), and to the availability of specialized surgical training and hospital resources.

In 2005, Thoracic Surgery Oncology Standards were developed by an expert panel and endorsed by CCO. The standards detail the best system for delivering cancer-related thoracic surgery in Ontario based on hospitals meeting three criteria: (1) high volumes of procedures; (2) necessary infrastructure and (3) human resources to ensure high quality. The expert panel included thoracic surgeons and administrative leaders. The standards were based on evidence compiled and presented by the Program in Evidence-Based Care (PEBC), and the expert opinion of the panel.

In 2005, thoracic cancer surgery was being performed in 40 centres. By 2009, this number was reduced to 15, each with the high volumes of procedures and the necessary infrastructure and human resources to ensure high quality.

To accomplish this, CCO developed an implementation plan based on partnerships with the Regional Cancer Programs and their partner hospitals where regional plans for compliance were established. Scenario planning data outlining how referrals might change due to the consolidation was provided to assist the Regional Cancer Programs in their planning.

As the standards have been implemented, deaths associated with some types of thoracic surgery have already declined.

Enablers

This quality framework and improvement cycle is dependent on a number of enablers. Some of these enablers are: engagement of clinical and academic leaders; effective regional and local implementation; and gathering and use of high-quality data through information management and information technology. These enablers are described below.

Clinical Leadership and Engagement, and Evidence-Based Standards: Provincial clinical leadership groups have been established for each step of the cancer journey and for specific disease sites. These groups work with regional clinical leaders to develop priorities for improvement, share knowledge and drive quality improvements. Elements of the Quality Framework are used to monitor and assess performance and drive change. Clinical leaders make use of standards and guidelines developed by the PEBC to drive quality improvements in all phases of the cancer journey.

Regional Leadership: Regional Cancer Programs are the primary mechanism for implementing the Ontario Cancer Plan. They include networks of stakeholders, healthcare professionals, hospitals and organizations involved in all aspects of cancer services from prevention through to survivorship within each of the province's 14 Local Health Integration Networks. Each Regional Cancer Program is led by a Cancer Care Ontario Regional Vice President (RVP), who works closely with regional clinical leads. Accountability for quality and performance across each region lies with the RVPs working with the regional clinical leads.

Regional Cancer Programs respond to local cancer issues, coordinate care across local and regional healthcare providers, and work to continually improve access to care, wait times and quality. Regional Cancer Programs are responsible for implementing provincial standards and programs for cancer control, and ensuring service providers meet the requirements and targets set out in their partnership agreements with Cancer Care Ontario. Progress is monitored through formal quarterly reviews with each RVP, through the Regional Cancer Program performance scorecard and through the Cancer System Quality Index, a yearly public report.

This approach has led to significant improvements in access and quality in all steps of the cancer journey. Examples include better access to radiation treatment and cancer surgery, improved quality of colorectal cancer surgery and enhanced symptom management.

Information Management and Information Technology: CCO has developed sophisticated and robust Information Management and Information Technology (IM/IT) processes and systems that

Patient Usman Ali receives radiation treatment from Medical Radiation Therapist Vanessa Barisic (L) and Radiation Therapist Jen Dewhurst (R).

Photo courtesy of R.S. McLaughlin Durham Regional Cancer Centre part of Lakeridge Health.

Dr. Bill Evans, RVP, Juravinski Cancer Centre part of Hamilton Health Sciences. RVPs have accountability for quality and performance across the regions.

collect and analyze data from across the cancer system. IM/IT provides information that can be used by decision-makers to drive quality while ensuring that the system is delivering value for money. CCO's IM/IT systems and processes are now being extended into other areas of healthcare. Today, our Access to Care Program provides Ontario health system policy makers, planners and providers with information, knowledge and technology to support the system-wide goals of accessible and high-quality healthcare services.

These and other enablers such as research, surveillance, and primary care engagement have been critical to our progress to date. How these will be applied to continue our progress is detailed later in this plan.

Partnering with hospitals

The support and commitment of the government to fund more cancer procedures and infrastructure, the relationships the regional cancer centres have with our hospital partners and community stakeholders, and the provision of necessary data, have allowed us to negotiate agreements with hospitals for the following:

- incremental funding to incent increased volumes of activity
- clear targets for volumes of activity
- the provision of data to CCO
- commitment to implement quality improvement initiatives

Our record so far: progress under the first two cancer plans

The application of our guiding principles, quality framework and improvement cycle and enablers has delivered tangible results.

The first three-year Ontario Cancer Plan (OCP), introduced in 2005, focused on building capacity for the system – the nuts and bolts of how people, information and technology intersect to provide higher quality cancer care. These are highlights of our progress:

- increasing the use of evidence to develop standards and guidelines to influence practice, investment and performance management;
- establishing the 13 Regional Cancer Programs;
- opening three new centres at: Grand River Regional Cancer Centre in Kitchener; Carlo Fidani Peel Regional Cancer Centre in Mississauga; R.S. McLaughlin Durham Regional Cancer Centre in Oshawa and expanding centres across the province at; London Regional Cancer Program; Hôpital régional de Sudbury Regional Hospital – Regional Cancer Program; and the Juravinski Cancer Centre in Hamilton;
- working with the government to develop and launch the Smoke-Free Ontario Strategy and launch the HPV vaccination program.

The second three-year Ontario Cancer Plan, introduced in 2008, focused on reducing wait times, improving the quality of care – transforming screening, diagnosis and treatment through the trajectory of the care continuum, and building capacity. Highlights include:

- reducing wait times, particularly in surgery and radiation;
- construction continues in Niagara, Algoma, Barrie and Kingston;
- opened the Stronach Regional Cancer Centre at Southlake Regional Health Centre;
- expanded The Ottawa Hospital Cancer Program at the Queensway Carleton Hospital;
- consolidating complex surgeries (thoracic and HPB);
- launching ColonCancerCheck (CCC) to increase screening for colorectal cancer;
- introducing primary and palliative care, cancer imaging and pathology leads for cancer services in every region;
- renewing our research program with the launch of the CCO research chairs program;
- strengthening key partnerships – for example, with the Ontario Institute for Cancer Research (OICR); and
- beginning the Ontario Health Study (OHS).

The Stronach Regional Cancer Centre at Southlake houses state-of-the-art radiation technology.

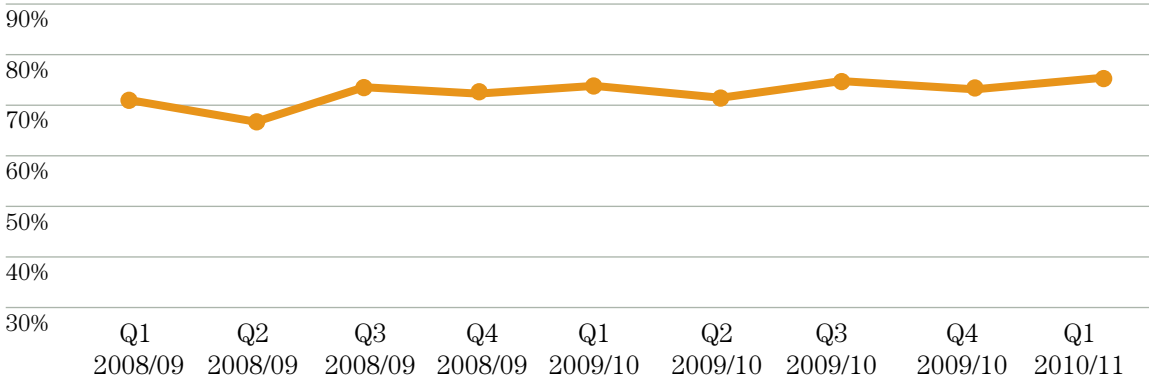
"She enjoyed a milestone moment in summer 2010. On a family vacation at Killarney Provincial Park, she paddled a canoe 3.5 kilometres into a headwind, hiked a trail with a 330-metre vertical drop over one kilometre, and then paddled back to her cabin. It is no mean feat for anyone at 56 years of age. But for her, a former smoker who the year before had the lower lobe of her right lung removed as a result of lung cancer, it was particularly sweet."

Anonymous Patient

Percentage of Cancer Surgery Cases Completed within Target for Priority 2, 3 and 4

priority 2-4

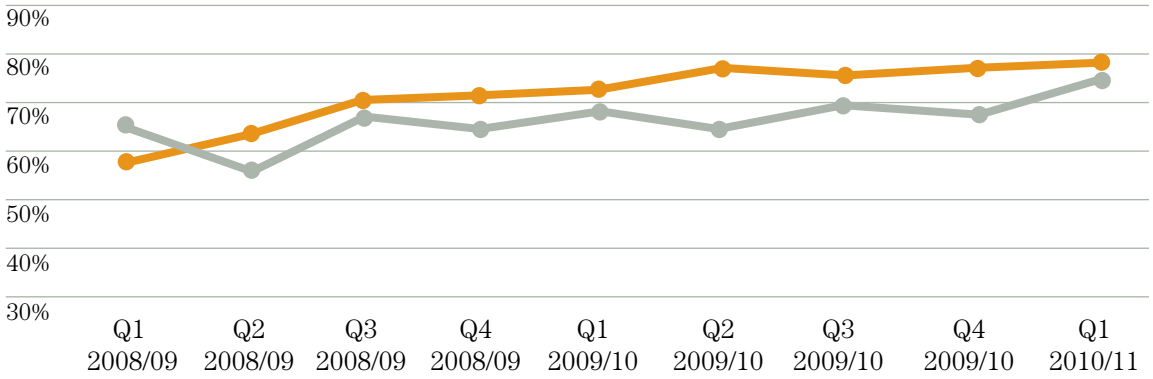
Priority targets:
Priority 2- 14 days
Priority 3- 28 days
Priority 4 -84 days



Radiation Wait Times: Percentage of Patients Seen/Treated within Target

RAD Consult Cohort-Referral to Consultation (cases with consult in the period)

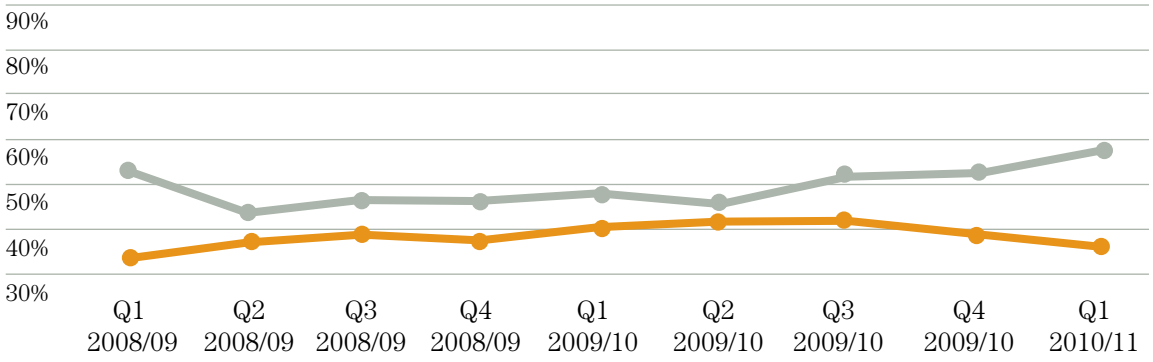
RAD Treated Cohort-Ready to treat to Treatment (cases treated in the period)



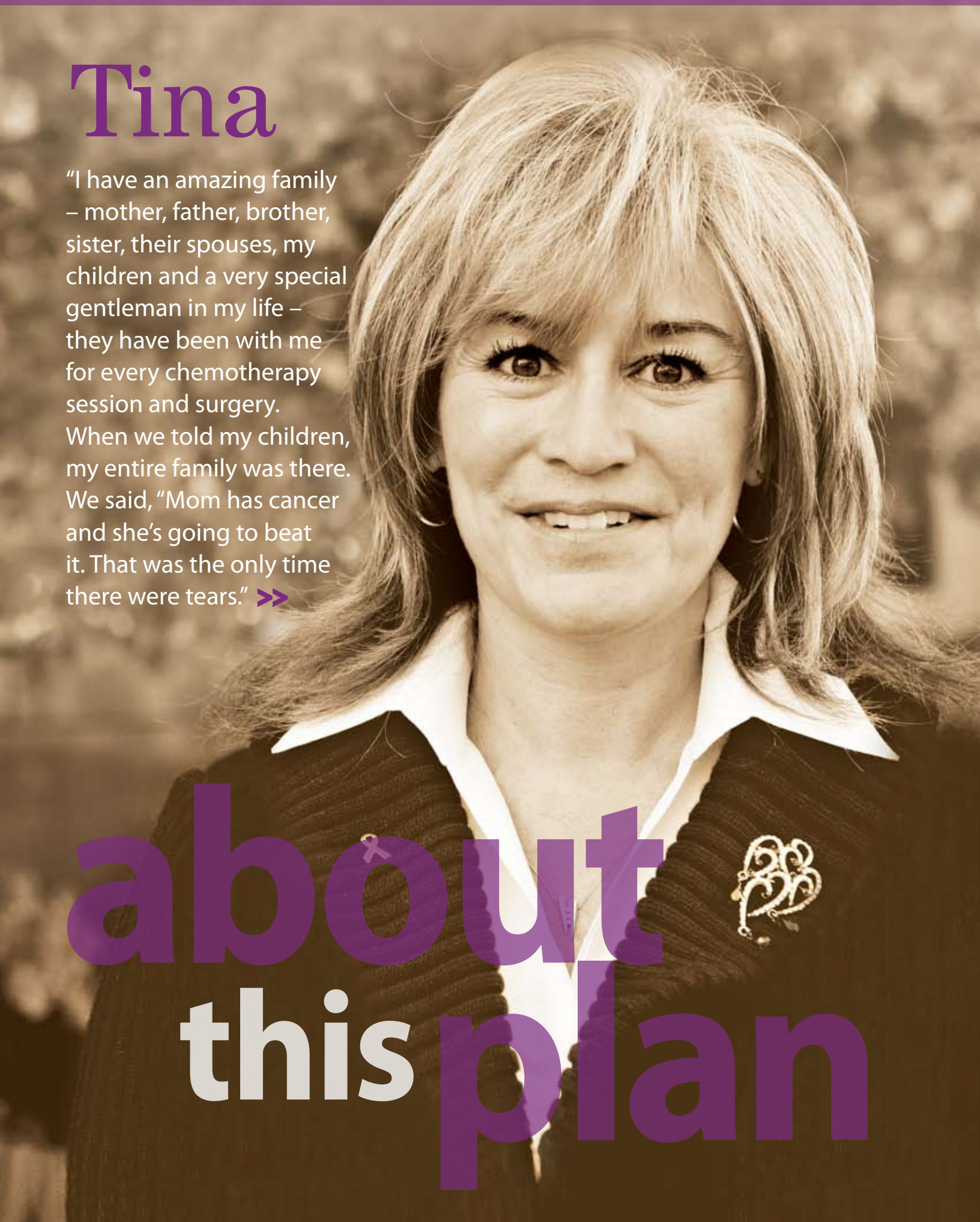
Systemic Wait Times: Percentage of Patients Seen/Treated within Target

