
VICTORIAN COMPREHENSIVE CANCER CENTRE

STRATEGIC PLAN

2016 - 2020

A partnership to control and cure cancer



VICTORIAN
COMPREHENSIVE
CANCER CENTRE

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Vision

The VCCC will save lives through the integration of cancer research, education and clinical care. Through innovation and collaboration, the VCCC partners, in conjunction with others, will drive the next generation of improvements in the prevention, detection and treatment of cancer.

Mission

To improve the outcomes of Victorians affected by cancer directly and through leading and influencing by example.

Principles

Patient-focused – delivering experiences and outcomes that patients want

Evidence-based – supported by science

Excellence and best-practice – benchmarking with the best in the world

Collaborative and cooperative – working in partnership

For all Victorians – benefiting the whole community

victorianccc.org.au



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MESSAGE FROM OUR CHAIRMAN AND EXECUTIVE DIRECTOR

The Victorian Comprehensive Cancer Centre is a once-in-a-generation chance to transform the way we manage cancer in our community and our hospitals. It is built on the simple concept that we can substantially accelerate our journey to better cancer results by bringing together excellent cancer research, best clinical care and education and training.

We know this approach works. The VCCC partnership is modelled on the successful Comprehensive Cancer Centre Program that has been the flagship of cancer control in the USA for 40 years. This program requires that the research excellence extends to population health research, basic or laboratory research and clinical research that are themselves linked to extend the importance of the research. This, in turn, enables the best clinical care as patients get immediate benefit from research breakthroughs. It requires that we reach out to other cancer programs, general practice and the community to embed better cancer prevention and early detection and to disseminate emerging better practices.

Over the last six years, the VCCC partnership has worked to assemble the key elements necessary for Australia's first comprehensive cancer centre based on the principles of this exacting model. Ten successful Melbourne institutions are working collaboratively to challenge and change the way we manage cancer using this successful approach. Together these partners have the will, expertise, programs and populations to consolidate this task over the next five years.

As the number of cancer patients in our community grows substantially, as our best therapies become increasingly demanding and expensive and as the community is looking for better immediate results for cancer, the VCCC partnership is well positioned to provide solutions. Our approach, using an evidence-based model and strong collective action, will make an important contribution to more effective prevention and improved treatment of cancer, benefitting the whole community.



Richard G. Larkins

**Professor Richard Larkins AO
Chairman, VCCC**



Jim Bishop

**Professor Jim Bishop AO
Executive Director, VCCC**

INTRODUCING THE VCCC PARTNERSHIP

Who we are

The Victorian Comprehensive Cancer Centre (VCCC) was established in 2009. Its vision is: *"...to save lives through the integration of cancer research, education and patient care."*

It will deliver three benefits for Victoria:

- a reduced burden of cancer;
- a world-class centre of excellence in cancer; and
- increased investment in biomedical research.

The VCCC has two components:

1. the project – the construction of new, purpose-designed facilities adjacent to the Royal Melbourne Hospital in Parkville to deliver cancer services, research and education and training – due to be operational by mid-2016; and
2. the program – a collaborative cancer control program to be delivered by a partnership of leading Victorian organisations committed to reducing the burden of cancer.

The program is based on the proven comprehensive cancer centre model of the National Cancer Institute (NCI) in the United States, which has been operating for over 40 years. The comprehensive cancer centre model accelerates the discovery, dissemination and adoption of better ways to prevent, diagnose and treat cancer through the integration of comprehensive programs of cancer research, education and clinical care.

The key features of the NCI model have been adapted and strengthened through a partnership approach, to create a local comprehensive cancer centre model relevant to the Australian setting.

Originally established with six partners, the VCCC partnership has grown to ten, comprising seven major public hospitals, two leading medical research institutes and Australia's best research university:

Peter MacCallum Cancer Centre	Western Health
Melbourne Health	Austin Health
Royal Women's Hospital	Walter and Eliza Hall Institute
Royal Children's Hospital	Murdoch Childrens Research Institute
St Vincent's Hospital (Melbourne)	University of Melbourne

In November 2009 the partners formed an unincorporated joint venture for the purpose of establishing a comprehensive cancer centre in Victoria. To manage the collaborative program of the partnership and help realise the vision, the partners established a company, VCCC Ltd.

It is important to differentiate between the VCCC partnership and its cancer control program and the new purpose-built VCCC facilities.

This is the Strategic Plan of the VCCC partnership for its collaborative cancer control program.

What we do

The VCCC partners:

- deliver world-class care for cancer patients – from diagnosis, through treatment, to follow-up care and palliative and end-of-life care;
- conduct comprehensive, high-quality research on cancer – from the fundamental biology of cancer, through translational and clinical research and clinical trials, to population, public health, behavioural and prevention research, to health systems and health services research;
- provide cancer education and training programs and information about cancer – for clinicians, researchers, consumers and the community;
- collect and analyse data on cancer clinical care and patient experience and outcomes – to identify and target areas for improvement; and
- implement and share evidence-based improvements in cancer prevention, detection and treatment.

The VCCC partnership enhances collaboration and coordination between the individual partners in these important activities. This enables the partnership, collectively, to deliver a highly strategic program of work that integrates research, education and clinical care to substantially improve outcomes for patients with cancer.

Australia's largest cancer program

Between them, the VCCC partners are already making major contributions to *Cancer Control*, one of Australia's nine National Health Priority Areas.

With around 1400 cancer researchers across the ten partner institutions, 360 PhD students in cancer research and \$110 million in annual cancer research income, the VCCC partnership is by far the largest cancer research program in Australia. The quality and impact of VCCC cancer research also leads Australia – 40% of Australia's top 1% most cited cancer papers are authored by VCCC staff.

VCCC researchers also have a high profile on the world stage. For 2006-2013, cancer publications with VCCC authors had a relative citation impact of 2.06, compared with a world average of 1.0 (and Australia's average of 1.61), and were ahead of world benchmarks in all tumour streams.

VCCC researchers are now very collaborative: 75% of their publications are with external collaborators and 40% within the VCCC partnership. They are also highly valued by the international research community, publishing 58% of their papers with international collaborators from 120 countries.

The VCCC partners have had considerable commercial success with their intellectual property, with numerous patents licensed to industry, new therapeutics developed, clinical trials for product registration completed and underway and a number of products developed from their IP now in the market. They have also had significant successes leading and participating in industry-sponsored product-registration trials for non-VCCC products.

Between them, the VCCC partners provide clinical services to around 40% of Victoria's cancer patients (over 60% for some types of tumour) and enrol around 80% of the patients who are on cancer clinical trials in Victoria. The partners provided over 1.7 million occasions of service in relation to cancer over the last five years.



KEY ACHIEVEMENTS OF THE VCCC PARTNERSHIP 2010-2015

Embedding genomics in everyday care

In an Australian first, the VCCC's Molecular Tumour Board brings together clinician researchers and scientists to interpret genomic data and advise clinicians on treatment options that best match the genomic profile of the patient's tumour.

Australia's first cancer health services research program

The BUPA Foundation is supporting the VCCC to conduct the first large-scale, comprehensive linkage of hospital data with general practice data for cancer patients, to create a Cancer Health Data Platform for health services research that will reduce impediments to high quality care being available for all cancer patients.

Understanding what matters to cancer patients

The VCCC has used an internationally-recognised Cancer Patient Experience Survey to measure patients' views of the healthcare they received in VCCC hospitals, with results driving quality-improvement projects to enhance patient experience.

