



ANNUAL REPORT

2019-2020

Improving the lives of people affected by cancer

Contents page

About us	3
Leading a culture of excellence	7
Message from the Chair, MPCCC Governance Group	8
Message from the MPCCC Executive	9
Message from the SMICS Clinical Directors	10
Message from the Executive Director, Monash Partners	12
2019-2020 highlights	13
Coordinating Victoria's cancer response to COVID-19	14
SMICS 2019-2020: A year in review	16
2019 Cancer Forum	17
Understanding our community	18
Understanding our community	19
Cancer incidence in southern Melbourne	20
Improving cancer services	21
Implementing optimal care	22
Promoting supportive care	25
Strengthening workforce capacity	28
Preventing a trip to hospital	30
Piloting patient-centred programs	31
Using the latest genomic research to inform personalised cancer care	32
Collaborating with community health professionals to treat cancer-related depression	33
Improving access to clinical trials in regional Victoria	34
Measuring patient experiences and outcomes	34
Supporting innovation through research	35
Contact us	44

About us

Monash Partners Comprehensive Cancer Consortium

Allied partners



Research partners



Clinical partners



The Monash Partners Comprehensive Cancer Consortium is supported by the Victorian Government

MPCCC acknowledges and pays respect to the Traditional Owners of the lands upon which our partner organisations are situated.



About Monash Partners Comprehensive Cancer Consortium

Monash Partners Comprehensive Cancer Consortium (MPCCC) is a strategic alliance of health service and research organisations working in partnership to improve cancer outcomes through integrated, collaborative and innovative research, service improvement and clinical care programs. Our collaborative, patient-driven improvement philosophy extends beyond our region. We provide leadership and support to regional and rural Victoria, and our work contributes to, complements and inspires initiatives at other cancer centres.

MPCCC vision

To improve outcomes for people affected by cancer through world-class research and service improvement

MPCCC mission

To integrate cancer research and service improvement by creating a culture of collaboration and innovation that transcends organisational boundaries and drives improved cancer outcomes.

Southern Melbourne Integrated Cancer Service



About the Southern Melbourne Integrated Cancer Service

The Southern Melbourne Integrated Cancer Service (SMICS) is a collaborative relationship between health services, providers, researchers and other cancer sector participants to achieve coordinated planning and improvement of cancer services across the southern Melbourne region. SMICS aims to improve the experiences and outcomes of people with cancer through the delivery of efficient, quality care that is evidence-based, addressing disparities across population groups, driving innovation and system reform and ensuring good integration and coordination across service providers. SMICS is an important enabler for achieving improved cancer outcomes in southern Melbourne.

SMICS goals

- Victorians know their risk and have cancer detected earlier
 - Victorians with cancer have timely access to treatment
 - Victorians with cancer and their families live well
-

Monash Partners Academic Health Science Centre



About Monash Partners Academic Health Science Centre

Monash Partners Academic Health Science Centre (Monash Partners) is a partnership between leading health service, teaching and research organisations that are focused on innovating for better health. Its purpose is to connect researchers, clinicians and the community to support the wellbeing of about three million Australians.

SMICS Financial Statement

(For the year ended 30 June 2020)

Operating cost centre	2018/2019	2019/2020
Revenue	1,932,034	1,946,764
Grants - Other		
Grants - State	1,844,580	1,938,667
Other Revenue	87,454	8,097
Salary and Wages	-1,275,110	-1,197,008
Agency	-165,127	
Annual Leave	23,607	61
Salaries and Wages	-1,133,589	-1,197,069
Salary On Costs	-144,862	-148,336
Long Service Leave	-33,508	-35,476
Oncosts Recovery		
Superannuation	-97,024	-100,152
Workcover	-14,330	-12,708
Other Expenses	-333,722	-315,214
Computers and Communication	-19,224	-2,242
Food	-320	-188
Internal Transfers	-121,100	-122,764
Lease Expenses	-	
Linen		
Medical and Surgical	-165	
Other Expenses	-178,908	-80,186
Other External Contracts	-13,582	-109,824
Other Medical Consumables		
Repairs and Maintenance	-423	-10
Grand Total	178,341	286,206

Leading a culture of excellence

Message from the Chair, MPCCC Governance Group

Having adopted the role as chair of MPCCC's Governance Group in May 2020, I would first like to acknowledge the contributions of my predecessor, Professor Andrew Way.