Referral to Consultation (cases with consult in the period)

Consult to Treatment (cases treated in the period)



We have made significant strides in reducing wait times for surgery and radiation, two of the three main methods of treating cancer. We measure wait times by showing how many patients are receiving treatment within the target wait time. Today, 76 percent of patients have surgery within the recommended wait time, which takes into account the priority for each type of cancer. Wait times for radiation treatment have also declined since 2008. There has been a 10 percent increase in the number of patients seeing a radiation oncologist within the target wait time, and a 15 percent increase in the number of patients starting radiation treatment within the target wait time. In the area of systemic treatment, there has been some improvement in wait times. All of these improvements have been made in the context of rising incidence and prevalence of cancer and growing demand for cancer services.



Tina

"I have an amazing family – mother, father, brother, sister, their spouses, my children and a very special gentleman in my life – they have been with me for every chemotherapy session and surgery. When we told my children, my entire family was there. We said, "Mom has cancer and she's going to beat it. That was the only time there were tears." >>

about this plan

"I would tell someone just diagnosed to take a breath because it will get easier. There is so much assistance for us and there are so many people, doctors, nurses, family and friends, willing to help. When you first get diagnosed you feel like you are going into a black hole and don't know if there is a way out. At that moment you are faced with your own mortality. The next thing you have to do is deal with the demands of cancer and it is very, very draining. You have to take a step back, gather all your information, process it all and then accept help... and never be afraid because there is always something... there is so much being developed for cancer through cancer research."

– Tina Radoslav, colorectal cancer patient

"There are so many people, doctors, nurses, family and friends, willing to help."

About this Plan

This Cancer Plan builds on our demonstrated progress and achievements. However, with the increasing burden of cancer, we know that still more needs to be accomplished.

The 2011–2015 Ontario Cancer Plan

This Cancer Plan focuses on cancer control from the perspective of the patient, and is driven by the need to ensure quality across the system. Through this Plan, we will:

- strengthen our patient-centred approach to cancer control;
- continue to improve the quality of the system; and
- provide individuals with the knowledge they need to make informed decisions affecting their care.

This Cancer Plan details what we will accomplish by 2015 and how we will accomplish it. Details on the Cancer Plan can also be found online at: ocp.cancercare.on.ca

Goals and Strategic Priorities

This Cancer Plan has six goals:

1. Help Ontarians lessen their risk of developing cancer.
2. Reduce the impact of cancer through effective screening and early detection.
3. Ensure timely access to accurate diagnosis and safe, high-quality care.
4. Improve the patient experience along every step of the cancer journey.
5. Improve the performance of Ontario's cancer system.
6. Strengthen Ontario's ability to improve cancer control through research.

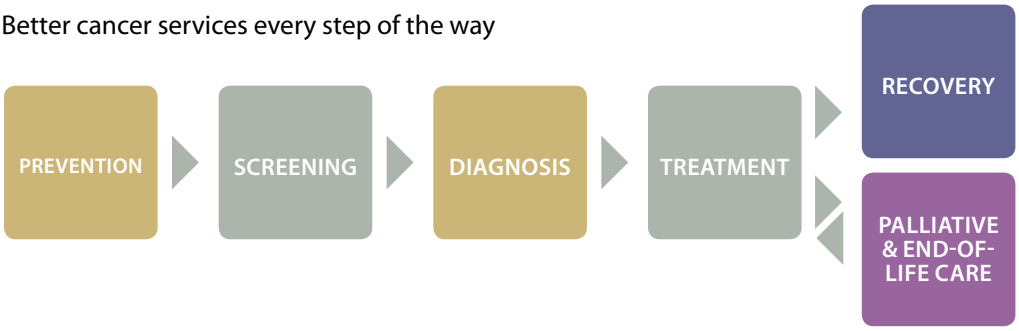
While consistent with those in the previous cancer plan, our goals have been refined based on our experience to date in order to meet emerging challenges and continue improving the system. To move us closer to realizing these goals, six strategic priorities have been identified for 2011–2015. These strategic priorities are described in detail on the following pages. The strategic framework for this plan is illustrated on the next page:

Eugnia Prountzopoulos, colorectal cancer survivor with her grandchildren.

This Cancer Plan focuses on cancer control from the perspective of people and patients, and is driven by the need to ensure quality across the system.

The cancer journey

Better cancer services every step of the way



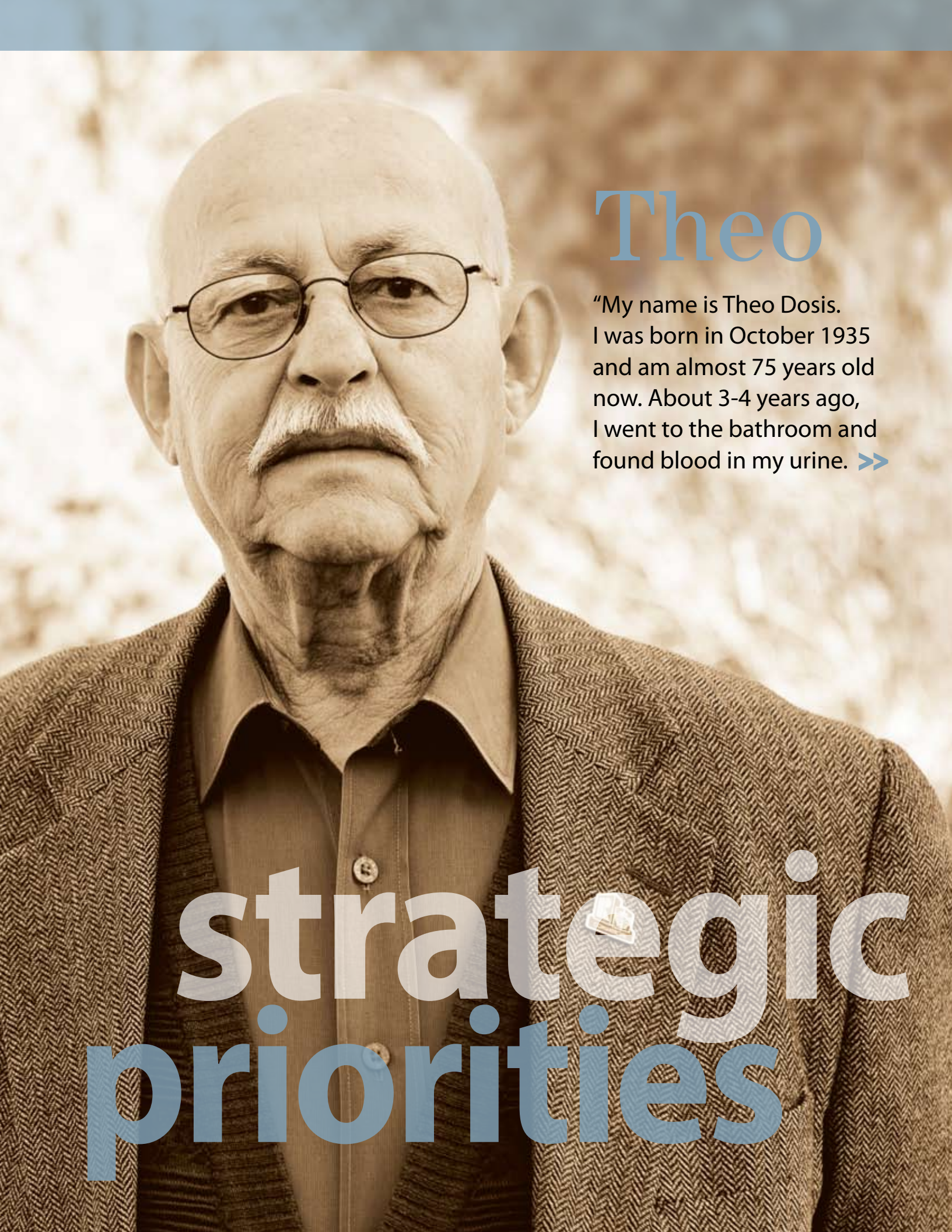
Building the Plan

This Cancer Plan is the product of an extensive review and consultation process.

Working groups were formed and workshops conducted with clinical and administrative leaders from across the province, and other partners including the Canadian Cancer Society, and the Ministry of Health and Long-Term Care. We reviewed evidence-based best practices. We talked to experts across Canada and around the world. We involved patients through online discussion forums and advisory panels.

This Plan belongs to the entire cancer system. We all have ownership and everyone is responsible for ensuring this Plan's success.

A separate Information Strategy is being created, underscoring the importance of information in delivering on our strategic priorities and realizing our goals. Other enablers including research, surveillance, and evidence-based standards and guidelines underpin and are reflected in each of the initiatives and strategic priorities detailed below.



Theo

"My name is Theo Dosis. I was born in October 1935 and am almost 75 years old now. About 3-4 years ago, I went to the bathroom and found blood in my urine. >>

strategic priorities

I went to my family doctor who sent me to the urologist. The specialist did some tests and that is when I found out that I had cancer in my bladder. The feeling was one where I couldn't believe it... I had cancer in my bladder and I asked my doctor where it came from and he said it was from the smoking. Very shortly after that I had surgery and was on medications. I didn't have too many side-effects. The cancer was removed but it came back. I have had two operations now. I know the cancer can still come back. I learned early on that it is important to tell your doctors everything so they can help you. I have confidence in my doctors. Today, I try to live healthier and take better care of myself. My advice to people is stop smoking and don't be around second-hand smoke."

– Theo Dosis, bladder cancer patient

"I asked my doctor where it came from and he said it was from the smoking."

STRATEGIC PRIORITY 1

Develop and implement a focused approach to cancer risk reduction

Prevention strategies work in helping Ontarians reduce their risk of developing cancer.

While there is much we still do not know about the causes of cancer, there is very strong evidence about a number of behaviours or exposures that increase or decrease the risk of developing some types of cancer:

- Smoking is associated with a higher risk of developing cancers of the lung, larynx, esophagus, kidney and bladder;
- Physical activity reduces the risk of colorectal and breast cancers, while being overweight/obese increases the risk of colorectal, breast and kidney cancer;
- Overexposure to ultraviolet radiation, whether from the sun or artificial sources such as tanning beds, increases the risk of skin cancer; and
- Workplace and/or environmental exposure to carcinogens (e.g., asbestos, benzene and constituents of air pollution) increases the risk of some cancers.

Prevention strategies work in helping Ontarians reduce their risk of developing cancer.

Accomplishments

CCO has played an important role in prevention, including efforts directed at tobacco control, healthy eating, physical activity and healthy weight, ultraviolet radiation and occupational carcinogens. We have:

- worked closely with Ontario government ministries to advance policies for the Smoke-Free Ontario Act and regulation and enhancement of the Smoke-Free Ontario Strategy;
- developed guidance documents for local Boards of Health for comprehensive tobacco control, healthy eating, active living, and other health promotion issues;
- supported the implementation of the HPV vaccination program;
- conducted research and established resources that allow investigators across Ontario to produce studies that aim to improve cancer prevention;
- established the Occupational Cancer Research Centre (OCRC) in collaboration with the Workplace Safety Insurance Board, the Canadian Cancer Society and the United Steelworkers to fill the gaps in our knowledge of occupation-related cancers and to translate these findings into preventive programs to control workplace carcinogenic exposures and improve the health of workers;

Managing your health with a balanced meal as shown by Clinical Dietician Paulina Araujo can lower your risk of some cancers.

Photo courtesy of Carlo Fidani Peel Regional Cancer Centre at The Credit Valley Hospital.