Targeting bowel screening to those most at risk

The VCCC is a partner in the *Centre for Research Excellence Reducing the Burden of Colorectal Cancer by Optimising Screening* which is developing the first personalised, comprehensive tool with all known risk factors for colorectal cancer, to enable more evidence-based, cost-effective screening for colorectal cancer.

Reforming clinical trials

The VCCC is supporting the Research Excellence (REx) initiative, in which all VCCC hospitals and others are working together to remove impediments to the timely start-up of new clinical trials that benefit cancer patients.

Improving quality-of-life for cancer patients across Victoria

The VCCC has completed a state-wide Patient Reported Outcome Measures survey that assessed patients' quality of life for five common cancers, which is enabling interventions to target patients with the greatest unmet needs.

Personalised cancer medicine

VCCC-supported projects have used genomic information to predict which targeted therapies are most likely to be effective in individual cancer patients. The VCCC Cancer Genomics and Personalised Medicine program is also supporting the cancer arm of the Melbourne Genomics Health Alliance.

A culture of measuring, benchmarking and improving

The VCCC is conducting: surveys of cancer patient experiences and patient reported outcomes post-treatment; audits of cancer research publications, impact and funding; audits of clinical activity, quality and trials; and surveys of cancer research student experiences.

New research technologies

VCCC has won major funding from the Australian Cancer Research Foundation for cutting-edge technologies, including the ACRF Translational Proteomics Facility and the ACRF Breakthrough Technologies Laboratory.

Developing tomorrow's leaders

The VCCC is delivering a customised program to build skills in collaborative leadership in the complex healthcare environment, to develop the skills of outstanding clinicians and researchers to be successful in future leadership roles.

KEY ACHIEVEMENTS OF THE VCCC PARTNERSHIP 2010-2015

A magnet to attracting outstanding talent – creating new research opportunities

The VCCC has already attracted six new professorial chairs in cancer research – in Melanoma and Skin Cancers, Cancer Nursing Translational Research, Cancer Medicine, Medical Genomics, Primary Care Cancer Research and Leukaemia Research – and has a further seven under recruitment in Cancer Health Services Research, Surgical Oncology, Psycho-oncology, Palliative Medicine, Gynae-Oncology, Translational Proteomics and a Director of Cancer Research for the University Cancer Program.

Attracting research funding to Victoria

With \$8.5 million in State funding support over seven years from 2009-2016, The VCCC has leveraged over \$40 million in new funding for its joint cancer programs.

Embedding research and education in cancer care

The VCCC has already appointed Research and Education Leads for three tumour streams to drive better integration of research, education and care.

Working effectively in partnership

VCCC successfully collaborates on joint projects across the partnership and with many non-VCCC entities, including Western and Central Melbourne Integrated Cancer Service, Cancer Council Victoria, BioGrid, Victorian Cancer Registry, Cancer Trials Australia, Cancer Therapeutics CRC and Melbourne Genomics Health Alliance.

RECENT ACHIEVEMENTS OF THE VCCC PARTNERS

Peter MacCallum Cancer Centre

Since 2011, the **Peter MacCallum Cancer Centre's** fully integrated laboratory and clinical research have precipitated major change in understanding the origins of cancer and in defining and testing new treatments in early phase and advanced clinical trials. Underpinned by the Australian Ovarian Cancer Study, the clinical management of ovarian cancer was re-defined, with recognition that disease subtypes are distinct and require different therapies, and prompting re-casting of the national guidelines for genetic testing. Peter Mac clinician-researchers have developed more effective hormonal therapy for young women with hormone-sensitive early breast cancer in the SOFT-TEXT clinical trials involving >5000 premenopausal women. Peter Mac conducted a world-first trial of chimeric antigen receptor (CAR) T cells targeting the antigen Lewis Y in acute myeloid leukaemia, prelude to a major upcoming clinical trial in patients with Lewis Y+ lung cancer, funded by Juno Therapeutics (US), with the cell vaccines produced at Peter Mac's GMP-certified Centre for Blood Cell Therapies. Peter Mac's lung service played a critical role in establishing ALK rearrangements as a therapeutic target in lung cancer. Peter Mac conducted the original phase I clinical trial and led subsequent international phase III trials that established crizotinib as the new standard of care, leading to its approval for lung cancer worldwide. Peter Mac has led change in the global standard of care of patients with advanced melanoma through the use of BRAF inhibitors, initially alone and later in combination with MEK-inhibitors, while also leading research defining the use of radiotherapy for melanoma with regional metastases.

Walter and Eliza Hall Institute

The **Walter and Eliza Hall Institute** has a long history of making fundamental discoveries about the biology of cancer, developing drug candidates based on the discoveries and partnering with industry to progress clinical testing. In 2011 the first clinical trials of a new anti-cancer agent developed in a partnership between Genentech and AbbVie, venetoclax, began, based on the 1988 discovery of the function of Bcl-2 and 15 years of subsequent research at the Institute on defining the mechanisms and role of programmed cell death in cancer. The compound has recently been accorded breakthrough drug status by the US FDA. In 2014, Institute researchers working with CSL Ltd found that blocking the action of interleukin-11 prevented growth and spread of tumours in models of stomach and bowel cancers, making it a promising new drug target. Institute research discovered breast stem cells in 2006 and recently confirmed that the progeny of these cells are the likely origin of familial breast cancer in women caused by *BRCA1* mutations. Early results in developing a bowel cancer blood test to identify patients at greater risk of the cancer returning have shown cancer recurred in 80% of those with detectable tumour DNA in their blood, but only in 8% of those without. This research has led to trials with Western Health and Melbourne Health offering chemotherapy to patients with circulating tumour DNA.

Western Health

Western Health has a strong record in health services research resulting in new cancer service models. Successes include:

- SMART (Symptom Management, Assessment and Referral Team) Clinic to improve patient management and symptom control in the outpatient setting by comprehensive assessment and integration of care between radiation and medical oncology, pain service, psycho-social access, palliative care, general practitioners and community pharmacists;
- SURC (Symptom Urgent Review Clinic) for urgent review of patients, bypassing Emergency and reducing the need for admission, by supporting patients at home who are suffering from side-effects after chemotherapy;
- RAGE (Rapid Access to Gastrointestinal Endoscopy) pathway for appropriate prioritisation and management of suspected gastrointestinal cancers for general practitioners through improved access to endoscopy.

Western Health also has a substantial role in cancer clinical trials, with some accruing the largest numbers of patients in Australia.

RECENT ACHIEVEMENTS OF THE VCCC PARTNERS

Royal Children's Hospital and Murdoch Childrens Research Institute

The Children's Cancer Centre at the **Royal Children's Hospital** is the major provider of specialist paediatric cancer treatment in Victoria. It is at the forefront of improved cancer outcomes through clinical trials, facilitated by the newly-established Melbourne Children's Trials Centre, integrating clinical trials and participation in international trial consortia on clinical care. Together the RCH and the **Murdoch Childrens Research Institute** provide the only Australian centre for several early-phase global studies, such as the CD19 CAR T-cell project for childhood acute lymphoblastic leukaemia. They are also lead participants in the development of "personalised" cancer management based on the incorporation of molecular characterisation of paediatric cancers into clinical assessment. This is enabled by the Children's Cancer Centre Tissue Bank, one of only three dedicated paediatric cancer bio-banks in Australia and the only one to include the generation of tumour cell lines as a standard part of tumour processing.