In his two-year term as MPCCC Governance Group Chair, Professor Way worked to systematically streamline the MPCCC's organisational structure. This included the appointment of a small, focused Executive team to drive day-to-day operations, and the formation of a large, multidisciplinary Advisory Group to assist with prioritising MPCCC's program of work. The result is a nimble, forward-thinking leadership team, with improved clarity and purpose.

One of MPCCC's key strengths in its capacity as a consortium is the ability to create forums in which a diverse range of health professionals across a number of organisations can connect and collaborate. In doing so, MPCCC inspires focused programs of work directed at innovating current cancer practices in a way that supports excellence in patient care.

The year has been filled with unprecedented and significant challenges, for both medical research and health services. COVID-19 has tested us all, in particular in thinking differently about how we can deliver safe, effective cancer care to our communities – many of whom are vulnerable and susceptible to COVID-19. Our partnerships provide the platform to deliver patient-centred programs and innovative research in this difficult environment and has revealed the value of MPCCC to our community. MPCCC has played a leading role in Victoria's transition to a COVID-19-safe cancer care paradigm through statewide collaboration, continuing to meet the needs of people with cancer even in the most challenging times.

The MPCCC's alliance with the Southern Melbourne Integrated Cancer Service (SMICS) has enabled a data-driven approach to meeting community needs and rapid implementation of innovative programs that improve access to quality cancer care and equitable delivery of health services.

Through our alliance with Monash Partners Academic Health Science Centre (Monash Partners), MPCCC has the opportunity to influence and align with non-cancer health themes and platforms. This alignment is fundamental to cross-disciplinary research, from which some of the best and brightest discoveries often emerge.

The support of the Victorian Government is vital to the work of MPCCC, and we are grateful for their vision, dedication, flexibility and commitment to our workforce.

I am proud to present the MPCCC 2019–20 annual report, which contains a rich and exciting account of our progress over the past financial year, and our vision for the future. Our consortium is filled with talented people, united in their ambition to improve the experience and quality of care for people with cancer.



Felicity Topp

Chair, MPCCC Governance Group
Chief Executive, Peninsula Health



Message from the MPCCC Executive

The real potential of impactful reform provides a positive outlook after a most challenging year. Rapid innovation across our health system in recent months has enabled work to continue across the landscape of our cancer engagement during the COVID-19 pandemic. Telehealth and tele-trials are growing themes that we anticipate will be a part of normal working capacities in Victoria and elsewhere moving forward.

The MPCCC's Executive group has worked to realise new collaborative cancer improvement opportunities across our own partnership and across the state including metropolitan-based cancer centres and regional healthcare providers. A substantial demonstration of this work has been the establishment and work of the Victorian COVID-19 Cancer Network (VCCN).



The VCCN is a joint initiative of the MPCCC and the Victorian Comprehensive Cancer Centre and provides support and advice to clinicians and healthcare services treating patients with cancer during the COVID-19 pandemic. Members of the MPCCC Executive group have worked tirelessly, beyond the scope and commitment of their clinical roles, to enable the success of the VCCN. Dr Haydon and Associate Professor Wong have key roles in chairing the work of the network, and Professor Segelov has dedicated time and expertise to ensuring the network recognises and addresses the needs of both the community and healthcare workers.

Bolstered by this successful collaboration, we anticipate that a whole-of-Victoria approach to innovating cancer care will become the norm. The focus of Victorian cancer research and health service partnerships like the MPCCC will be to ensure all people with cancer, no matter where they live or where they come from, have access to the best evidence-based treatment options. We intend to pursue this goal by continuing to engage statewide to improve linkages across sectors and disciplines.

More needs to be done to improve cancer care for Aboriginal and Torres Strait Islander members of our community. In addition, cultural and linguistic differences and socioeconomic and geographic barriers continue to challenge the delivery of equitable health care in Victoria. MPCCC is committed to systematically addressing and seeking to improve upon these inequities.

As we look to the future, we continue to build on MPCCC's patient-centred programs, linking the latest genomic research to clinical care, addressing patient needs in real time by collecting outcome and experience data, improving access to oncology trials for people in regional Victoria, and efficiently including health professionals in the community to support hospital-based care. These programs centre on improving the availability and quality of efficient, evidence- and value-based cancer care.

Despite uncertainties about the future, there are more opportunities than ever before in the cancer sector to innovate and improve upon how people in our community are provided with care. This year has brought unanticipated challenges that have necessitated reform – reform that now provides much optimism for the year ahead.