- worked with the Canadian Cancer Society to lead production of many Insight on Cancer reports on various cancer-related topics (e.g., separate reports on colorectal, cervical and breast cancers, environmental exposures and cancer, and sun-related behaviours and strategies to reduce ultraviolet radiation exposure); and
- the Smoke-Free Ontario Strategy has demonstrated substantial success in cancer risk prevention. Ontario is second only to British Columbia in having the lowest rates of smoking in Canada.

The Opportunity

Despite our progress to date, the rates of smoking in Ontario remain unacceptably high and considerable work remains to be done. As well, there has been limited progress in formally addressing other cancer risk factors such as obesity, physical activity, UV exposure, alcohol, occupational hazards and carcinogens in the environment. There is also a lack of measurement and evaluation of cancer prevention activities at the provincial and regional levels, contributing to limited knowledge of effectiveness, and inconsistent use of evidence-based practices.

We can build upon and make greater use of our expertise in research and surveillance, management systems, knowledge and performance measurement to:

- collaborate with organizations involved in cancer prevention and risk reduction to expand data capture, reporting and measurement of performance;
- encourage our partners to align reporting and performance measurement at the provincial, regional, provider and public levels, and further promote evidence-based prevention; and
- engage primary care physicians to promote cancer prevention through cancer risk assessment for Ontarians.

There is an opportunity to address the differences we see between Aboriginal and non-Aboriginal populations in prevention, screening, treatment and care.

There has been limited progress in formally addressing other cancer risk factors such as obesity, physical activity, and UV exposure.

Initiatives in this Plan

To help Ontarians reduce their risk of developing cancer, we will:

1. Build a cancer prevention performance measurement framework that can serve as a resource for all partners who have a role in prevention.
2. Develop and implement an online cancer risk assessment tool for use by individual Ontarians.

3. Facilitate the implementation of a cancer risk reduction initiative in each of the regional cancer centres.
4. Provide continued leadership on tobacco control through the renewed Smoke-Free Ontario Strategy and the Provincial Training and Consultation Centre.
5. Implement the second Aboriginal Cancer Strategy (2011-2015; page 22).

These prevention-related activities will be done in partnership with other organizations, and will be complemented by surveillance that detects where disparities need to be addressed and research that discovers cancer causes in the Ontario population.

By 2015

- Performance measures for cancer prevention initiatives will be in place and reported publicly.
- Primary care providers will be given the tools that they need to work with individuals to modify their risks and link them to local resources and screening where applicable.
- Every person in Ontario will be able to calculate their cancer risk profile, based on personal characteristics and grounded in Ontario's data. This profile will be delivered online and linked to local resources that individuals can use to moderate their risk.
- Regional cancer centres will be models in implementing cancer risk reduction initiatives.
- A new tobacco control strategy will be implemented.

Andrea Pitts uses exercise to maintain her optimal health.

Photo courtesy of Carlo Fidani Peel Regional Cancer Centre at The Credit Valley Hospital.

Getting patients engaged in their own care is key to empowering patients in the cancer journey.

Photo courtesy of Regional Cancer Care-Northwest at Thunder Bay Regional Health Sciences Centre.

Aboriginal Cancer Strategy II

Cancer patterns differ significantly between the Aboriginal population and the general Ontario population. Cancer incidence and mortality rates are increasing in the Aboriginal population – and cancer survival is worse than for all Ontarians. This underscores the need for a specific cancer control strategy to reverse these trends. The first Aboriginal Cancer Strategy (2004–2009) had four strategic priorities:

1. Health promotion and prevention, including Aboriginal tobacco control.
2. Research and surveillance.
3. Relationship and capacity building within CCO, the regions and in Aboriginal communities.
4. Treatment, including supportive and palliative care.

This strategy led to some key accomplishments, including a partnership with the Ministry of Health and Long-Term Care (MOHLTC) to develop and implement the Aboriginal Data Indicator Pilot Project to enhance the collection of cancer data on Aboriginal people in Ontario, and research to understand why First Nations women had poorer breast cancer survival than other Ontario women.

While progress has been made, there is a clear need for further planning and action to address the rising burden of cancer in the Aboriginal population. The second Aboriginal Cancer Strategy is being developed and will be implemented over the course of this Ontario Cancer Plan (2011–2015). A few key initiatives of this new Aboriginal Cancer Strategy include strengthening our relationships by engaging in more direct dialogue with First Nations, Métis, Inuit and Off-Reserve Aboriginal people, and working with the health networks already in place among these groups. For example, we will continue to work with the Chiefs of Ontario and other partners to develop a strategy for an ongoing cancer surveillance system for First Nations people in Ontario. We will implement the Aboriginal Patient Navigator and Lay Health Educator programs, which serve to improve the understanding of cancer among Aboriginal people and increase their participation rates in cancer screening.

A few key initiatives of this new Aboriginal Cancer Strategy include strengthening our relationships by engaging in more direct dialogue with First Nations, Métis, Inuit and Off-Reserve Aboriginal people, and working with the health networks.

Prevention and screening: working in the workplace

As a long-time public health nurse, Elizabeth Dulmage was well versed in the connection between awareness and action. Countless times, she had seen how drawing attention to personal health matters, and the resources available to address them, had spurred people to take steps they might otherwise have neglected.

This understanding was the impetus behind Your Health Matters, a comprehensive workplace cancer prevention and screening program that has grown into a national success.

Each workplace session takes about 45 minutes. In addition to focusing on why prevention and screening are so important, the presentations also give participants direction on where and how to take action, such as referrals to clinics and lifestyle modification programs.

"It is important to motivate and inspire people, but it is equally important to answer, 'now what?'" Dulmage says. "The ability to immediately sign up for programs, and ensuring the supports are in place – often within the workplace itself – makes a big difference in people following through on their commitments."

As manager of Cancer Prevention & Screening with the Windsor Regional Hospital, Erie St. Clair Regional Cancer Program, Dulmage developed a pilot program for healthcare workers within the local system.

Working with data expert Nicole Robinson to design baseline and monitoring surveys, Dulmage was able to definitively prove the program's effectiveness – not just in raising awareness about prevention and screening, but in motivating people to act on what they had learned.

Within 12 months of the initial presentation, 78 percent of those due for a mammogram and 70 percent of those requiring a Pap test had completed the respective procedures.

Having proven its effectiveness, Dulmage – with assistance from various agencies, including Cancer Care Ontario – began developing templates, a program manual and a step-by-step guide, building Your Health Matters into an Ontario-wide program that is now being replicated across the country.

Dr. Neety Panu beside a mammography machine advising Grace Winter at the Linda Buchan Centre for Breast Screening and Assessment at Thunder Bay Regional Health Sciences Centre.

"We have evidence for screening in certain cancers. The public may think we should screen for everything all the time but there can be harm associated with it. We have evidence for three major cancers - breast, cervical, and colorectal – that shows screening can save lives. Our program emphasizes screening for these three types of cancers. We are working towards integrated screening which involves screening for all three of these cancers in eligible women, and continues to have men screened for colorectal cancer. When we try to get everyone screened we know lives will be saved. Unfortunately, there are barriers to screening. These barriers may be socio-economic, cultural, and educational, making it difficult to screen everyone. We know for example that marginalized populations as well as the Aboriginal population get less screening. It is really important to begin to address some of the issues so all eligible populations get screened. It is really critical to educate the primary care health care providers because they are on the frontline and have to encourage their patients to come in and get screened. There are many strategies to do this including providing specific information to primary care providers to support them in improving screening rates."

– Dr. Sandy Buchman, Regional Primary Care Lead,
Toronto Central Regional Cancer Program

STRATEGIC PRIORITY 2

Implement integrated cancer screening

Currently, CCO has three distinct screening programs: ColonCancerCheck, the Ontario Breast Screening Program and the Ontario Cervical Screening Program. These programs are at different stages of development and maturity and are supported by three different information systems. In 2007, the provincial government made a commitment to increase early detection and facilitate the effective treatment of cancer with a focus on improving screening rates for these cancers. To accomplish this, we will implement an integrated screening strategy. The three key elements of the Integrated Cancer Screening (ICS) strategy are:

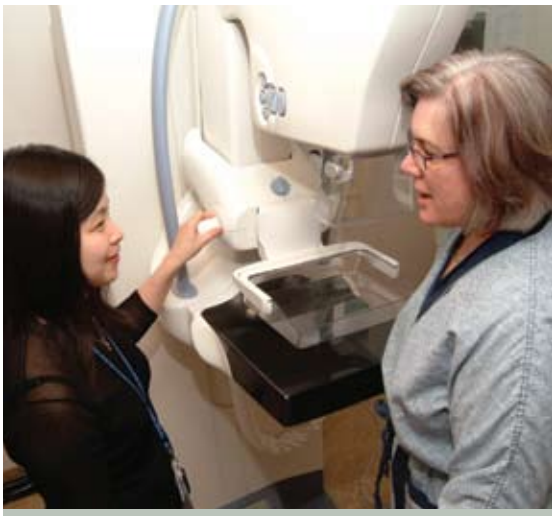
- Increase patient participation in screening;
- Improve primary care provider performance in screening; and
- Establish a high-quality integrated screening system and information management and technology infrastructure.

Accomplishments

As of the date of this Plan, the Ontario Breast Screening Program (OBSP) is celebrating its twentieth anniversary since being launched in 1990. More recently, the ColonCancerCheck (CCC) Program was launched in 2008. At present, the provincial CCC program has an electronic patient information system (InScreen) that collects colorectal screening data for the purposes of screening evaluation, and for issuing patient screening reminders. The Integrated Cancer Screening (ICS) strategy will build on this IM/IT investment by integrating breast and cervical cancer screening data into the information system.

With respect to ICS, the focus to date has been on planning and laying the foundation for implementation of a fully integrated cancer screening program for Ontario. A few of the key accomplishments are:

- As a pilot, screening activity reports were produced for primary care providers, giving family physicians and nurse practitioners colorectal screening information for their patients;
- Community-based initiatives were established to promote cancer screening among hard-to-reach populations, in partnership with Regional Cancer Programs;
- ICS business model and detailed implementation plan were developed;
- ICS support services delivery and funding model were developed; and
- Key performance measures were developed to monitor screening performance at local, regional and provincial levels.

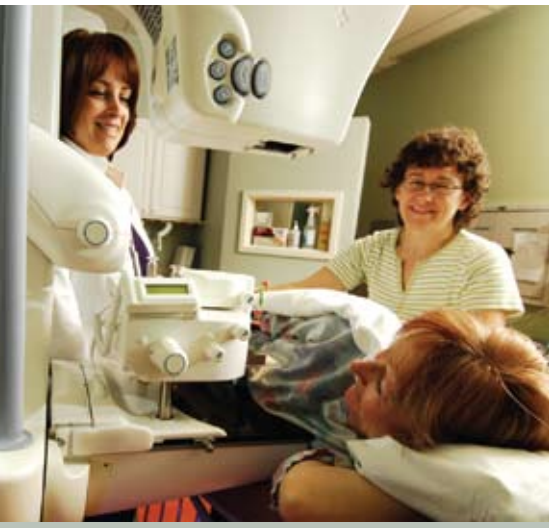


Digital mammography offers several important benefits including better cancer detection in women with dense breasts.

Photo courtesy of Princess Margaret Hospital part of University Health Network and Ontario Breast Screening Program.

Ontario has one of the highest incidences of colorectal cancer. Colorectal cancer is the second deadliest form of cancer.

Photo courtesy of Carlo Fidani Peel Regional Cancer Centre at The Credit Valley Hospital.



Medical Radiation Therapist Helene Compeau (L) conducting a mammogram. The screening rate in Ontario has increased seven percent since 2001-2002.

Photo courtesy of Stronach Regional Cancer Centre at Southlake.

The Opportunity

Breast and cervical cancer screening programs have relatively high screening rates of 66 percent and 72 percent, respectively. However, some breast cancer screening takes place outside the OBSP at facilities not covered by CCO's quality management program, and therefore do not capture the information to regularly monitor performance. ColonCancerCheck has much lower participation rates but these are increasing rapidly. This is because of the introduction of the population-based program to primary care providers, and public education campaigns supported by new information and technology infrastructure.

With a single integrated screening strategy, primary care providers and patients will have a more consistent and coordinated screening experience. As well, efficiencies will be realized in business operations and information technology to provide the best value for money.

Initiatives in this Plan

To increase early detection and facilitate the effective treatment of cancer with a focus on improving screening rates, we will:

1. Implement the ICS strategy for breast, cervical and colorectal cancers.
2. Adapt and expand CCC's InScreen system to support the ICS strategy.
3. Establish ICS support services at the regional cancer centres and implement regional accountability for screening in all 13 Regional Cancer Programs.
4. Establish centralized administration support for all cancer screening, including correspondence management and call centre functions.
5. Produce integrated screening reports for primary care providers to help them identify which patients have been screened, which patients require screening, and which patients need follow-up.

By 2015

- Ontario will have one ICS strategy for breast, cervical and colorectal cancer, supported by a single IM/IT system.
- Eligible Ontarians will receive invitations and reminders for the appropriate cancer screens at correct time intervals.
- Primary care providers will receive reports, tools and supports to enhance their screening performance. Mentoring and support will be provided to doctors as needed.
- Local and regional initiatives will be in place to encourage the under-screened and/or never-screened to participate in cancer screening.