Austin Health

Austin Health has been at the forefront of the transformation of contemporary cancer management by personalised therapy involving agents that target oncogenic pathways and the immune system. Researchers at its Olivia Newton-John Cancer and Wellness Centre have been international leaders in these fields, pioneering novel antibodies, immune-stimulating biologics and functional imaging with PET. For example, Ludwig Institute researchers at Austin Health successfully developed and conducted the first-in-human clinical study with a novel anti-EGF receptor antibody, 8o6. The mAb8o6 patent portfolio was licensed to Abbott Pharmaceuticals (USA). Investigators at the new Olivia Newton-John Cancer Research Institute and Austin Health are now actively involved in laboratory research and leading Australian and international multi-centre clinical trials with the humanised antibody ABT-8o6 and an antibody-drug conjugate ABT-414. These trials have shown impressive therapeutic responses in patients with *glioblastoma multiforme* brain tumours and will be evaluated in other tumour types.

Melbourne Health

Melbourne Health has made influential contributions across the cancer clinical trial spectrum, conducting a broad range of early- to late-phase studies. It led the first-in-human trial of venetoclax for patients with blood cancers. Venetoclax belongs to a new class of cancer drug, developed through pioneering research at the Walter and Eliza Hall Institute. There are now over 25 trials of this drug worldwide with ongoing input from VCCC partners that includes translational studies on patient-derived samples. Melbourne Health is leading trials of this drug in solid tumours such as breast cancer. It has excelled in surgical translational research – e.g., leading a major international study of circulating microRNA as a marker for progression in aggressive brain tumours. It has also initiated a successful clinical research ethics streamlining project now being rolled out across Melbourne.

St Vincent's Hospital

St Vincent's Hospital has commenced development of radiation therapy and PET scanning to create an integrated suite of cancer services for its patients. Multidisciplinary cancer meetings (MDMs) are a fundamental component of cancer care at St Vincent's with over thirty meetings conducted across 12 different tumour streams per month. Its research has led to the development of guidelines in the conduct of cancer MDMs, which will be nationally applicable. St Vincent's partnership with Toyota to redesign the Cancer Centre Clinics and Chemotherapy Day Unit has resulted in reduced patient wait times and improved patient experience. The Haematology Clinical Trials Unit is now capable of undertaking phase I, II and III clinical trials in lymphoma, myeloma and myeloid haematological malignancies. St Vincent's clinical trials unit has been the national lead recruiter in many pivotal phase III trials resulting in authorship on practice changing publications. St Vincent's Centre for Palliative Care has set benchmarks and improved practices in the promotion of the needs of carers through the creation of the International Palliative Care Family Carer Research Collaborative, developing the internationally-endorsed *Clinical Practice Guidelines for the Psychosocial and Bereavement Support of Family Caregivers of Palliative Care Patients*.

RECENT ACHIEVEMENTS OF THE VCCC PARTNERS

University of Melbourne

The **University of Melbourne** and Cancer Council Victoria have established PEDIGREE, a collection of cancer registries that facilitate new risk models, penetrance studies of known genes and discovery of new susceptibility genes in cancer. These large-scale studies in breast and colorectal cancer (CRC) have enabled the integration of new genetic information into clinical practice to improve tailored prevention, screening strategies and treatment options for individuals/families at high genetic risk of cancer. The “Melbourne Criteria,” using tumour immunohistochemistry of the mismatch repair gene proteins to identify gene mutations in early-onset CRC patients, is now routine practice, so improving the identification of high risk families, enabling personalised early intervention. They have also demonstrated that screening through colonoscopy is inconsistent with risk.

Royal Women’s Hospital

The **Royal Women’s Hospital** has developed and integrated into routine clinical practice an integrated clinical information system that facilitated patient care, reporting, communication with stakeholders and research. The VCCC was integral to this by funding the development of a web-native system able to be used alone or integrated with an electronic medical record. The Women’s has also shown leadership in developing many innovative models in cancer treatment and survivorship and follow-up care. It worked closely with the Royal Melbourne Hospital to develop an integrated, comprehensive breast reconstruction service offering all forms of immediate or delayed reconstruction to breast cancer patients and those choosing prophylactic mastectomy. It has a dedicated multidisciplinary clinical service for women with menopausal symptoms after cancer and managing surgical menopause in high risk women: this has become a gold-standard of cancer care internationally. And it has been the lead site developing a model of survivorship and follow-up care for breast and endometrial cancer patients. This introduced a planned consultation with a breast-care nurse after definitive breast cancer treatment to implement a survivorship and shared-care plan with the patient’s GP, freeing up hospital capacity for treating more new patients. The successful project is being implemented at other Melbourne hospitals and extended to endometrial cancer. The Women’s has also helped organise three international gynaecological cancer conferences.

CONTEXT

The challenge of cancer for Victoria

Cancer is the leading cause of death in Australia, accounting for three in every ten deaths. It is also the leading cause of total burden of disease and injury. Each year in Victoria, over 30,000 people are diagnosed with cancer and almost 11,000 people die from it – 29 every day. In 2014, cancer deaths in Victoria resulted in the premature loss of nearly 60,000 years of life – more than four times the loss resulting from other major causes of death. The risk of being diagnosed with cancer before the age of 85 is now 1 in 2 for men and 1 in 3 for women.

The annual incidence of cancer is dramatically increasing. By 2025-2029, it is projected that the annual incidence of new cancer diagnoses in Victoria will rise to 41,000, an increase of 39% from 2010-2014. During the same period, deaths from cancer will increase to over 13,000 per year. These increases are driven by the growth and ageing of the Victorian population (the average age of cancer diagnosis in Australia was 65.4 years in 2009), an increase in some cancers and medical success in other diseases such as heart disease.

Victoria has one of the best cancer survival rates in the world. However, although the overall five-year survival of cancer in Victoria has risen to 67% in 2009-13 – up from 49% over the last 20 years – there is a substantial disparity in the results for different types of cancer. While five-year survival rates have improved dramatically and are high for some types of cancer, such as breast (90% in 2009-13) and prostate (94% in 2009-13), for other cancers five-year survival rates remain unacceptably low (e.g., pancreatic – 7%, lung – 17%).

For many people, cancer is now a disease with long periods of survivorship post-treatment. This creates new challenges from ongoing symptoms and appropriate long-term follow-up, including for the health workforce, models of care and health system costs.

Cancer is also an expensive disease. Cancer care has all the main drivers for high costs – high case volume, extensive use of inpatient beds, expensive imaging and pathology, high cost drugs, complex multi-modality care and expensive end-of-life care.

The total health system costs directly attributable to cancer in Australia (excluding screening) was \$4.526 billion in 2008-09, a 64% increase in just eight years from 2000-01. The increasing cost of treatment is due to the development of new options that are available to cancer patients, including new approaches to early detection, new drugs and drug uses, new surgical devices, new radiation treatment methods and new technologies and imaging to diagnose and monitor patients.

A much larger additional economic burden is imposed on society by the indirect costs of cancer – estimated at 30 times the direct health costs. These come from the years-of-life lost through premature death, the financial impact on patients and their families and carers from the out-of-pocket expenses and inability to work normally and lost productivity to the economy.

The rising case load of cancer and the high and rising cost to the health system of managing the disease create serious difficulties for our future capacity to sustain and improve current cancer survival rates. The dual challenge is to address the trauma of cancer while containing the looming blowout in costs.

The operating environment

Variations in the use of best-practice treatment and in outcomes create inequities for many cancer patient populations. Cancer outcomes differ by Aboriginal and Torres Strait Islander status, outer metropolitan and remoteness area and socioeconomic status. For all cancers combined, Indigenous Australians experience higher incidence and mortality rates than non-Indigenous Australians. Survival is lower for people living in remote areas compared with those in major cities – in Victoria, survival from cancer from 2009-13 for residents of metropolitan Melbourne (69%) was better than for residents from the rest of Victoria (65% overall, 62% in Gippsland and 64% in Grampians) – and mortality rates rise with increasing remoteness. Incidence and mortality rates rise and survival from all cancers fall as a person's socioeconomic status decreases.