Melissa C. Southey

Professor Melissa Southey

Chair, MPCCC Executive

Chair, Precision Medicine, Monash University

Message from the SMICS Clinical Directors

All of us would agree that no one could have planned for 2020. Indeed, this year has been extraordinary in many ways for the SMICS team. We are proud to have been able to support our member health services in various service improvement initiatives regardless, even during the COVID-19 pandemic with various restrictions in place.

Models of care

With an ageing population and a rising cancer incidence with age in Australia and many developed countries, geriatric oncology has been a focus in cancer care both internationally and locally. While geriatric oncology models of care have been set up in other states across Australia, the uptake in Victoria is still in its infancy. SMICS led the state-wide geriatric oncology scoping project which culminated in a workshop held in November 2019. It was well attended by various stakeholders including consumers, oncologists, geriatricians, nursing and allied health as well as representatives from the government. The top priority areas for future work in the sector have been identified and amongst others, include geriatric screening for cancer patients aged 70 and over as well as identifying referral pathways for appropriate services post comprehensive geriatric assessments.

Following the success of the recent grant call for cancer services to set up Symptom and Urgent Review Clinics through the Department of Health and Human Services (DHHS), SMICS prioritised funds to support its member health services which have not been able to set up similar services. Grants amounting to a maximum of \$110K each were awarded to Alfred Health, Cabrini Health and Peninsula Health in the midst of the pandemic with dedicated staff support from SMICS to facilitate the rollout of the service. This occurs at an important time when cancer patients undergoing systemic anti-cancer therapies need timely access to advice to manage treatment related toxicities while avoiding unnecessary presentations to the Emergency Departments.



Victorian COVID-19 Cancer Network (VCCN)

Andrew and Zee Wan had the privilege of joining hands with Professor Grant McArthur and A/Prof Sue-Anne MacLachlan to co-chair the taskforce within this network which was set up in mid March in response to the COVID-19 pandemic, bringing together stakeholders involved in cancer care from all over the state. Both of us are also members of the Cancer Expert Reference Group where regular communications and actions ensue in response to the pandemic to health services leadership groups and government. Andrew is the representative on the COVID-19 and Unintended Consequence Committee while Zee Wan chairs the Telehealth Expert Working Group. In addition, various SMICS staff members are also deployed to support the various working groups within the network including the Ethics Expert Working Group and the various tumour stream working groups. There has been unprecedented engagement between the clinicians and the various members of the Victorian Integrated Cancer Services (VICS), which prompted nimble response to the changes in cancer care such as administrative support for telehealth implementation at member health services.

Optimal Care Pathways

Most of the work around the Optimal Care Pathways is coming to a close. Plans to roll out the next tranche of OCP's (namely CNS tumours and Melanoma) have been stalled by COVID-19 and the planned tumour summits have been delayed. On the other hand, work on the Pancreatic radiology synoptic reporting project has continued and is about to begin at both the Alfred Health and Austin hospitals.

Re-branding of Victorian Integrated Cancer Services

As the usual face to face meetings at DHHS are replaced by virtual meetings, re-branding of the VICS also occurred online and brought about a uniform logo and brand to the various ICS across the state.

As we emerge from the other side, this year has been challenging for everyone on many fronts. Undoubtedly, COVID-19 has catalysed the engagement and collaboration of the various cancer sectors and stakeholders like never before and we hope this will continue well beyond the pandemic.



A/Prof Andrew Haydon



A/Prof Zee Wan Wong

Message from the Executive Director, Monash Partners

Optimising collaboration for better health outcomes

The global COVID-19 pandemic has brought about many changes to our health system. While it has seen us physically distance ourselves from each other, it has also brought us closer in many ways. It has reinforced the importance of staying connected, working together, learning from each other, using resources wisely and optimising impact. All the things that an academic health science centre is designed to do!

Amid great uncertainty, quality data is essential. Data access and linkage remains a firm focus for Monash Partners. This reporting year saw us co-develop a framework for a Learning Health System, dedicated to a vision of learning together to achieve better health for our community. We also addressed priority digital health problems with the establishment of our GRIP PhD program, which is providing healthcare-embedded and funded PhD studies.



Working in partnership continues to be a priority, with COVID-19 research being a main driver this year. Monash Partners' engagement with the community has identified strong support for the continuation of telehealth, informing government and funding priorities. Provision of streamlined ethics and governance processes saw research achieve quicker outcomes, and our partnership with the Monash Institute of Medical Engineering enabled innovative new projects such as a mask to reduce the viral spread of COVID-19 progress towards clinical trials.