- Support services will be in place to ensure individuals with abnormal results receive appropriate follow-up care.
- Evidence-based guidelines will be established for breast, cervical and colorectal cancer screening.
- All breast cancer screening in Ontario will be consolidated into one service for all eligible women.
- Each of the 13 Regional Cancer Programs will be accountable for screening programs in their region.
- Screening targets at the regional and provincial level will be reviewed regularly to assist in performance management, monitoring and reporting to health system planners.

"A 53 year old patient of mine came to see me today that I haven't seen for two years. She said she came... "because of the letter you sent me". Her husband died two summers ago of metastatic colon cancer. He never had any colon cancer screening and died within two months of his diagnosis. Today, she received her first ever CCC kit... It was the invitation pilot letter that motivated her to come in."

Dr. Marla Ash, *Regional Primary Care Lead, Central Regional Cancer Program*

"The surgical oncology program at CCO has two main missions, access to care and access to quality care. The whole concept of access to quality care is to do it better. This can mean a range of things including improved satisfaction for the patient, better outcomes, improved survival, fewer complications, better margin resection rates, and improved lymph node retrieval rates for some cancers. Quality of care is about doing it better for patients which translates to better outcomes and better quality of life for patients. The quality improvement framework is about establishing the current state of how we are doing it, bringing in expert advisors/opinion leaders, establishing evidence-based practice around new targets we want to achieve, engaging hospitals, regions and clinicians about how to implement change, and monitoring how we are improving over time. What we have realized at CCO is that quality improvement occurs locally. Whatever standard or guideline we establish, these things mean nothing unless it is translated to the patient's bedside, the operating room table, the pathology bench or in the clinic."

– Dr. Jon Irish, Provincial Head, Surgical Oncology, Cancer Care Ontario

STRATEGIC PRIORITY 3

Continue to improve patient outcomes through accessible, safe, high quality care

This Plan continues to focus on quality, access to, appropriateness and coordination of care and improving the patient experience. This Cancer Plan takes our accumulated knowledge about how to improve the quality of care and provide value for money and applies it across the system.

Dr. Som Mukherjee reviewing imaging scans. Cancer imaging plays an important role in diagnosing and treating patients

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

Accomplishments

Since 2005, we have:

- reduced wait times for specialist consultation and treatment;
- improved the quality of cancer treatment;
- improved the quality of performance data;
- strengthened performance indicators, measurement and reporting;
- instituted processes for regular review of data at the provincial and regional level; and
- built a culture of continuous improvement, where standards of care and guidelines for treatment are used across the system.

We hold cancer services providers accountable for meeting standards of quality and performance, and these standards have been built into all of our funding agreements. This approach has been the basis for a number of recommendations that are now included in Bill 46, the *Excellent Care for All Act.*

Specific initiatives that are improving the quality of the cancer journey include:

- **Diagnostic Assessment Programs (DAP)** that improve the coordination of diagnostic testing, provide information and support to patients, and help family doctors access diagnostic tests and results for their patients are being implemented. DAPs will reduce wait times and delays in diagnosis. The Electronic Pathway Solution (see page 35) is a tool that will be used as an integral part of the implementation of DAPs.
- **Pathology Reporting,** which is a critical element in both the diagnosis and treatment of cancer and is used to determine the appropriate treatment or combination of treatments required. Standardized (synoptic) cancer pathology reporting has been implemented in more than 85 hospitals across Ontario. It is enabled by eTools (new, electronic tools), resulting in over 90 percent

Multidisciplinary Cancer Conferences bring together health professionals to make the best decisions for patients.

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

completeness rates for synoptic reports submitted to CCO. The next phase of the pathology reporting initiative will focus on expanding synoptic reporting to all cancer surgeries.

- **Multidisciplinary Cancer Conferencing (MCC)**, which brings together the entire team of cancer care professionals to make decisions about the best treatment for each patient are now happening across the province. By the end of 2009/10, 69 percent of MCCs adhered to provincial standards. We will continue to evaluate the effectiveness of MCCs in influencing care plans.

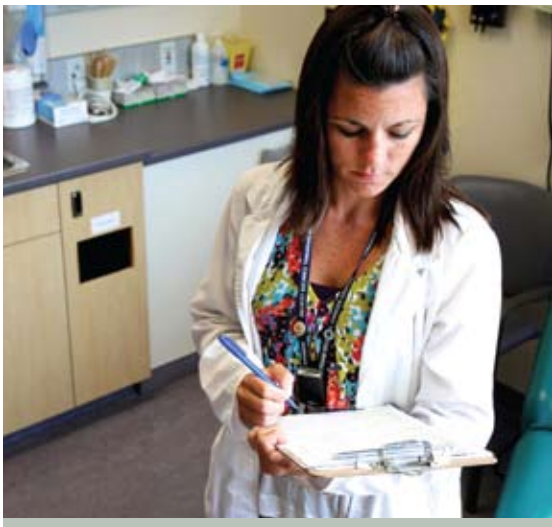
- **Disease Pathway Management (DPM)**, which is a new approach to improving the quality of care, processes and patient experience for specific cancers (e.g., lung cancer) by examining the entire cancer journey from the perspective of the patient. Disease Pathway Management identifies the gaps along the cancer journey and involves working with partners, patients and caregivers to set priorities for improvement.

- **Thoracic and hepato-pancreatic-biliary (HPB) surgery standards**, which are now almost fully implemented. They require that lung and esophagus cancer surgeries and HPB cancer surgeries be performed in designated hospitals that perform a high volume of these procedures. Evidence shows that better patient outcomes are achieved when surgeries are performed at specialized, high-volume hospitals.

- **Intensity Modulated Radiation Therapy (IMRT)**, which is a method of delivering high doses of radiation while significantly decreasing damage to surrounding healthy tissues and minimizing side effects. It is now being provided by all radiation programs in Ontario, and the number of eligible patients receiving this treatment is steadily increasing. The Pharmacoeconomics Unit, whose mandate is to conduct, evaluate and explain cost-effectiveness analysis of cancer drugs and technologies under review for funding consideration has begun studying the cost-effectiveness of IMRT to guide our use of this technology; the PEBC has developed clinical practice guidelines.

- **The organization and delivery of systemic treatment (chemotherapy)**, which is based on best practice standards. Each of the 13 Regional Cancer Programs has developed plans to meet the standards and these plans have been rolled up into the Regional Systemic Treatment Program (RSTP) provincial plan that is now being implemented. Additional funding has been allocated for the delivery of systemic treatment closer to home in community hospitals, and 12 new medical oncology positions have also been allocated in 2010 to meet the growing demand for systemic treatment.

- **Specialized training in oncology nursing**, which is a specialty area of practice requiring expert knowledge, clinical skills and clinical judgment to meet the complex needs of cancer patients. The number of nurses receiving specialized training in oncology is being increased through the de Souza Institute, an innovative centre of learning dedicated to supporting excellence in oncology nursing.
- **Oversight of specialized cancer services**, such as stem cell transplant and neuroendocrine treatments, includes four key components: expert advice; reviewing the latest evidence; provincial-level planning; and funding care to ensure access. This helps to avoid inappropriate use of costly services as well as out of country services, and promotes care as close to home as quality permits.



Registered Nurse Kasie Penney helps create accurate records of symptoms and treatment regimens to improve the patient experience during their cancer journey.

Photo courtesy of R.S. McLaughlin Durham Regional Cancer Centre part of Lakeridge Health.

Synoptic (Standardized) Pathology Reporting

Clinicians depend on pathology reports to confirm cancer diagnoses and decide on the most appropriate course of treatment, making high-quality pathology reporting essential.

Through CCO's Stage Capture and Pathology Reporting Project, undertaken in partnership with Ontario's cancer-treating acute care hospitals, standardized reporting, also known as synoptic reporting, was introduced for pathologists across Ontario. It is a first for any jurisdiction of this size.

A survey of surgeons and oncologists showed overwhelming support for this quality initiative. The survey showed synoptic reports made it easier to find the information required for clinical decision-making, and facilitated a consistent approach to the interpretation of diagnostic and prognostic factors.

A survey of surgeons and oncologists showed overwhelming support for this quality initiative.

According to one survey participant, synoptic reporting "reduces the chance of error and/or forgetting to include a specific parameter significant for a cancer case." Another participant reported that it "allows me to find the information I need quickly and efficiently." These are all critical factors in making accurate and timely treatment decisions for patients.

We have enabled the implementation of eTools to ensure consistency and completeness of pathology reports following an evidence-based standard endorsed both provincially and nationally.

Hospitals now receive monthly reports on key surgical practice indicators. By making health information data more accessible and usable, this large-scale change in clinical practice has benefitted direct patient care, research, planning, and data quality.

A recognized world-leader in this area, CCO is now supporting the Canadian Partnership Against Cancer and the Canadian Association of Pathology to implement our synoptic pathology reporting across Canada.

The Opportunity

While we have made significant headway in the development and implementation of quality initiatives, there remain significant opportunities to improve access to safe, high-quality care.

Traditionally, efforts to improve cancer care have focused on individual phases of the cancer journey (e.g., diagnosis, treatment) and the role played by each healthcare provider. Disease Pathway Management is a complementary approach that addresses the transitions between phases of the journey and the coordination between healthcare providers. The pathway from screening through diagnosis and treatment and on to follow-up or end-of-life care differs greatly from one type of cancer to another. The Disease Pathway Management approach focuses on improving the unique issues faced by patients with a particular type of cancer.

Technology has become an important enabler in the fight against cancer. Cancer Care Ontario's systems and processes are helping drive quality in the fight against cancer.

Photo courtesy of Carlo Fidani Peel Regional Cancer Centre at The Credit Valley Hospital.

Evidence has shown that there is a gap between the number of patients who should be receiving radiation treatment and the number who are getting it. By developing and implementing evidence-based plans for delivering high-volume activities such as radiation treatment, surgery and palliative treatment, we can work toward ensuring that all patients have access to the appropriate treatment within an appropriate time.

We currently measure treatment outcomes such as survival, but to improve the evaluation of our programs and services, we need to better understand patient outcomes, such as quality of life and the recurrence of cancer. Strengthening our measures of quality to include more patient outcomes will help us improve the cancer system.

New technologies can improve cancer care. The challenge exists in determining whether a new technology offers significant benefits and is cost-effective.

Building a culture of continuous quality improvement – and putting the information on performance in the hands of those who can use it – will help to close the gap between what we know and what we do. We now have the ability to capture and share clinician level data to help clinicians understand their performance against evidence-based standards.

Certain treatments (e.g., stem cell transplant) are performed in specialized centres because of their complexity. A lack of oversight can result in a gap in ensuring that all eligible patients have access to these specialized services and that the quality of these services is consistent. Provincial planning will ensure that these services are available in a timely fashion to those who need them.

As the number of treatment guidelines continues to grow, it is increasingly difficult for physicians to keep up-to-date, especially at

the point of care, where they need it most. We will leverage new technology to ensure the evidence-based guidance is available in an easy-to-use format at the point at which physicians need to use it to inform decisions.

Out-of-the-box thinking

Officially it's a portable radiation suite, but everyone at Royal Victoria Hospital simply calls it "the bunker." By any name, it is saving lives close to home for people in the Barrie area.

RVH is in the process of establishing a full regional cancer centre, but it is still some years away. In the meantime, Garth Matheson, Regional Vice President, Cancer Services, North Simcoe Muskoka was faced with a challenge in terms of radiation treatment. It was a concrete problem – literally. Radiation treatment facilities must be able to completely contain the radiation, which is very intense. As such, they require very thick concrete walls and ceilings that are constructed to meet Canadian Nuclear Safety Commission standards. With those kinds of specifications, bunkers are expensive, and usually permanent, structures.

The solution was to install a temporary radiation treatment suite – the first of its kind in Canada.

"It provides the same protection as a concrete bunker, and when our permanent facility is ready, this one can be moved somewhere else, helping another community provide better care close to home," Matheson explains.

The temporary radiation facility is made up of more than 20 modules, or "pods," each about the size of a boxcar. They are filled with aggregate and joined together to create the bunker. When the new Simcoe Muskoka Regional Cancer Centre opens in 2012 and the temporary radiation facility is no longer needed, the facility will be relocated.

"It is not a building, it is a piece of equipment," Matheson says.

The state-of-the-art facility is the result of a partnership between RVH, the Ministry of Health and Long-Term Care, Cancer Care Ontario and the Odette Cancer Centre at Sunnybrook Health Sciences Centre. Cancer Care Ontario owns the suite, and will determine where it goes next.

Radiation Therapist Frough Balkhi-Yaver and student Ashleigh Farmer (rear) prepare a patient for radiation treatment.

Photo Courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

The solution was to install a temporary radiation treatment suite – the first of its kind in Canada.

"Our goal at the R. S. McLaughlin Durham Regional Cancer Centre's Breast Assessment Centre is to provide timely reassurance to those patients with a benign finding, and those with cancer to be diagnosed and treated without delay," said Patti Marchand, Clinical Nurse Specialist and Nurse Navigator.