Translation of cancer research evidence into improved practice and policy remains slow, inadequate and patchy. It has been estimated that the average time lag between a research discovery and its routine use in patients is around 15 years. This delays access to better models of care and therapeutics and introduces inequalities due to variation in the speed of adoption of improvements in different locations. The low participation of Victorian cancer patients in clinical trials (5% on average across the VCCC hospitals, compared with over 22% in the National Health Service in England) limits many patients early access to better treatments and better outcomes.

Improving cancer care increasingly involves the introduction of new technologies (imaging, molecular pathology), new drugs (biopharmaceuticals and immunotherapies) and new models of care. The current cancer workforce is not appropriately skilled to deliver many of these changes and current training programs do not adequately address these skill-needs.

The cancer patient experience in Victoria has not been well understood. Cancer remains the most feared diagnosis of any disease by the community and the impact of diagnosis and treatment on the individual patient and their family and carers is large. Additional focus is needed to ensure patients' experience is routinely used to inform better ways of managing care delivery throughout our system.

Community pressure on governments and the health system to provide the best available standard of care is rising due to increasing health literacy and higher expectations of access to the latest treatments and technologies.

Cancer control in Victoria is a crowded space, with many organisations acting in a fragmented way. The distinct health-system responsibilities of State and Commonwealth Governments make the delivery of consistent cancer policy and funding models difficult. The participation of both public and private healthcare providers and the complexity of care make coordination of cancer care challenging. The overlap in roles and activities of many non-government organisations, cancer councils and other charities creates confusion and inefficiency. And the research and education sectors have been encouraged for many years to be highly competitive, which has impeded collaborative and cooperative approaches from being properly supported.

Enhancing cancer care and research, as for other health disorders, is facing a tight fiscal environment, with State and Commonwealth governments looking to contain rising health expenditure. Funding for health research is under particular pressure, with the main medical research funding body in Australia, the National Health and Medical Research Council, facing a flat budget through the outlook period.

Hope

Although cancer presents serious challenges to our community and our health system, there are grounds for optimism about the future.

Recent, fundamental discoveries about the biology of cancer, especially from genomics, are creating new understanding about how to classify cancers and leading to new ideas about how to develop targeted therapies. Better understanding of how cancer evades the immune system is opening up novel strategies to harness the immune system to fight the disease. Research on prevention, screening and early detection is being implemented to reduce the incidence of cancer and increase the effectiveness of treatment through earlier intervention.

These and other advances in cancer research and treatment are solid grounds for hope that future efforts will reduce the cancer burden and improve outcomes for cancer patients.

Creating a comprehensive cancer centre for Victoria

In 2009, the State and Commonwealth Governments invested in the VCCC facilities and the collaborative partnership with the intent to create Australia's first comprehensive cancer centre. This was based on the principles of the NCI comprehensive cancer centre model as a proven model for improving outcomes for cancer patients.

Under the NCI designation, comprehensive cancer centres must demonstrate research excellence in each of three areas – laboratory, clinical, and behavioural and population-based research – and have research links between these disciplines. They are also expected to initiate and conduct innovative, early-phase clinical trials and to provide leadership and recruit patients for trials. They must also conduct activities in outreach and education and provide information on advances in healthcare for both healthcare professionals and the public.

The “comprehensive” designation – NCI's highest ranking – is awarded after a rigorous evaluation process which shows that the centre pursues *scientific excellence* and has the capability to *integrate diverse research approaches* to cancer. The criteria include:

- strong core of basic laboratory research in several fields, such as biology, chemistry, immunology and molecular genetics;
- mechanism for transferring research findings into clinical practice;
- record of innovative clinical research studies in the community served by the centre;
- program of high-priority clinical trials for therapies with unusual promise;
- program of cancer prevention and control research;
- program of research training and continuing education for health care professionals;
- wide range of cancer information services for patients, health professionals and the surrounding community; and
- commitment to community services and outreach activities related to cancer prevention and control.

The key to the success of the comprehensive cancer centre model is how research is brought together with education and clinical care – linked, integrated and supported.

This creates the critical mass and broad expertise necessary for high-impact research to discover new, innovative ways to control cancer and apply them. It also provides the necessary environment to accelerate the translation of such discoveries into better ways to manage cancer, train cancer specialists in best-practice using the latest evidence, educate the community about cancer and create a centre-of-excellence for people affected by cancer.

Together these are the foundations of the NCI comprehensive cancer centre model and, broadly, the core principles of the model can inform the design of a comprehensive cancer centre specifically for Victoria.

However, the governance, operating and funding arrangements for health service delivery, research and education and training in Australia are quite different from those in the United States. To create a comprehensive cancer centre here requires the NCI model to be adapted to the Australian setting through a customised approach. This must reflect our local conditions and the unique strengths of our organisations.

The solution is the VCCC partnership.

The VCCC partners, individually or collectively, have demonstrable strength in most of the areas required for a comprehensive cancer control program and activity in all. They plan to build on areas of strength and build areas that are currently gaps but essential for optimal cancer control and integrate them to fully meet the profile of the proven comprehensive cancer centre model.

This Strategic Plan provides the agenda to complete the creation of Australia's first comprehensive cancer centre, as envisaged in 2009.

The opportunity

Future improvements in cancer outcomes will come from new evidence from research that shows better ways to prevent, diagnose and treat cancer and better ways of delivering care, and translating this evidence into system-wide, routine practice and policy.

The VCCC partnership is well placed to deliver such benefits for cancer patients in Victoria.

Developing collaborative ventures is hard. The VCCC partnership has taken time to develop. But over the six years since its formation, it has matured and achieved a high level of trust and a deep, shared understanding of its combined strengths and purpose.

The strength of the individual VCCC partners and their unique partnership approach that draws and improves on the NCI model has created a powerful alliance.

The partnership is already delivering results through collaboration and collective action around new programs. It has developed new, innovative initiatives – such as Australia's first molecular tumour board and first cancer health services research data platform. It has shown leadership in taking on state-wide activities that are a necessary part of any cancer control program – such as data collection and analytics in cancer patient experiences, a Patient Reported Outcomes Measures survey and a lung cancer audit. It has forged effective working relations with other Victorian organisations with important roles in cancer control – such as the Western and Central Melbourne Integrated Cancer Service, Cancer Council Victoria, the Melbourne Genomics Health Alliance, Cancer Trials Australia, the Melbourne Genomics Health Alliance and the Cancer Therapeutics Cooperative Research Centre.

And the VCCC partnership has grown – to ten members – expanding the expertise, patient populations and relationships available to the VCCC program.

The VCCC partnership is now ready to make a bigger difference.

It is by far the largest cancer research program in Australia, delivers outcomes for cancer patients that are amongst the best in the world and is well advanced to becoming a comprehensive cancer centre.

It is ready to take on broader roles as envisaged in 2009 – including state-wide roles if required – to create new knowledge about cancer through a broad program of cancer research excellence, to implement better cancer prevention and treatment based on evidence and to provide tangible support to other organisations to improve outcomes for cancer patients across the State.