Initiatives in this Plan

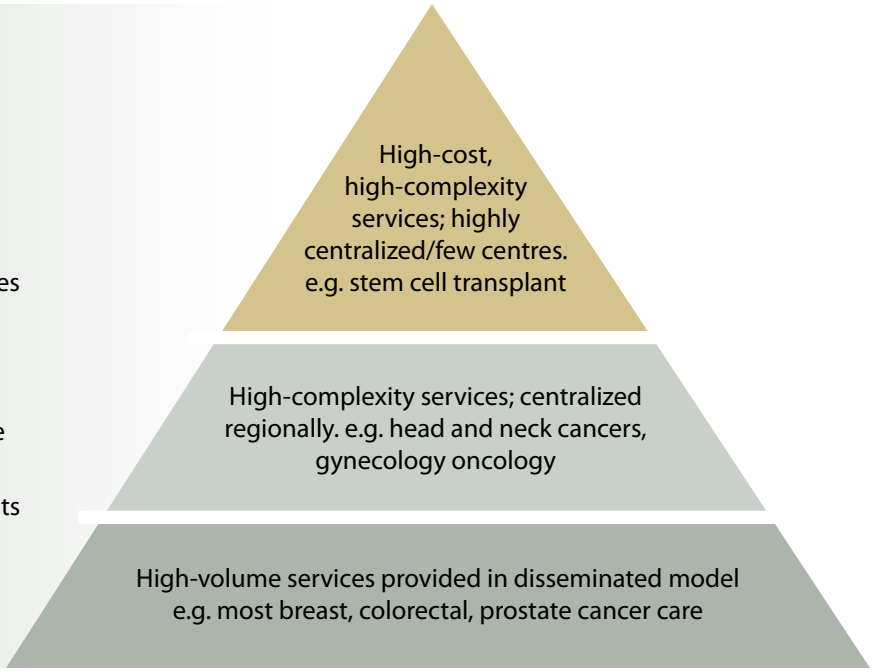
To improve patient outcomes, we will:

1. Develop disease pathway maps based on best practices, identify quality improvement targets, and embed these targets in our performance management process.
2. Develop provincial plans for the delivery of high-volume activities such as surgery, radiation treatment and palliative care to provide as much care as possible close to home, consistent with standards.
3. Strengthen quality assurance and best practices at the provider level by ensuring hospitals and providers have the detailed information and knowledge that they need to improve quality.
4. Develop measures and manage performance with respect to patient outcomes.
5. Make recommendations to healthcare providers and the MOHLTC with respect to new technology that improves patient outcomes.
6. Provide oversight (including planning and quality management) of very specialized cancer services and cancers, such as stem cell transplant, neuroendocrine tumours and sarcoma.

By 2015

> Disease Pathway Management programs will be developed and implemented for all major cancer types. This will result in improvements in quality of care and the overall patient experience.

For the more common types of cancers shown at the bottom of the pyramid, our approach is to use Disease Pathway Management and guidelines to ensure quality and access in regional cancer centres and hospitals. Performance targets are set and funding is based on patient volumes. As treatments for cancers become more complex and specialized, we become more directly involved to ensure patients have access to appropriate care. These treatments require centralized planning and delivery.



- Cancer service plans will be in place for all high-volume activities including but not limited to radiation treatment, surgery and palliative care.
- Physicians involved in cancer care and control will have access to their own performance data.
- Evidence-based guidance will be more readily available and in a more usable format at the point of care.
- Ninety percent of chemotherapy treatment visits will be supported by computerized physician order entry, which will reduce errors and increase patient safety.
- Specialized oncology nurses will be in place across the cancer system, ensuring safe, high-quality patient-centered care as close to home as possible.
- Specialized cancer services will have provincial service plans designed to ensure timely and appropriate access to specialized cancer treatments, such as stem cell transplant.

Nurses provide patients with navigation during the cancer journey.

The Electronic Pathway Solution

CCO is working in partnership with the Canadian Cancer Society to develop and implement an electronic tool that will help to ease the stress and uncertainty for patients as they go through the diagnostic phase of the cancer journey.

We know that this can be a time of great anxiety and we believe that this experience can be improved if people have easy access to information and answers to their questions. This tool will show patients and their family doctors where they are on the journey to diagnosis. They will be able to see the tests they need, what comes next, the results of tests and the plan for their care. Patients and caregivers will be able to access this web-based tool at any time and will be able to get information specific to their own situations, as well as links to people who can provide support. This information will help family doctors stay connected to their patients as they go through the cancer system, allowing them to support and care for patients when they move to the survivor phase.

"This is a very important initiative, primarily because it will help reduce the anxiety that many patients feel during diagnosis, which is one of the most stressful times of the entire cancer journey," said Martin Kabat, Chief Executive Officer, Canadian Cancer Society, Ontario Division.

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Martin Kabat, *Chief Executive Officer, Canadian Cancer Society, Ontario Division*

Canadian Cancer Society / Société canadienne du cancer

Doug Gosling is more than a cancer survivor. He's a cancer warrior. He chronicles his cancer experience – which continues to this day – and his efforts to navigate the cancer care system. Having battled the disease twice, he is only too familiar with the challenges of a system he says is finally, albeit slowly, recognizing that patients need to be kept informed about what is happening to them. "It is very difficult to be sitting around waiting, with this terrible growth growing inside your body," Gosling says. "So many questions go through your mind – What are my chances of recovery? Am I getting the right treatment? What happens next? – but it's often hard to find any answers." This lack of information exacerbates what is already an arduous emotional experience, he says, adding that in many ways the emotional impact is worse than the physical toll. He believes that keeping patients involved throughout the process would help alleviate some of this anxiety. "There is information available, but nobody tells you where to start looking. From the moment of diagnosis, what patients really need is someone to take them by the hand and go with them every step of the journey," he says.

– Doug Gosling, prostate cancer patient

STRATEGIC PRIORITY 4

Continue to assess and improve the patient experience

Accurate diagnosis and safe, effective treatment of cancer are clearly important priorities in improving cancer care. These goals, however, are not sufficient when striving "to create the best cancer system in the world." Patients need to have more control over their own care to improve satisfaction and outcomes. Patients need access to tools that enable them to assess and communicate their symptoms effectively so that their symptoms can be better managed by healthcare providers. They need access to resources and information that meet all of their physical, emotional and educational needs throughout the cancer journey.

Bev Lafontaine, nurse and Greg Barker, patient during a chemotherapy session.

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

Accomplishments

We have developed a better understanding of the patient experience through a variety of activities such as Cancer Quality Council of Ontario Signature Events focused on the patient experience; engaging patients through focus groups and social media; and the Ambulatory Oncology Patient Satisfaction Survey.

With this increased understanding, we have launched several initiatives including:

- **A Psychosocial Oncology Program** to set guidelines and standardize care to meet the needs of cancer patients, including improved emotional support, and helping cancer survivors return to work and the regular routine of daily life.
- **The Ontario Cancer Symptom Management Collaborative (OCSMC)**, which provides standardized symptom screening. Patients report symptoms associated with their cancer, such as anxiety or shortness of breath, to their healthcare professionals, online, by phone, or at kiosks in their regional cancer centres. Since the program's inception in 2006/07 over half a million symptom self screens have taken place. Forty-three percent of all cancer patients seen at the 14 regional cancer centres are now routinely screened for symptoms each month. These symptoms are then communicated to the patient's health care providers so that action can be taken to reduce suffering and address the patients' needs.
- **Our participation in an international collaborative**, which brings together healthcare professionals from around the world and is aimed at measuring patient-reported outcomes, such as late-effects of treatment, and vocational and sexual health. Collaborators share findings and learn from each others' experiences.

"For Aboriginal patients, their family and community, the cancer experience can be overwhelming. The multidisciplinary team can help them by appreciating their culture, health and social issues, to teach, explain and acknowledge their concerns, in an empathetic and supportive manner as they guide them through diagnosis and treatment."

Dr. Darlene Kitty, Rural Family Physician, Chisasibi Hospital Board Member of the Indigenous Physicians Association of Canada

Health professionals provide patients with the psychological and emotional support to counter the impact cancer has on individuals and their families.

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

> **A Patient Advisory Group** has been established to engage cancer patients and their providers with the goal of gaining their perspectives on what can be done to improve the patient experience.

> **A Provincial Palliative Care Program**, which addresses a number of the gaps in this vitally important stage of the patient's journey with cancer, has been established. Palliative Care Programs have expanded within each of the regions in the province. Engagement of primary care practitioners to increase their knowledge, clinical skills and collaborative practice is supported through education, mentoring and consultation with palliative care experts. We have developed recommendations for the organization and structure of palliative cancer care programs in Ontario to ensure that the same standard of care is provided across the province.

The Opportunity

We still do not have a complete understanding of the patient experience. We need to know more to identify the challenges and barriers patients face at every stage of their cancer journey. As a result of our work with an international collaborative and patient advisory group, we have identified the following opportunities to develop new and better ways to assess and improve the patient experience:

> Many more people are living longer with cancer, and we need to measure and improve patient-reported outcomes for these long-term survivors.

> There is a need for electronic tools for patients to enable self-management of their care.

"We are all about life. We are not involved in medical management. We are involved in meeting the very different and individual needs of each patient that comes to us for advice and support," Holly Bradley, Managing Director, Wellspring said. For example, Wellspring started Money Matters, a program to provide personalized financial advice to patients hit by the unexpected costs of the disease.

WELLSPRING
A Lifeline to Cancer Support

Breathing made easier

Lung cancer patients have identified shortness of breath as one of the key issues they face on their journey.

To address this, we have established six one-year pilot projects to educate and help lung cancer patients in managing shortness of breath, or dyspnea.

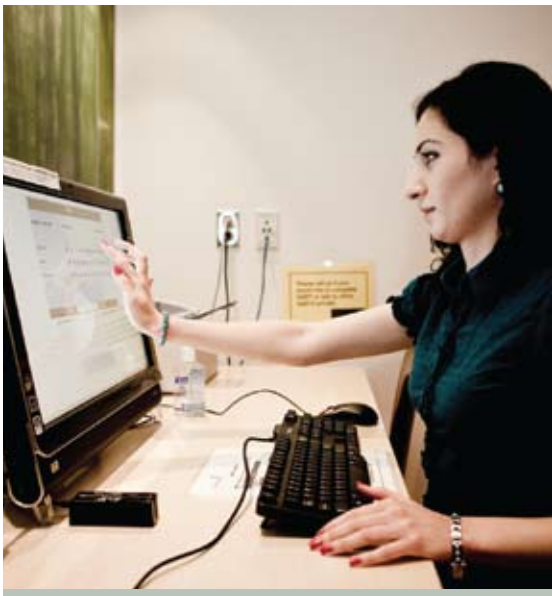
Projects focus on early education and counseling for patients and families. Others focus on using the Edmonton Symptom Assessment System (ESAS) to identify patients who should be included in the program.

The projects are under way at the Odette Cancer Centre (Toronto), Carlo Fidani Peel Regional Cancer Centre, the Ottawa Hospital Cancer Centre; the Cancer Centre of Southeastern Ontario (Kingston), the Juravinski Cancer Centre (Hamilton) and the Grand River Regional Cancer Centre (Kitchener).

Initiatives in this Plan

To improve the patient experience across the cancer journey, we will:

1. Improve the patient experience in the diagnostic phase, through access to relevant information, coordination of care and implementation of the Electronic Pathway Solution.
2. Measure the patient experience during the treatment phase of the cancer journey through improved survey instruments.
3. Expand symptom assessment through the Interactive Symptom Assessment and Collection (ISAAC) system implementation, including the increased use of ISAAC in regional cancer centres, the expansion of its use to partner hospitals and in the community, and the increased use of tele-ISAAC.
4. Continue to improve management of symptoms through better response to elevated symptom scores using notification alerts.
5. Develop and implement a way to measure patient-reported outcomes for the post-treatment phase through partnership in an international collaborative.
6. Establish Regional Cancer Program accountability for improving the patient experience through integration with our performance management process.
7. Increase patient support through expansion of regional psychosocial oncology and patient education programs.



Volunteer Dalia Halata using the computerized system at Princess Margaret Hospital to enter patient information. Complete patient profiles are vital in designing the best cancer care plan.

Photo courtesy of Princess Margaret Hospital part of University Health Network.

By 2015

Every cancer patient in Ontario will:

- Have access to tools to help navigate the cancer system and manage their own journey (e.g., through supportive resources such as care pathways, patient navigators, and the Electronic Pathway Solution).
- Transition more smoothly along the care path and experience improved continuity of care among cancer care service providers.
- Have the opportunity to give feedback on their experience throughout their cancer journey.
- Have the opportunity to report their symptoms electronically to support communication and the provision of care.
- Receive care in a timely manner for physical and emotional symptom scores flagged through symptom screening.
- Have their performance status, the clinical measure of the patient's ability to perform normal daily functions, collected to help in the planning of their care.

- Have their interests represented at a Patient Advisory Council (a forum to advise on initiatives to improve the patient experience).
- Have access to psychosocial resources, standardized across the province and based on international best practices.

Terms of engagement, and empowerment

Caring Voices

Engagement and empowerment are the two pillars of the Survivorship Program at Princess Margaret Hospital, which provides consultation, advocacy and education to patients at every phase of their cancer journey. The program is designed to help frame the experience for patients, to ease their confusion and fear – and to give them a voice.

"Our main message is, 'how can we help you?' at a time when people often feel helpless," says Dr. Pamela Catton, Medical Director of the Breast Cancer Survivorship Program. "We help them understand and navigate the system, so they don't feel overwhelmed by it. We provide direction on how they can advocate and even negotiate their care. Ultimately, we show them it's not about the disease or the tumour, it's about them."

One example of this approach is Caring Voices, focused on the terminally ill. Caring Voices features a live peer support program in hospitals enabling patients to share their experiences, as well as virtual programs including the Caring to the End website geared to families and caregivers and online chats and discussion boards. It also helps facilitate communication between healthcare providers and patients, extending the reach by connecting them to sound advice and support (such as nutritionists).

Better communication between patient and provider is a key tenet in the Survivorship Program's work.

"We are advocating a 'partner-centred' approach, based on shared decision making and responsibility," Catton says.

Catton and her team have been identifying processes and procedures within the hospital that can enable more self-care, giving patients a greater sense of control over their situation.

At the same time, the program also develops strategies and courses for providers, to make sure they are both accepting and comfortable with empowered patients.

There are two types of advanced practice nurses (APN) that are commonly recognized – the clinical nurse specialist and the nurse practitioner. These are nurses who have obtained a Masters degree. The APN role is about meeting the complex needs of the patient in a specific area. The role of the APN is very important because they can provide comprehensive assessment and focused intervention with those patients who have complex care needs. We are strong collaborators. Most APNs work with other professionals on health care teams and there is a lot of evidence that APNs can improve patient outcomes. In multidisciplinary teams, APNs can help the care plan come to life and improve health outcomes for the patient and their family. We are seeing increased support from the health system and our physician partners for the role of the APN.

– Lorraine Martelli-Reid, Advanced Practice Nurse,
Juravinski Cancer Centre part of Hamilton Health Sciences.

STRATEGIC PRIORITY 5

Develop and implement innovative models of care delivery

This will ensure that the knowledge and expertise of healthcare professionals are used to their full extent to improve access, quality of care, system efficiency and sustainability.

Given the increased demands facing the system, we need to transform the way we deliver care to optimize the use of health human resources, thus ensuring the long-term sustainability of the system.

This change will be achieved by developing new models of care that will make the best use of the skills and expertise of healthcare professionals in the cancer system. The models will also address funding, incentives and remuneration for healthcare professionals.

The new models of care will be developed using a patient-centred approach that establishes a working partnership with patients, their families and providers of cancer care. It will also actively engage patients and their families in self-care and the management of their disease.

Accomplishments

We began this work in 2010 and have already made some significant progress. The need to develop new ways of delivering care to cancer patients arose out of the realization that the need for more medical oncologists simply could not be met if we continued to provide care to patients in the same way. This thinking must also be applied to the other two major treatment modalities: radiation and surgery. Two events, hosted by the Cancer Quality Council of Ontario, which brought together patients and providers, further identified the need to develop innovative models of care, including new funding models, greater use of technology and increased collaboration to address challenges and constraints, and empower patients. Over the last year, CCO has worked with groups representing radiation, medical, surgical and gynecological surgical oncologists as well as nursing, pharmacy and psychosocial oncology specialists in discussions, planning, implementation and evaluations of new models of care delivery. We have begun this work by developing a new, collaborative methodology for allocating scarce medical human resources across the province. The work has only just begun, but this collegial approach is a significant first step in this challenging initiative.

Healthcare professionals keep patients informed and help guide them in making treatment and lifestyle decisions. Carrie Barker supports her husband Greg Barker during his chemotherapy sessions.

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

The Opportunity

Our current model of cancer care delivery, both from cost and health human resources perspectives, is unsustainable. Data have shown that the demand for systemic treatment is continuing to rise, which

has resulted in only modest improvements in wait times. This led to the recognition that new models of care are necessary. We now know that new models of care are required for all care modalities, including surgery and radiation treatment as well as systemic treatment, to ensure sustainability of these services.

We have an opportunity to introduce new models of care that align incentives and accountability with quality and access goals for cancer patients. This will ensure that the knowledge and expertise of healthcare professionals are used to their full extent to improve access, quality of care, system efficiency and sustainability. This will be done with an increased focus on patient-centred care.

Initiatives in this Plan

To optimize the use of health human resources in care delivery, we will:

1. Develop new models of care delivery to support evidence-informed, efficient, patient-centered care.
2. Implement the models and address necessary remuneration, regulatory, scope-of-practice and other policy changes.
3. Develop and implement a mechanism for continuous evaluation, modification and improvement of the models.

By 2015

- New, evidence-based, patient-centred models of safe and effective care will ensure that each person receives the right care by the most appropriate provider in ways that optimize the use of our health human resources. Patient-centred models of care will be implemented to actively engage patients to promote patient self-management to improve patient outcomes.
- New models of funding and remuneration that support the delivery of multidisciplinary and patient-centred care will be in place to optimize the roles of healthcare professionals and improve care and provider satisfaction.
- e-Tools and other information technology solutions will be available to patients to allow them to increase their participation in care and thereby improve system efficiency.

"New genetic tests have been developed that have greatly enhanced our ability to predict, diagnose, manage and monitor cancer, as well as determine the most appropriate therapy for patients with this disease. It is expected that these advances will continue to improve our ability to screen, prevent and treat cancer patients, especially as more targeted and personalized therapy becomes the standard of care. Given the rapid advancements in this field we need to enhance our ability to bridge the gap between research and clinical care."

– Dr. Suzanne Kamel-Reid, Co-Chair
Molecular Oncology Advisory Committee, CCO

STRATEGIC PRIORITY 6

Expand our efforts in personalized medicine

The rapidly advancing field of personalized medicine is poised to fundamentally change how cancer is prevented, diagnosed and treated. Personalized medicine focuses on the science of using a patient's genetic information to predict cancer and its prognosis, and to diagnose, monitor and select cancer treatments most likely to be of benefit to that individual. It offers enormous potential benefits in meeting our goals in prevention, early diagnosis, patient treatment and care, and improving the performance of Ontario's cancer system. Personalized medicine approaches can also be very expensive and we have an obligation to ensure that treatments are introduced in accordance with best clinical evidence and value for money.

Personalized medicine focuses on the science of using a patient's genetic information to predict cancer and its prognosis, and to diagnose, monitor and select cancer treatments most likely to be of benefit to that individual.

Photo courtesy of Princess Margaret Hospital part of University Health Network.

Accomplishments

In 2008, we formed a Molecular Oncology Task Force to examine and make recommendations regarding personalized medicine and cancer. In January 2009, the Task Force released its report, with six recommendations aimed at ways to:

- rapidly evaluate and integrate new knowledge into clinical practice;
- assess the effectiveness of targeted therapies; and
- improve access to and quality of clinical and laboratory services, including counseling.

Since the report's release, CCO, key stakeholders and the MOHLTC have been working together on a plan to implement the Task Force recommendations.

The Opportunity

There is an enormous and growing amount of information about genetic testing, including an ever-increasing amount of direct-to-consumer marketing of tests. However, there is no easy way for clinicians to have up-to-date, evidence-based information at their fingertips about when tests are appropriate and what the results mean. Today, there are several interconnected agencies and government departments sharing information and providing leadership, advice and input into strategies that will strengthen molecular oncology services in Ontario. The next step is to create a formal mechanism for new targeted therapies to be evaluated, to integrate them with clinical practice and to have them funded in a cost-effective way when appropriate.

"Personalized medicine refers to the application of genetic information about an individual person to help predict their predisposition to cancer, their prognosis once cancer is diagnosed, and to optimize their medical outcome. It has the potential to improve the way we use drugs by directing therapeutic interventions at patients who are most likely to benefit from them. It offers the potential to better predict patient response and adverse events, and may spare patients the costs and consequences of ineffective therapies."

Dr. Leonard Kaizer, Provincial Head Systemic Treatment, CCO

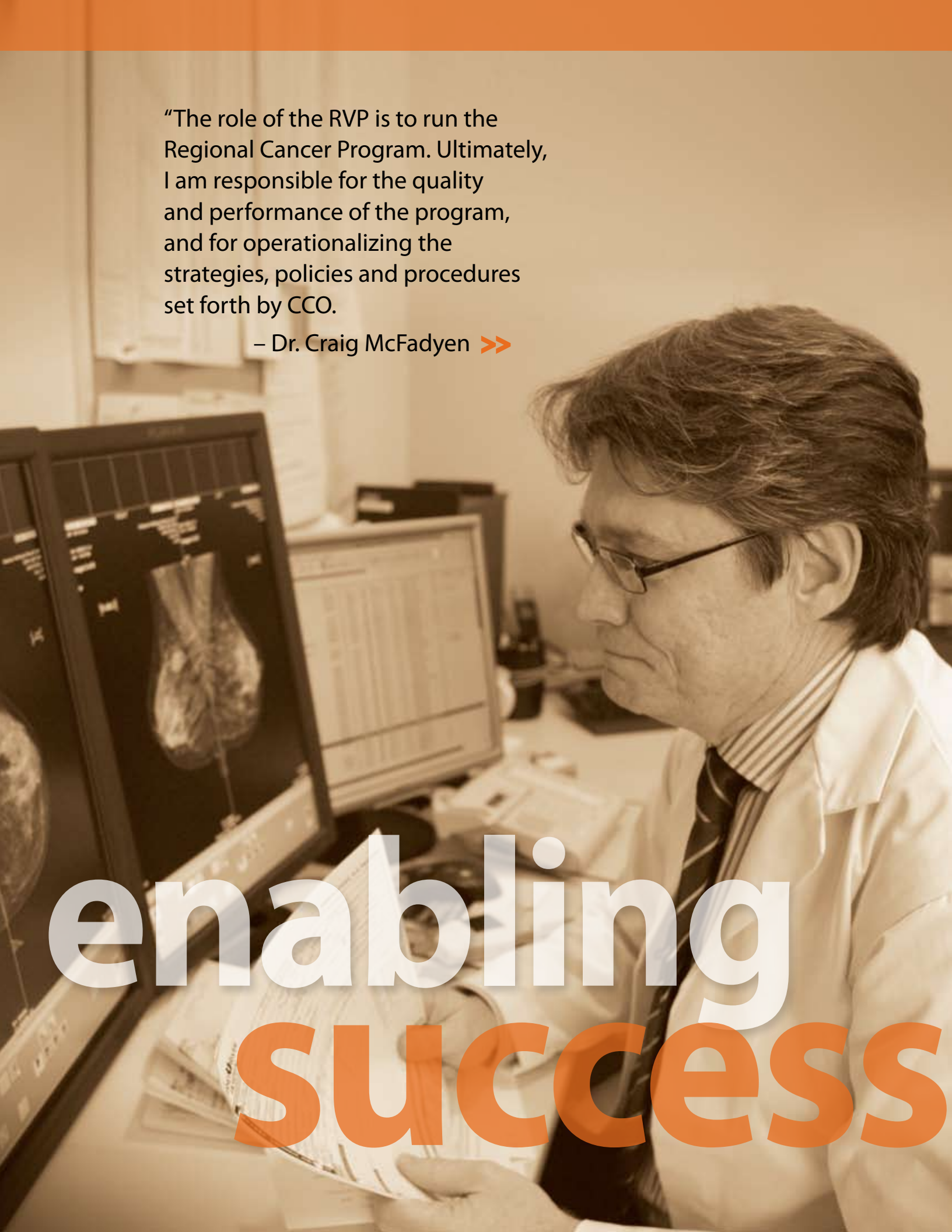
Initiatives in this Plan

To put in place a formal mechanism to evaluate and introduce new molecular tests, diagnostic prediction and targeted therapeutics as they relate to cancer, we will:

1. Establish the process for environmental scanning and reviewing of evidence on how to integrate new knowledge into clinical practice.
2. Work with partners to implement recommendations of CCO's Molecular Oncology Task Force.
3. Establish a mechanism to rapidly evaluate and integrate new knowledge for doctors and patients which includes the ability to assess real-world effectiveness and cost-effectiveness of targeted therapies.
4. Improve access to and quality of clinical and laboratory services as they relate to cancer.

By 2015

- A responsive system – supported by research conducted in partnership with the Ontario Institute for Cancer Research and other CCO partners –that rapidly evaluates and integrates new knowledge into the Ontario cancer system will be in place.
- The evaluation and listing process for new drugs and tests will evolve to facilitate best-practice care decisions based on patient-specific genetic information and cost-effectiveness evidence.
- Patients will have access to high-quality services and the information they need to make knowledgeable and informed decisions regarding personalized medicine.
- Providers will have the knowledge they need to guide patient decision-making.



"The role of the RVP is to run the Regional Cancer Program. Ultimately, I am responsible for the quality and performance of the program, and for operationalizing the strategies, policies and procedures set forth by CCO.

– Dr. Craig McFadyen >>

enabling success

My job is to identify strategies for changes and to ensure that all the stakeholders understand that while these changes can be difficult, they are in the best interest of patients. Within our region, the colonoscopy network is a great example of maximizing partnerships. In the past, our region has performed poorly in terms of access for screening colonoscopy due to under utilized time in hospitals for endoscopy. By working collaboratively with all the surgeons, gastroenterologists and hospitals we were able to maximize and optimize the time. Today, patients screened through our regional network have some of the best access times in the province. The Cancer Plan is highly patient centric in all aspects – prevention, screening, improving diagnosis and treatment, palliative and recovery as well as surveillance – and this is a unifying message that brings all stakeholders together.