It is ready to participate in the practical research challenges under the new national Science and Research Priorities by undertaking health research that will lead to: *better models of care and services that improve outcomes, reduce disparities for disadvantaged and vulnerable groups, increase efficiency and provide greater value for a given expenditure; and effective technologies for individuals to manage their own health care.*

The pending completion of the new VCCC facilities and their transition to full operation in mid-2016 will enable all VCCC partners to fully focus their efforts from 2016-2020 on the VCCC vision – *to save lives through integration of cancer research, education and clinical care.*

This Strategic Plan provides the framework for the collaborative cancer control program of the VCCC partnership for the next five years. The partners are all committed to playing their part in delivering the plan – individually, collectively and cooperatively.

With a supportive State Government committed to medical research, cancer control and the VCCC, the next five years presents a great opportunity for the VCCC partnership to step up its collaborative program, complete its development to become Australia's first comprehensive cancer centre, deliver this plan and substantially reduce the impact of cancer on the Victorian community.

LONG-TERM GOALS

- To deliver the world's best cancer survival rates and cancer patient experience
- To be a recognised global centre-of-excellence in all forms of cancer research and in evidence-based cancer care
- To be an international hub for outstanding cancer education and training

STRATEGIC PLAN 2016-2020

Over the next five years, the VCCC partnership will complete the development of a comprehensive cancer centre for Victoria – modelled on the successful NCI principles and customised to the local Australian operating environment.

The VCCC partnership will focus on delivering better outcomes and better experiences for Victorian cancer patients. It will place the experience of cancer patients at the centre of clinical service delivery. It will measure the quality and outcomes of clinical care and develop a stronger health services research program to use the data to identify how to improve the care and experiences provided. And it will implement more effective ways to get new research evidence adopted into better routine clinical practice across Victoria.

The VCCC partnership is committed to expanding the opportunity for Victorian cancer patients to participate in clinical trials, to accelerate access to new ways to prevent and manage cancer. It will develop and deliver an agreed strategy to deliver more innovative cancer trials – from early first-in-human trials from our research programs to late-phase, practice-changing trials, for industry-sponsored trials and investigator initiated trials, for therapeutics and non-therapeutics trials, and for models-of-care trials and population and cohort studies. It will address remaining barriers to efficient and reliable trial delivery and will implement targeted activities that increase the number of Victorian patients on cancer trials.

The VCCC partners will develop an updated cancer research strategy to deliver a comprehensive program of excellence in cancer research. It will use the great strengths we have in cancer biology to transform the way cancer is treated. This will include developing capacity in areas of need such as cancer prevention and early detection, areas of opportunity such as genomics, immunotherapeutics, proton therapy, imaging and psychooncology, and areas of necessity such as enabling technologies and access to linked data. The partners will endeavour to embed research as a standard part of cancer care.

The VCCC partnership appreciates that a skilled workforce lies at the heart of everything it does and can do. VCCC aims to be the preferred Australian and regional site for cancer training. It will expand education and training opportunities for cancer researchers and the cancer clinical workforce to ensure Victoria has the skills needed to deliver new models-of-care, new cancer diagnostic and treatment technologies and new cross-disciplinary research on cancer. It will ensure the highest quality and experience in the education and training programs it delivers. And it will develop new leaders who can drive the VCCC agenda into the future.

In all its activities, the VCCC partnership will work constructively with other organisations that have relevant expertise, resources, connections and reach. In particular, it will work with organisations, care-providers and patients in regional and rural Victoria to provide tangible support to enhance the quality of treatment and equity of access to the best treatment for all Victorians, wherever they live. It will deepen its existing relationships and build new strategic partnerships to enable all Victorians to benefit from the VCCC's work and ensure that evidence-based improvements in cancer control are implemented across the Victorian healthcare system.

Over the next four years, the VCCC partners will work progressively towards implementing appropriate systems for effective sharing of clinical and research data, to support better, more integrated clinical care and more powerful research.

Together, the delivery of this Strategic Plan will create a comprehensive cancer centre for Victoria, realise the 2009 vision for the VCCC and deliver benefits for all Victorians.

SUMMARY OF PRIORITIES

Priority 1: Improving patient outcomes and experience – using research evidence and performance data to drive better cancer care

- 1.1 Use patient experience as a core foundation to define quality and value in cancer care delivery
- 1.2 Measure quality of care and actual patient outcomes systematically
- 1.3 Develop a high-quality cancer health services research program
- 1.4 Implement an effective framework for timely adoption of new evidence into better routine cancer clinical care across Victoria

Priority 2: Clinical trials – accelerating access to new ways to manage cancer

- 2.1 Develop and deliver a cancer clinical trials strategy to capture innovation from our research program and expand both therapeutics and non-therapeutics trials
- 2.2 Improve cancer clinical trials processes and capacity to meet industry and investigator needs and expectations
- 2.3 Implement steps to increase the impact of cancer clinical trials and the number of cancer patients on trials

Priority 3: Cancer research – discovering the prevention strategies, diagnostics and therapies of tomorrow

- 3.1 Develop and deliver a strategy for a comprehensive program of cancer research excellence, building on existing strengths in cancer biology and therapeutics
- 3.2 Develop a substantial research program in cancer prevention, early detection and diagnosis
- 3.3 Improve access to research enablers that are not well supported through project-based funding streams, including specialised technology, data and expertise
- 3.4 Embed research culture in routine clinical practice as a standard part of cancer care

Priority 4: Education and training – developing the future cancer workforce

- 4.1 Deliver targeted education and training programs for cancer researchers and the cancer clinical workforce
- 4.2 Provide optimal education and training programs as a national and regional training hub
- 4.3 Enhance professional skills of the cancer workforce
- 4.4 Improve the quality and experience of cancer education and training

Priority 5: Working in partnership – delivering effective cancer control

Priority 6: Sharing data – empowering cancer clinical care and research

PRIORITY 1

Improving patient outcomes and experience – using research evidence and performance data to drive better cancer care.

Objectives

- To improve cancer survival and quality of patient experience and reduce disparities in access to care and outcomes by delivering improvements in clinical care based on evidence

Challenges

1. Variations in patient outcomes, pathways-to-care, consistency and quality of cancer care and follow-up and consistency in delivering best-practice care
2. Patchy and poorly-understood cancer patient experience
3. Lack of benchmarking of all aspects of cancer care to evidence-based world's best-practice
4. Lack of readily-available, linked clinical data to support clinical innovation
5. Poor mechanisms for system-wide implementation of research and other evidence into practice to reduce variation in care and improve care models and outcomes

The VCCC's unique offering

Relationships that cover the whole cancer patient journey: The VCCC partners include seven public health services and a Department of General Practice that collectively provide comprehensive care for cancer patients, including mature and evolving programs in wellness, survivorship, palliative and end-of-life care. They are developing relationships with the primary care sector through connections with general practitioners who refer patients, with private service providers and with metropolitan, regional and rural Victoria through established referral pathways. They are well-placed to work in partnership to enhance the quality of cancer care and implement better evidence-based, patient-informed models of care across the State. They also have strong national and international collaborations to define and disseminate best-practice.

A comprehensive cancer research program: VCCC cancer research spans basic, translational, clinical and population research. It generates evidence for innovation and improvement in clinical care across the entire patient journey from prevention, screening, diagnosis, treatment, follow-up,

survivorship and palliative and end-of-life care. Integrating the broad cancer research capability of the ten VCCC partners directly with clinical care will drive growth in the evidence-base and demonstrate the benefits of new approaches for improved prevention, detection and treatment of cancer and better patient experience and outcomes.

Approach

To expand the conduct of cancer clinical audits, patient experience surveys and research (in particular population, prevention, health services, psychosocial, survivorship, palliative care and health economics research) and to use this information to develop new, innovative and more cost-effective models of patient-centred care, then work in partnership to deliver system-wide improvements, so that all Victorians have access to the best care.