– Dr. Craig McFadyen, Regional Vice President
Waterloo Wellington Regional Cancer Program

“Today, patients screened through our regional network have some of the best access times in the province.”

Enabling success

As with the two previous cancer plans, the success of this Cancer Plan depends on the continued application of our "enablers." Described earlier, enablers (e.g., information technology, research, our partners and funding of cancer services) are the combination of competencies, structures and partnerships we have deployed, which, combined, have enabled us to drive performance and quality improvement to the cancer system.

Without these enablers, we would not be able to implement any of the strategic priorities in this Plan, achieve our goals and realize our vision of creating the best cancer system in the world. What follows is a description of how we will use these enablers to achieve the goals of this Cancer Plan.

Information Management and Information Technology

Since the first Ontario Cancer Plan in 2005, the adoption and integration of information and technology into clinical and administrative practice, as well as the availability of high-quality data, have been integral to our success in improving cancer system quality, accountability and performance, and the patient experience.

Under this new Ontario Cancer Plan, CCO's information management and technology infrastructure and expertise will enable us to better integrate the patient perspective into cancer care and further enhance quality across the system. For example, by 2015:

- Breast, colorectal and cervical cancer screening will be supported by an integrated information system that develops and manages individual screening records for eligible Ontarians;
- Primary care providers will have practice-level reports that enable them to easily and appropriately manage the screening needs of their patient;
- All pathology reports for cancer surgery will be in an electronic synoptic (standardized) format to ensure completeness in reporting against an evidence-based standard, thereby minimizing mistakes or misinterpretation as well as the need for requesting clarification or missing information;
- Cancer system planning and performance management will be enhanced through the availability of cancer stage data for all newly diagnosed cancer patients;
- Patients and their care teams will have access to the same information and will communicate more easily throughout the diagnostic process;
- The assessment of system performance will incorporate patient reports of satisfaction and point-of-care experiences; and

Oncology Patient Information System (OPIS) is a fully automated drug order entry program including online drug profiles, prompts for potentially adverse drug interactions, and real-time electronic communications between physicians, nurses and pharmacists about drug orders and changes in dose.

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

CCO's Interactive Symptom Assessment and Collection tool (ISAAC) is an easy-to-use electronic tool that allows patients to partner with their care team on managing their symptoms. Using ISAAC at cancer centres' kiosks or at home over the internet or phone, patients rate their symptoms. Healthcare providers use this information to help to manage their pain, anxiety, shortness of breath, or other symptoms.

48%

The long-term CCO target for the utilization of radiation services is 48 percent.

Capital investments such as regional cancer centres improve wait times for access to radiation treatment in Ontario.

Photo courtesy of Simcoe Muskoka Regional Cancer Centre at The Royal Victoria Hospital.

- All data will be readily accessible for health services research purposes.

To achieve these and other outcomes under this Cancer Plan, our information and technology work will focus on four key domains:

1. Infrastructure: ensuring a robust platform for the delivery of informatics and technology products and services.
2. Instrument the System: applying comprehensive, integrated information and technology solutions across the continuum of care.
3. Informatics: providing information to decision makers for performance management.
4. Innovate: delivering business value to our clients through information and technology innovation.

CCO's information management and technology work is guided by our 2011–2015 Information Strategy, which will be implemented concurrently with this Cancer Plan. The Information Strategy sets out how our expertise in technology deployment and adoption, project and program management, data quality, business intelligence, analytics and reporting supports the Ontario Cancer Plan and the work we do to improve performance for chronic kidney disease and under the Government of Ontario's Access to Care Strategy. In addition, the Information Strategy ensures appropriate, cost-effective use of information and technology – delivering value for money.

Regional Cancer Programs

Regional Cancer Programs led by Regional Vice Presidents (RVPs) in each Local Health Integration Network (LHIN) are the primary mechanism for implementation of the Ontario Cancer Plan at the regional level.

Each RVP is jointly appointed by the host hospital for the regional cancer centre and CCO, and works with regional partners to plan for and monitor progress against yearly priorities for improvement. The RVP is responsible for advising CCO on funding allocations in the region. A collaborative and consultative approach has been developed to enable alignment of LHIN and CCO objectives.

With this Cancer Plan, the roles of the RVP and Regional Cancer Program will be expanded by:

- developing mechanisms for sharing best practices for Regional Cancer Program management between RVPs;
- investing in additional regional, clinical and administrative leadership to work with the RVP to champion specific system improvements aligned with this Cancer Plan;
- providing expanded oversight and responsibility for primary care engagement and administration of OBSP sites;

- increasing the visibility of regional cancer system performance scorecards with the leaders from the LHINs, hospitals and community agencies engaged with CCO; and
- strengthening the visibility of Regional Cancer Programs with patients, families and the public through continued development of Regional Cancer Program websites.

Capital Projects

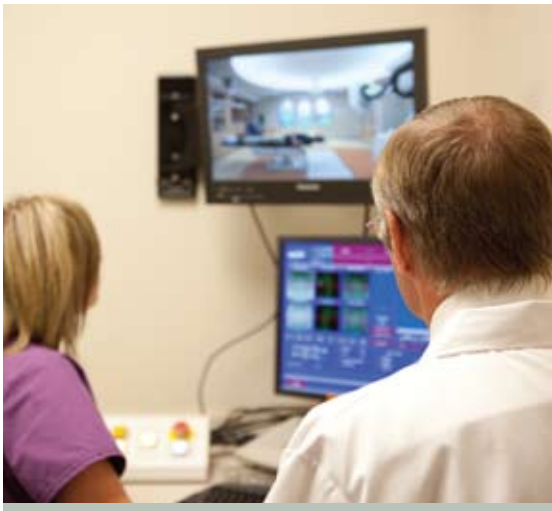
Capital projects – the building of new cancer centres, the redevelopment and expansion of existing centres, and the timely replacement of aging radiation treatment equipment -- have been crucial building blocks to ensuring timely access to high-quality cancer care as close to home as possible. Through capital investments we have been able to improve wait times for access to radiation treatment in Ontario. However, we know that the number of patients receiving radiation treatment for cancer in Ontario is significantly below the number who would benefit from this treatment. Currently, 35.5 percent of new cancer patients in Ontario receive at least one course of radiation. The long-term CCO target for the utilization of radiation services is 48 percent. This is consistent with international standards, based on evidence and reflects current best-practice guidelines.

A comprehensive approach is being taken to ensure all patients who would benefit from radiation treatment and who would choose this treatment option in consultation with a radiation oncologist have good access. This approach includes the completion and opening of new facilities in Niagara, Sault St. Marie, Barrie and Kingston. Also, continued investment is required to maintain the current base of treatment units already in the province, ensuring they are safe, current and enabled to provide new and improved radiation treatment processes such as Intensity Modulated Radiation Therapy.

To achieve our radiation treatment utilization target and to meet increased demand resulting from the growing incidence of cancer, additional radiation treatment machines are required. Additional capacity is planned in four of the existing centres. This would bring the total count of radiation treatment machines in the province to 106. This plan also calls for new machines to be located in nine "swing bunkers" that were built in some cancer centres to facilitate the replacement of equipment. This would add additional machines to the cancer system without requiring the construction of new cancer centres. Ultimately, the total number of machines required will depend on reaching the radiation treatment utilization target and improvements in productivity. Given the lead time for construction, during the period of this plan, we will provide advice and plans for additional capacity to be built during the period of the next cancer plan (2015-2019).

CyberKnife technology uses very small beams of radiation to target and remove small tumours that are deep within the body while limiting harm to surrounding tissues.

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.



Cyberknife technology enables nurses and doctors to target even the hardest to reach cancers.

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

Evidence-based care focuses on accelerating the development and application of knowledge relevant to reducing the burden of cancer.

Photo courtesy of Princess Margaret Hospital part of University Health Network.

The Program in Evidence-Based Care

The Program in Evidence-Based Care (PEBC) is a CCO program whose mandate is to develop, disseminate and evaluate evidence-based standards, guidelines and other advice documents for use in clinical, planning and policy decisions about cancer control.

The PEBC works in partnership with clinical, research, administrative and policy professionals from the cancer control system across Ontario to develop guidelines that address the strategic priorities for the cancer system in Ontario. For example, a "Healthy Eating, Physical Activity, and Healthy Weights Guideline for Public Health in Ontario" has been developed to support our priority of helping Ontarians lessen their risk of developing cancer.

Research

The overall goal of our research program is to accelerate the development and application of knowledge relevant to reducing the burden of cancer. To accomplish this, we have established programs to support investigators working in four priority areas (see Opening new fronts in cancer fight on page 55).

Research projects carried out by CCO-supported investigators are usually funded by external bodies through grant competitions. In addition, we have developed partnerships with agencies such as the Ontario Institute for Cancer Research (OICR), with whom we have developed joint strategies in areas such as personalized medicine. Examples of projects being undertaken by CCO-supported investigators that address the Strategic Priorities in this Plan include:

1. **Prevention.** A number of projects aim to detect molecular, personal and societal factors related to a higher risk of developing cancer. This research will lead to strategies to modify risk factors and to identify individuals and groups who are at risk so they can be offered targeted interventions to reduce risk. The prevention initiative proposed in this Plan and the Ontario Health Study, which was launched recently across the province, are examples of programs that create opportunities for new prevention-oriented research that can be launched with support of both CCO and partnering organizations. Also, the new Occupational Cancer Research Centre brings a focus on preventing occupational cancers by identifying and eliminating exposures to carcinogens in the workplace.
2. **Integrated Screening.** Researchers across Ontario are doing studies that aim to discover new techniques to detect cancer sooner, with the goals of improving existing screening programs, and expanding them to include cancers for which screening is not yet feasible. The integrated screening initiative proposed in this

Plan creates new opportunities for research that can lead to improved effectiveness and efficiency of screening in Ontario, and advanced knowledge for cancer control programs worldwide.

3. **Safe, high-quality care.** A major research initiative is in progress to capture data about the adverse effects of routinely administered radiotherapy and chemotherapy. With this information, we can identify factors associated with side effects. Research is also under way to find more effective therapies that achieve greater benefits with no increase in side effects.
4. **Patient experience.** Investigators are working to make sure data are assembled in a way that can be used to answer questions about how to improve the patient experience in different phases of the cancer journey.
5. **Models of care delivery.** Several research projects are now under way to compare different methods of care delivery.
6. **Personalized medicine.** Studies are being conducted to find molecular markers and other factors that will identify people who have an increased risk of developing cancer, and identify more effective patient therapies. Research is being conducted to determine how a patient's molecular makeup influences response to commonly used and investigational therapies.

Investigators are working to make sure data are assembled in a way that can be used to answer questions about improving the patient experience.

Photo courtesy of Princess Margaret Hospital part of University Health Network.

Surveillance

Cancer surveillance is the systematic collection, analysis, interpretation and dissemination of information related to cancer. Analysis of cancer trends, risk and protective factors, survival and late effects of cancer support the development and evaluation of prevention strategies, as well as identification of priorities for further research. Over the next four years, CCO's surveillance program will create profiles of cancer risk and the actions that can be taken to reduce the risk of developing cancer. These will be core to the development of the online tool for individual Ontarians to assess their cancer risk.

We are eager to compare our cancer system both nationally and internationally. We are taking part in an International Cancer Benchmarking Project where the performance of cancer systems is compared across several countries. We are supporting the Canadian Partnership Against Cancer in its provincial comparison of cancer control strategies. We will also participate in the CONCORD 2 initiative, which is a planned international collaboration to assess cancer survival for a number of cancers using standardized data and methods. Surveillance will continue to support the Aboriginal Cancer Strategy through developing indicators to monitor system quality Cancer Strategy and identify gaps, needs and progress.

"As primary care lead for CCO, my role is to be the lead physician in Toronto Central LHIN in facilitating the integration of primary care with the cancer care system and vice versa, the merger of the two systems. This was a bold initiative taken about two years ago because it was recognized by CCO that primary care has a key role to play in the delivery of cancer care to our patients. In fact, the involvement of primary care has been shown to reduce the morbidity and mortality of cancer patients."

Dr. Sandy Buchman
Regional Primary Care Lead,
Toronto Central Regional Cancer Program

Primary Care Engagement

A key focus of this Cancer Plan is to strengthen our partnership with primary care providers, who play a key role in the patient's journey with cancer. Primary care providers are particularly well positioned to:

- encourage patients to adopt healthier lifestyles that will prevent cancer;
- encourage patients to participate in early detection and screening programs;
- make earlier diagnosis and appropriate referrals;
- support patients undergoing treatment; and
- provide high-quality follow-up care after cancer treatment.

Over the next four years, our Primary Care Strategy will expand to enable improved cancer care throughout the cancer journey, from prevention and screening to end-of-life care and survivorship.

A number of initiatives are designed to ensure that primary care providers have the tools and support they need to play a more active role as this Cancer Plan is implemented. These initiatives aim to improve the quality of care provided to patients at risk or with cancer during prevention, screening, early diagnosis, treatment and care following cancer. They include:

- developing regional primary care cancer leadership networks to spread best practices;
- forming a provincial primary care and cancer "Community of Practice" to test and refine new quality improvement initiatives;
- recruiting regional family physician leads for prevention, screening, diagnostic assessment, treatment and survivorship; and
- establishing nurse practitioner and Aboriginal primary care lead networks.