Strategy for improving patient outcomes and experience

Patients' preferences and experience will have a central role in directing the VCCC's work. Routine, comprehensive, standardised clinical audits will be undertaken to drive quality improvements and accountability. Research will be conducted to identify and test new service models and technologies that deliver more efficient, effective, affordable, equitable and patient-centred care. Methods will be developed to systematically implement improved models of care across Victoria. Health economics will be used routinely to show care improvements provide greater value for a given expenditure. Broader aspects of cancer research are addressed under Strategic Priority 3.

1.1 Use patient experience as a core foundation to define quality and value in cancer care delivery

- Build a culture of providing responsive, patient-centred care by identifying deficiencies in patient experience and directly acting upon them
- Develop and implement innovative research programs in survivorship, wellness and palliative and end-of-life care that effectively address identified deficiencies in patient experience

- Implement new programs that promote self-managed care and greater patient choice in decision-making
- Enable consumer-informed, patient-centred care, including through a patient portal

1.2 Measure quality of care and actual patient outcomes systematically – to provide evidence for improvements in models of care and reduced variation in care

- Build a culture of routinely conducting clinical audits and high-quality research, measuring outcomes, publishing transparent data, using health economics and benchmarking to international best-practice in cancer care to deliver data-driven quality-improvement and evaluation cycles and an evidence-base that translates into improved clinical practice
- Develop a series of VCCC-wide agreed indicators for quality patient care in cancer, aligned with emerging national cancer indicators
- Improve access to data in cancer clinical registries and linked health services data

1.3 Develop a high-quality cancer health services research program – to provide evidence for changes in policy, service delivery, clinical practice and funding models of cancer services that improve equity, quality, efficiency and cost-effectiveness

- Develop a comprehensive program of outcome-focussed health services research including health economics focussed on key issues in the patient journey – to identify barriers to timely referral to multidisciplinary care and optimal referral pathways to enable the best care, equity of access and patient experiences to be provided
- Develop methods to identify patients, families and carers at the time they present to a health service if they are at high risk of a poor experience and provide tailored care
- Build research capacity and infrastructure that support data-driven improvements in healthcare by enhancing the Cancer Health Data Platform designed for health services research
- Support the development of shared-care models for follow-up care, informed by evidence from health data, risk models, patient experience and outcomes surveys and analysis of funding models
- Partner with others to increase consumer and community cancer awareness and understanding

1.4 Implement an effective framework for timely adoption of new evidence into better routine cancer clinical care across Victoria

- Develop an effective, robust, evidence-based framework for system-wide communication, dissemination and adoption of new evidence into improved routine practice across the VCCC partners and Victoria, including in regional and rural locations
- Establish the leadership and methodology to integrate cancer research and education into routine clinical care, including through expanding the VCCC Tumour Stream Research and Education Leaders pilot program
- Disseminate new research and evidence in prevention and risk assessment through partnership with organisations that support public health-based cancer prevention activities and with the primary care system to improve adoption into routine general practice

Outcome measures

- Improvement in survival and benchmarked, measured patient outcomes
- Actions implemented from patient-reported outcomes and patient experience surveys
- Improved, more cost-effective models of care
- Reduced variation in best-practice indicators
- Transparent dissemination of key findings to promote system-wide change
- Demonstrable use of linked health data to improve care more rapidly
- Full participation of consumers in all levels of the VCCC activity

PRIORITY 2

Clinical trials - accelerating access to new ways to manage cancer.

Objectives

- To be a major national and regional hub for successful cancer clinical trials

Challenges

1. Slow and inconsistent trial approval processes – ethics, governance, costs, legal
2. Poor access to information on potential numbers of suitable patients for trials
3. Under-resourced clinical trials infrastructure in clinical units
4. Slow or incomplete accrual of agreed numbers of subjects
5. Limited protected time for clinicians to conduct trials
6. Poor access to drugs for investigator-initiated trials
7. Smaller patient numbers compared with some competitor locations
8. High cost in Australia compared with some competitor locations
9. Low community and patient literacy regarding clinical trials
10. Low number of suitable trials available for patients who are willing to participate

The VCCC's unique offering

Collective expertise, excellence and critical mass in cancer clinical research and clinical trials: The VCCC partners include many internationally-recognised key opinion leaders in clinical oncology research who, collectively and individually, have a proven track record of working with industry to successfully deliver cancer clinical trials across all tumour streams and craft groups. The partners also include experts at the forefront of cancer genomics and personalised medicine.

World-leading technology: The VCCC partners support clinical trials with sophisticated technology, including genomics and molecular pathology, imaging, radiochemistry, immuno-therapeutics, cell therapies with Good Manufacturing Practice cell production and advanced radiotherapy modalities such as brachytherapy and stereotaxic radiotherapy.

Integration with deep cancer biomedical research capability:

The VCCC partners have world-class capabilities in basic, clinical and translational cancer research that are integrated with clinical research and clinical care, which enable design of custom assays for trial endpoints.

Approach

To provide a professional, integrated, coordinated service for innovative clinical trials involving all partners that meets industry expectations and the needs of investigator-initiated trials, and to enable all VCCC cancer patients to have the opportunity to participate in clinical research, including appropriate clinical trials of the most promising new innovations.

Strategy for clinical trials

Translate the strength and innovation of our comprehensive research program into innovative and forward-looking clinical trials. Make clinical trials a standard part of routine cancer clinical services. Deliver system-wide improvements in all elements of cancer clinical trials at VCCC partner sites and in coordinating and streamlining processes across multiple sites, to reduce variability and uncertainty and meet industry expectations to make VCCC an even more attractive trial location. Provide chief-executive-level commitment and leadership from all VCCC partners to ensure trial performance targets are met and to enable effective industry engagement on trials. Therapeutics and non-therapeutics trials activity will both be expanded.

2.1 Develop and deliver a cancer clinical trials strategy to capture innovation from our research program and expand both therapeutics and non-therapeutics trials

- Establish a clinical trials subcommittee of key trial experts for the VCCC Board with responsibility for developing new opportunities for trials and overseeing the development and delivery of a strategy for growth in VCCC cancer clinical trials
- Develop and implement an agreed strategy led by trialists to expand the VCCC cancer clinical trials portfolio, with appropriate interventions to support therapeutics and non-therapeutics trials, early- and

late-phase trials, personalised medicine trials, industry-sponsored and investigator-initiated trials and models-of-care trials

- Develop a forward-looking, balanced portfolio of VCCC-wide cancer trials, including by tumour stream, agreed by all partners – trials of interest to clinicians and that patients want
- Identify and support key opinion leaders who are internationally-recognised clinician researchers who can influence cancer clinical practice locally and globally
- Strengthen strategic partnerships with key service providers and groups (e.g.: Cancer Trials Australia; Australian Clinical Trials Alliance; oncology trial networks; ARCS)

2.2 Improve cancer clinical trials processes and capacity to meet industry and investigator needs and expectations

- Harmonise and coordinate operations of clinical trials units across VCCC partners
- Develop greater capacity and support for clinical trials enablers and infrastructure (e.g., genomics and molecular pathology; research nurses and managers; biostatistics and data managers; business models)
- Develop and implement further improvements in clinical trials processes across VCCC partners that remove barriers and enable timely, consistent and reliable delivery on promises to trial sponsors
- Support access to appropriate trial management software and develop appropriate data platforms to support clinical trial patient identification and recruitment
- Audit and report VCCC cancer clinical trials performance measures relevant to trialists, VCCC partners, industry and government

2.3 Implement steps to increase the impact cancer clinical trials and the number of cancer patients on trials

- Enhance VCCC engagement with industry on cancer clinical trials
- Improve consumer/community understanding of, and ability to identify, clinical trials for improving cancer care
- Support patient-recruitment networks and cross-referral processes for trials, including with regional and rural Victoria
- Support the development of new cancer clinical trials proposals
- Expand collaborative links to other centres for cancer clinical trials, including private providers and regional health services

- Develop capacity and capability for new population-level research, cohort trials and models-of-care trials

Outcome measures

- Increased number of important, high-impact trials
- Increased proportion of VCCC cancer patients participating in clinical trials and clinical research
- Increased number of trials and research programs VCCC cancer patients can be offered
- Increased participation of cancer patients in regional and rural Victoria in cancer clinical trials and clinical research
- Increased industry investment in VCCC cancer clinical trials

PRIORITY 3

Cancer research – discovering the prevention strategies, diagnostics and therapies of tomorrow.

Objectives

- To generate new insights and knowledge about cancer of international significance
- To discover new ways to prevent, diagnose and treat cancer that improve outcomes and the experience for cancer patients
- To increase investment in biomedical research in Victoria

Challenges

1. Lack of effective prevention, diagnostics and treatments for many cancers
2. Lack of appropriate funding models for large-scale, collaborative, trans-disciplinary research into the most important questions in cancer research
3. Poor support and integration of research infrastructure and enablers, such as specialised instrumentation, tumour samples and expertise
4. Poor access to, and sharing of, clinical and research data
5. Weaknesses, gaps, lack of harmonisation and inadequate coordination across the VCCC research profile that limit the delivery of a comprehensive research program on cancer
6. Lack of robust frameworks for translating new research evidence directly into policy and routine clinical practice

The VCCC's unique offering

A critical mass of outstanding cancer researchers: The VCCC has the largest and highest-impact cancer research program in Australia, accounting for around one quarter of Australia's cancer research publications and ranking with the top comprehensive cancer programs in the world.

A comprehensive cancer research program: VCCC cancer research spans basic, translational, clinical and population levels and the entire patient journey from prevention, screening, diagnosis, treatment, follow-up, survivorship and palliative and end-of-life care. This aligns with the NCI Comprehensive Cancer Centre model that has been shown to lead to more rapid integration of new research findings into better clinical care and better outcomes for cancer patients and the community.

Collaboration: VCCC partners exhibit a high level of collaborative culture, with over 75% of VCCC cancer publications from 2006-2014 involving non-VCCC collaborators from 120 countries (over 22% involved US collaborators) and 40% involving internal collaboration between VCCC entities. The highest impact publications came from collaborative work.

Approach

To support a comprehensive program of excellence in cancer research – from the fundamental biology of cancer, through clinical and translational research and clinical trials, to population, public health, behavioural and prevention research, to health economics and health services research – to accelerate the generation of knowledge, the identification of better ways to prevent, diagnose and treat cancer and the translation of these into better, more cost-effective health policy, practice, models of care and commercial outcomes.

Strategy for cancer research

Develop a harmonised and coordinated cancer research strategy across VCCC partners that will deliver comprehensive research programs aligned with NCI comprehensive cancer centre principles. Identify priority research questions for each tumour stream and craft group and for cancer prevention, assess skills needs, technology gaps and enablers and deliver coordinated plans to address these. Embed research activities as a standard part of routine cancer clinical care, with every VCCC patient having the opportunity to contribute to research. Build a highly effective industry engagement program to create pathways for commercialisation of VCCC intellectual property.

3.1 Develop and deliver a strategy for a comprehensive program of cancer research excellence, building on existing strengths in cancer biology and therapeutics

- Support and deliver excellence in cancer research resulting in generation of knowledge with impact of international significance
- Identify gaps and monitor excellence in the VCCC research portfolio necessary for effective cancer control and deliver coordinated plans to recruit or train

research expertise to fill them (e.g., certain tumour streams; psycho-oncology; palliative care; health services research; research linked to physical sciences)

- Support development of multi-partner, multi-disciplinary cancer research grant applications where VCCC partners have existing strength, have a compelling case for greater levels of activity or offer a collaborative advantage (e.g., immunotherapeutics; proton therapy; imaging; medicinal chemistry; nanotechnology; psycho-oncology; bioinformatics)
- Develop collaborative and cooperative research partnerships with external organisations with existing cancer research strengths that complement the VCCC
- Deliver an industry-engagement and commercialisation strategy for new, key cancer research partnerships and links with investors

3.2 Develop a substantial research program in cancer prevention, early detection and diagnosis

- Build on existing capacity for cancer research on prevention, screening, early detection, diagnosis, risk assessment in general practice and population health
- Expand capacity in genomic discovery research, quality genomic testing and interpretation, molecular pathology and other molecular testing to facilitate access for patients in all VCCC hospitals and the broader Victorian community

3.3 Improve access to research enablers that are not well supported through project-based funding streams, including specialised technology, data and expertise

- Develop, coordinate and share research technology platforms, cancer tissue collections, bio-banks and expertise
- Develop plans and secure funding to implement appropriate systematic sharing of health and research data across all VCCC partners
- Develop better models of health data collection, linkage, sharing and analysis

3.4 Embed research in routine clinical practice as a standard part of cancer care

- Build a research program in implementation science to improve the evidence base for how to implement service improvements (using genomics as a test case in collaboration with the cancer component of the Melbourne Genomics Health Alliance and the Australian Genomics Health Alliance)
- Expand the VCCC Tumour Stream Research and Education Leaders pilot program and tumour stream-based research activities
- Transition the Molecular Tumour Board activities into routine practice
- Expand the cancer health services research program to develop capability to answer key clinical and health system issues and cost them and to link patient information from all clinical providers to genomic and other research datasets

Outcome measures

- High-impact research discoveries and generation of knowledge of global importance
- Translation of research into new treatments, earlier detection, better screening and more appropriate models of care
- Peer-reviewed cancer research publications (including top 1% of most highly cited)
- Cancer research income and intellectual property – competitive, peer-reviewed grants, industry funding and patents
- Employment – research jobs generated
- International recognition – including standing of collaborating organisations

PRIORITY 4

Education and training – developing the future cancer workforce.

Objectives

- To be the leading national and regional centre for cancer education and training for clinicians, researchers, educators and the community
- To create an appropriately-skilled, high-calibre, sustainable workforce in Victoria to meet the demands of future cancer control

Challenges

1. Lack of a collaborative, systematic framework to train future cancer professionals
2. Lack of training programs for new skills needed for future models of care
3. Limited access to training – locally (GPs, regional/rural workforce) and internationally
4. Variation in quality and breadth of skills in the cancer workforce
5. Varied standards of training – program delivery, quality of educators, training framework

The VCCC's unique offering

The collaborative alliance: Integrating and collaborating on the existing education and training strengths of the VCCC partners will create an unparalleled offering for workforce development in cancer for Victoria, Australia and the region.

The training environment: The comprehensive programs in cancer research, education and clinical care and the collaborative, cross-disciplinary model of the CCC creates an outstanding training environment. The VCCC is a place where development as a healthcare professional is provided in a world-class, dynamic and inspiring environment.

Approach

To build the VCCC partnership so it is recognised by Australia and the region as *the* place to develop the future workforce for delivering high-quality cancer care and for developing and implementing new care models and new technology to improve cancer patient outcomes.

Strategy for education and training

Develop a collaborative framework to deliver quality, targeted education (theory and understanding) and training (the skills to practice) that develop current and future cancer health professionals – locally, nationally and internationally – with an evaluation framework. Attract, develop, and retain the 'best-of-the-best' in clinical, research and education sectors by offering outstanding development opportunities.