Pharmacoeconomics

A key focus of this Cancer Plan is to ensure value for money while improving patient outcomes and satisfaction. To meet this objective, we established the Pharmacoeconomics Research Unit (PE Unit) in 2007.

The PE Unit's primary mandate is to conduct, evaluate and explain cost-effectiveness analysis of cancer drugs and technologies under review for funding consideration.

Often, the evidence required to make a good decision regarding a drug's value does not exist. For example, research studies tend to focus on only a select group of patients for a short period of time. However,

clinicians may want to use a new drug for a wider variety of patients over a longer period of time. While economic analysis cannot resolve all information deficiencies, it can determine the significance and size of these limitations and how they will affect a drug's expected cost or effectiveness. In short, the PE Unit helps by using health economics methods to determine the value for money of new drugs when a decision is unclear. Economic evidence generated from modeling and uncertainty analysis provides decision-makers the information needed to make evidence-informed policies and decisions.

Pharmacoeconomics helps ensure value for money while improving patient outcomes.

Photo courtesy of R. S. McLaughlin Durham Regional Cancer Centre part of Lakeridge Health.

Opening new fronts in cancer fight

These are exciting times in cancer research.

"We are getting closer to an understanding of the driving mechanisms underlying specific cancers, which will lead to more effective treatment. This area of research is just exploding," says Dr. Joe Pater, Vice President, Clinical and Translational Research, adding that major advances are being made on two fronts.

According to Dr. Pater, we have a better understanding than ever before of the basic molecular mechanisms of cancers, why they develop, and how they thrive. This is laying the foundation for introduction of personalized medicine, one of the strategic thrusts detailed in this Cancer Plan.

"We are also seeing the results of earlier research being translated into practice to improve patient outcomes," Dr. Pater said. For example the risk of someone dying of breast cancer has gone down dramatically because a better job is being done of screening to catch cancers early, and improved treatments are available when breast cancer does occur.

Ontario a global leader

Ontario is among the world leaders in cancer research. With $200 million a year invested in publicly funded cancer research, Ontario is home to some of the world's leading cancer researchers and world-class institutions, such as the Ontario Institute for Cancer Research, and universities and hospitals across the province.

"More than half of all the cancer research conducted in Canada is done right here in Ontario. Ontario takes a back seat to no other jurisdiction in the world when it comes to this research. It is world-leading," Dr. Pater said.

Knowledge Translation and Exchange

Knowledge Translation and Exchange (KTE) refers to a dynamic process that involves getting the right knowledge into the hands of the right people to help drive quality, accountability and innovation. Ultimately the goal of KTE is to help close the gap between what we know and what we do by facilitating the movement of knowledge into action. Knowledge is based on research evidence and best practices, and is guided by experience (clinical, patient, organization).

The dissemination of this knowledge is supported by CCO's relationships, partnerships and accountability structures, including provincial councils, clinical leads, committees and regional networks. Additionally, evidence is commonly disseminated through peer-reviewed publications, embedded into electronic tools such as computerized physician order entry, and is a foundation for funding decisions in programs such as the New Drug Funding Program. Strategies for facilitating knowledge exchange include support for communities of practice, provincial rounds, educational mentorship programs, online collaboration, improvement collaboratives and informal networks.

The dissemination of knowledge into the hands of the right people helps drive quality, accountability, and innovation.

Photo courtesy of Juravinski Cancer Centre part of Hamilton Health Sciences.

The 2011–2015 KTE strategy calls for:

1. Making knowledge more accessible at the point of care. This will take the form of condensing guidelines and making them searchable and viewable on a hand-held mobile device, creating decision aids and producing interactive electronic clinical decision support systems.
2. Producing innovative knowledge products as new evidence emerges. This will include cancer risk reduction information targeted at the public; survivorship information for cancer patients; and information for physicians to help guide what tests to do and how to interpret the results in the emerging field of personalized medicine.
3. Continuing to evaluate the effectiveness of specific KTE approaches to determine which work best.

Partners

Our strategy is based on strong partnerships with all key stakeholders. The most important of these is with cancer patients, who are the focus of all of our activities, and their families. In addition we have strong partnerships with:

- the Ontario Ministry of Health and Long-Term Care, both as our principle source of funding and in providing advice on cancer control. This relationship is fundamental to our success in achieving all of our key initiatives;

- Regional Cancer Programs, hospitals, provincial agencies with cancer in their mandate;
- healthcare service providers including oncologists and other specialists, family physicians and nurses;
- the Ministry of Health Promotion and public health units with whom we work on prevention and screening initiatives;
- the Canadian Cancer Society and other charitable agencies focused on reducing the burden of cancer; and
- the Canadian Centre for Applied Research in Cancer Control (ARCC), as a national centre dedicated to research on cancer health economics, services, policy and ethics.

For cancer screening, prevention, surveillance and research programs, there are numerous additional partners including:

- the Ontario Agency for Health Protection and Promotion (OAHPP), and
- the Ontario Institute for Cancer Research.

The inputs of all of these partners are reflected in the strategic priorities of this Cancer Plan.

Volunteers like Pat Smallwood (L) and June Roberts (R) help put a more human, personal touch in the lives of patients during their cancer journey.

Photo courtesy of R.S. McLaughlin Durham Regional Cancer Centre part of Lakeridge Health.

Funding Levers

CCO uses funding for cancer services as a key lever to advance improvements in the cancer system. Volume funding for growth in activity for screening, diagnosis and treatment is allocated and funded on a per patient basis and is based on provincial standards, guidelines and principles that promote improvements in access and quality. In return for volume funding, hospitals commit to implementing quality standards and providing data that allow us to report to the Regional Cancer Program, the hospital and the public on system performance.

A second funding lever mechanism is project-specific infrastructure funding provided to hospitals and Regional Cancer Programs and based on specific initiatives contained in the Ontario Cancer Plan.

A third funding lever is the provision of regional clinical leadership stipends accountable through the RVP but with each regional clinical leader working as part of a provincial program team.

We will continue to promote the use of these funding levers, tied to performance, as a key strategy to ensure the successful implementation of this Plan. We will undertake a number of initiatives to strengthen the use of funding levels:

> "We have a long and positive history with Cancer Care Ontario and an especially strong relationship in key areas such as prevention, information, leadership, research and regional collaboration."
>
> Martin Kabat,
> *Chief Executive Officer, Canadian Cancer Society, Ontario Division*

- Provide incentives and claw-backs for volume-based programs based on performance.
- Align volume funding for MRI and CT scanning provided through the Ministry of Health and Long-Term Care and CCO's Access to Care Program, with quality and access improvements in the diagnostic phase of the journey for patients with suspicion of cancer.
- Align costing and payment methodologies with Ministry of Health and Long-Term Care directions for hospital payment.

Cancer Quality Council of Ontario

We are committed to reporting publicly on performance, both to be accountable and as a tool to continually improve the cancer system. The Cancer Quality Council of Ontario (CQCO) is an arm's length advisory group established in 2002 to guide quality improvements and report publicly on the performance of the cancer system. This is done annually through the Cancer System Quality Index (http://csqi.cancercare.on.ca). The CQCO also identifies and assesses gaps in cancer system performance and quality, and advises on planning and strategic priorities.

Recently, the Quality Council expanded its mandate to include international benchmarking as a means of monitoring Ontario's performance and comparing it against world leaders. In the coming years, the Council will support our strategic priorities through:

1. Annual environmental scanning to identify issues and trends at the international level with potential impact on Ontario's cancer system;
2. Twice-yearly reviews where Ontario clinical leaders come together with international experts to review quality gaps or existing cancer system programs, analyze relevant issues, and, based on international best practice, make recommendations regarding strategic directions and improvements;
3. Research and development of new indicators, including the identification of international comparators, on equity, effectiveness, efficiency, patient experience and outcomes;
4. The recognition of significant contributions to quality or innovation in the delivery of cancer care in the annual Quality and Innovation Awards; and
5. Special studies that examine selected aspects of quality of cancer care in Ontario.

Together, these initiatives will allow us to measure progress toward our goal of being the best cancer system in the world.

In summary

With this Cancer Plan we continue our work together to achieve a shared vision of creating the best cancer system in the world.

The effective prevention, detection, treatment and care of cancer patients in Ontario require action on many fronts across our very large geography. This Plan provides the strategic direction required to ensure that the efforts of everyone involved in the cancer system are sustained, coordinated and deliver the best value for money.

The strategic priorities in this Plan reaffirm and expand upon our longstanding commitment to quality and a patient-centred approach at every stage of the cancer journey. As such, this Plan is aligned with government priorities including the government's healthcare transformation agenda and Bill 46, the *Excellent Care for All Act*.

This Plan incorporates what we have learned since 2005 about what works and why. We will broaden and deepen the application of this knowledge as we continue the transformation of Ontario's cancer system.

This transformation cannot take place without the active involvement and support of Ministry of Health and Long-Term Care, clinical, research and management leaders, Regional Cancer Programs, family doctors, the Canadian Cancer Society, patient groups and our many other partners.

This Plan belongs to all those working in and being cared for by the cancer system. We all have ownership and everyone is responsible for ensuring this Plan's success.

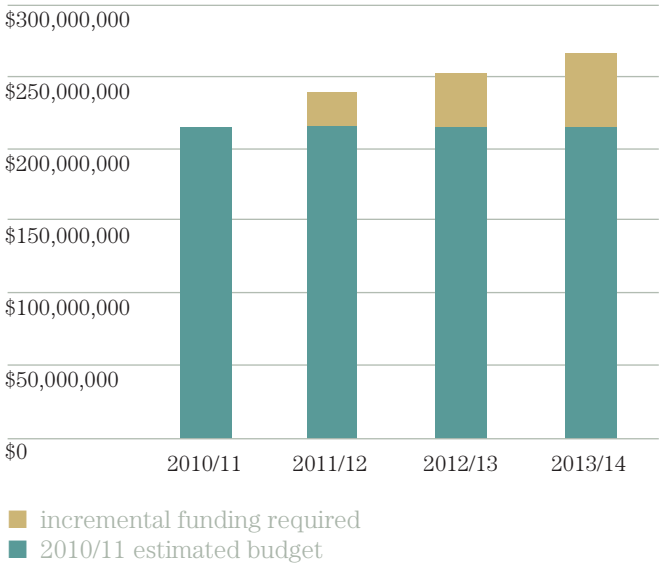
Investment strategy

Over the four years of the Ontario Cancer Plan, the total forecasted incremental funding required is approximately $800 million. The figures below show the estimated funds required for treatment volumes, screening volumes, cancer drugs and capital expenditures (over the first three years of this plan.)

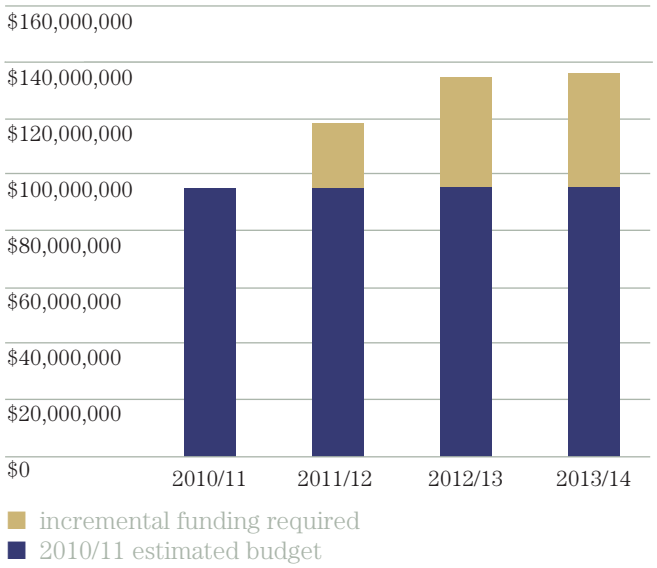
Major expenditures on cancer

Total estimated annual expenditures for cancer treatment volumes

Total estimated annual expenditures for cancer drugs



Total estimated annual expenditures for cancer screening volumes



*remaining budget is for innovations in quality and corporate infrastructure

Total estimated annual expenditures for capital investment

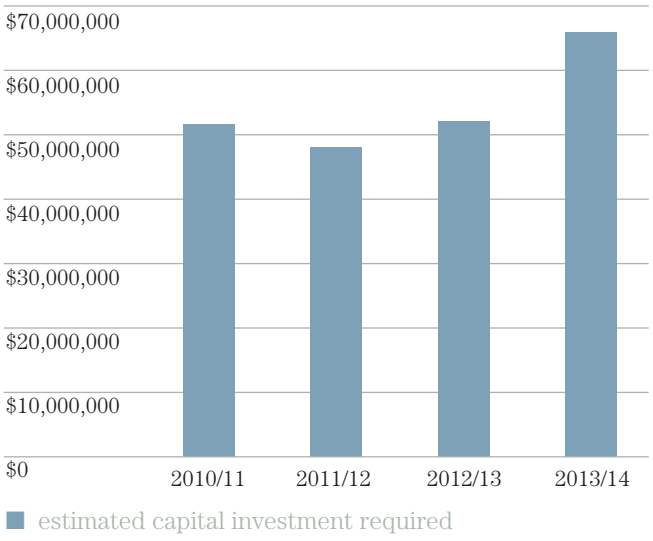


Photo courtesy of Carlo Fidani Peel Regional Cancer Centre at The Credit Valley Hospital.

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