4.1 Deliver targeted education and training programs for cancer researchers and the cancer clinical workforce

- Provide professional programs to build excellent research skills for researchers while offering additional skills outside research and content specialties (e.g., communication; ethics; leadership; management; commercialisation)
- Deliver cancer-specific education modules for the breadth of cancer research (e.g., clinical trials; GCP-accreditation; health economics; psychosocial oncology; population-based research)
- Introduce targeted training and mentoring programs for clinician-researchers
- Launch the Graduate Certificate and Master of Cancer Sciences programs
- Extend current oncology education programs for medical, nursing and allied health professionals, in conjunction with the professional colleges
- Introduce new and innovative ways to deliver learning, such as just-in-time education modules, cross-discipline and cross-institutional supervision and greater interaction between clinical and biomedical students

4.2 Provide optimal education programs as a national and regional training hub in cancer

- Develop a business model and core team to expand and deliver international cancer education programs for external markets – such as the Asia-Pacific region

4.3 Enhance professional skills of the cancer workforce

- Deliver new training programs to develop leadership and management skills for key individuals in the cancer workforce

4.4 Improve the quality and experience of cancer education and training

- Establish a coordinating office for VCCC cancer education
- Develop a strategic framework for delivery and evaluation of cancer education and training
- Develop a culture of valuing education and training roles of clinicians and researchers
- Expand and integrate a core of clinicians and researchers with education skills in tumour streams to model effective teaching methodology and values
- Create a system of best-practice for implementation of accredited curricula
- Use state-of-the-art clinical teaching methods, including simulation and on-line services
- Provide mentoring programs and an information portal to support students and trainees
- Develop conferences, seminars and meetings to support training and education and the sharing of knowledge

Outcome measures

- Research Higher Degree student (including clinically-qualified student) completion rate and experience
- Implementation of customised programs for clinician-qualified research students
- Number, quality and reach of oncology education programs
- VCCC-aided medical conferences and seminars of national significance

PRIORITY 5

Working in partnership – delivering effective cancer control

As a comprehensive cancer centre, the VCCC needs to connect effectively with general practice and our community. This includes conducting population, behavioural and prevention cancer research (as well as laboratory and clinical research), transferring research findings into clinical practice for cancer patients and having outreach activities related to cancer prevention and control.

Furthermore, to have the greatest impact on cancer in Victoria and to enable all Victorians to benefit from the VCCC, evidence-based improvements in cancer control must be implemented across the whole Victorian healthcare system, not just at VCCC partner hospitals.

To achieve these outcomes, the VCCC partnership will work with other organisations that have relevant expertise, resources, connections and reach. It will not seek to duplicate the activities of these organisations, but to collaborate and cooperate with them to achieve broader impact.

The VCCC will provide evidence and research findings to improve cancer clinical care not only of the VCCC partners but of other service providers. It will provide tangible support to others to enhance the quality of treatment and equity of access to the best treatment for all Victorians, especially in regional and rural areas.

In fostering such relationships, the VCCC partnership will consider the following activities that are part of this Strategic Plan:

- conducting health economics research and health services research for the whole patient journey – researching models of care, their cost, the referral pathway and what sorts of cancer cases are best treated where;
- conducting population-based cancer research;
- conducting cancer prevention research, cancer screening and early detection research, and cancer survivorship, wellness and palliative and end-of-life care research which typically occurs in the community and general practice settings, not in hospitals;

- recruiting patients for cancer clinical trials – expanding the patient population able to be recruited for trials, including to the rural population;
- implementing changes in clinical practice for cancer care through the whole patient journey in partnership with the Victorian healthcare system, based on the best recent evidence and new research findings;
- accessing cancer data for research – cancer registries, cancer clinical quality registries, health service data;
- access to tumour specimens and advanced technology platforms for research;
- delivering cancer education and training programs for the larger cancer workforce;
- improving cancer awareness and prevention education for the consumer and general community; and
- expanding the international impact of its research.

The VCCC partnership is already working effectively with a range of other entities. It will deepen these existing relationships and build strategic partnerships with others to provide the necessary capabilities to deliver this plan. It will also develop new membership categories for the alliance to encourage deep partnerships of higher impact.

The Victorian community is a critical stakeholder for the VCCC. It funds the VCCC partnerships' cancer control program, it stands to gain the most benefit from the outcomes of its activities and it can be the best advocate for the work of the VCCC. The VCCC partnership will ensure the Victorian community, including the public, interest groups and decision makers, is well informed about what the VCCC does and how it is delivering benefits for all Victorians.

PRIORITY 6

Sharing data – empowering cancer clinical care and research

Sharing clinical and research information across all the VCCC partners is critical to delivering the vision of the VCCC.

Access and use of data underpins evidence-based healthcare. Shared access to data and linkage of datasets are essential to enhancing the quality of clinical care and the patient experience as cancer patients move through the healthcare system. It is also needed to build the research capability of the VCCC partnership – to enable new questions to be asked about cancer and to accelerate discoveries about better ways to control it.

Data sharing and linkage are crucial for integration, for collaboration and for creating the scale of information necessary for more powerful research and more targeted clinical trials.

The importance of appropriate information and communications technology (ICT) to enable sharing of data was appreciated at the time the VCCC was established in 2009: *“ICT has been recognised as a key enabler of the (VCCC) vision – integral to enabling collaboration, supporting new methods of treatment, delivering care in the community, providing patient information at the point of care, and managing the delivery of education services across the precinct and beyond.”* (2009 VCCC business case)

The comprehensive cancer centre model for the VCCC has, at its core, excellence in cancer research – to empower discovery and innovation – and integration of this research with clinical care and education – to empower delivery of improved outcomes for patients with an appropriately-skilled workforce.

The VCCC partnership is piloting data sharing and linkage capability in collaboration with BioGrid. This project will provide the basis for a new data platform and the partners will extend this platform to general practice data.

Over the last two years, the VCCC has designed an ICT solution that can deliver the capability for clinical and research information exchange between the partners. This has the technical and security foundation requirements and a fully-functional portal and collaboration tool which has been implemented by some of the partners.

Over the next four years the VCCC partnership will work progressively towards implementing linked data sets and appropriate ICT solutions to assist collaboration and for clinical and research information exchange for all partners. This will include developing plans and securing funding to:

- implement the current portals and collaboration tools to all VCCC partners;
- implement a pilot of the clinical information exchange and research information exchange solution at one or more VCCC partners with more mature clinical information systems; and
- extend implementation of the clinical and research information exchange solutions to all VCCC partners.

In addition, the VCCC partnership will deliver a number of targeted information-sharing capabilities to support clinical trials and health services research, enhance access to learning opportunities and provide a patient portal.

IMPLEMENTATION

The VCCC partners will work collaboratively and cooperatively to implement this Strategic Plan to deliver three benefits for Victoria: to reduce the burden of cancer; to create a world-class centre-of-excellence in cancer; and to increase investment in biomedical research.

The VCCC will develop proposals for its future governance structure to ensure it remains optimally aligned with the role it plays, the manner in which it is funded and the activities it is delivering. These will include options for new membership categories to encourage the partnerships it needs to be fully effective.

The VCCC will develop a case to secure appropriate funding from government and other sources to enable the partners to deliver the activities in this plan.

And the VCCC partnership will work with others across Victoria and further afield to ensure it has the best opportunity to deliver on its vision:

“...to save lives through the integration of cancer research, education and clinical care.”





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