Monash Partners' comprehensive online program for researchers and health professionals is helping to embed consumer and community involvement in research and healthcare improvement projects. Further workforce development programs have included free co-designed Massive Open Online Courses in 'Healthcare Improvement and Implementation', plus health data literacy, continued clinical research training, Women in Leadership and Healthcare Improvement and Implementation Masterclasses.

Collectively, these activities provide the opportunity to improve patient experiences, support research activity and drive better health outcomes. You can find out more about a project Monash Partners is undertaking with MPCCC, using smart technology to more effectively and efficiently monitor the quality of cancer care, [here](#).

A handwritten signature in black ink, appearing to read 'H. Teede'.

Professor Helena Teede

**Executive Director
Monash Partners Academic Health Science Centre**

2019-2020 highlights

Coordinating Victoria's cancer response to COVID-19

In March 2020, the MPCCC and the Victorian Comprehensive Cancer Centre joined forces to lead a statewide response to the COVID-19 pandemic, with collaboration from Cancer Council Victoria and the Victorian Integrated Cancer Services.

The Victorian COVID-19 Cancer Network (VCCN) provides a framework that supports cancer health professionals and service providers to quickly adapt to the demands of COVID-19 and to deliver the best possible care for people with cancer.

The VCCN is overseen by a taskforce with representation from metropolitan, regional and rural Victoria, as well as vulnerable groups including Aboriginal and Torres Strait Islander communities. Members specialise in a wide range of disciplines including:

- medical oncology
- haematology
- radiation and surgical oncology
- paediatric and geriatric oncology
- nursing
- pharmacy
- primary care
- consumer advocates
- representation from the Victorian Department of Health and Human Services (DHHS).

The VCCN Taskforce is underpinned by a series of expert clinical groups that develop strategies to respond to clinical issues associated with COVID-19 and provide cancer-specific advice to health services and DHHS.

Coordinated communications platforms enable rapid sharing of information, practice guidelines, recommendations and policies. Examples of the issues the VCCN has addressed include:

- implementing telehealth for cancer care
- safe continuation of oncology clinical trials
- recommendations for cancer screening
- primary care processes for rapid referral
- policy for essential cancer surgical diagnostic procedures
- pre-operative COVID-19 testing
- palliative care in the home
- managing workforce wellbeing
- an ethics framework to support difficult decision making
- distress caused by hospital visitation policies
- community health campaigns 'Cancer Never Stops' and 'Don't Delay'
- key learnings for future COVID-19 management
- opportunities for cancer healthcare reform.



'The first few months of the pandemic raised lots of clinical challenges for breast cancer, including the temporary suspension of BreastScreen and treatment referral delays as Victorian women put off seeing their GPs and stayed at home.'

Dr Jane Fox

Chair, Breast Cancer Expert Group, VCCN; Director of Breast Services, Monash Health

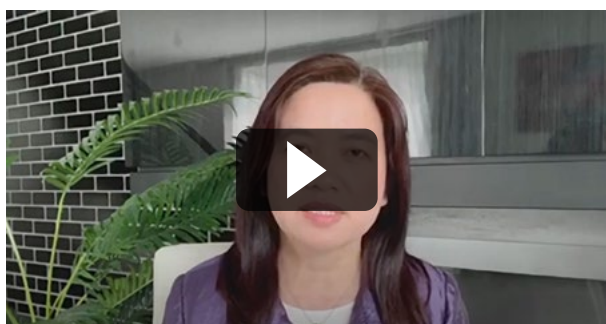
'In recent months, healthcare workers have confronted the need to balance duties to their patients with duties to their families and friends, and to balance preserving the wellbeing of their patients with preserving their own wellbeing.'

Dr Toby Winton-Brown

Consultant Psychiatrist, Alfred Health

The VCCN has been made possible by funding from the Victorian Government.

Safe Cancer Care campaign videos



'The Essential cancer diagnostic and surgical procedures policy adopted by the DHHS in June was a direct response to concerns from within the cancer sector about service interruptions caused by COVID-19 and the impact that this would have for both our community and the health system.'

Dr Andrew Haydon

Co-Chair, VCCN; Medical Oncologist, Alfred Health; Joint Clinical Director, SMICS

'Some of the new practices that have come about due to COVID-19 have created new models of care and efficiencies that will likely result in longer term improvements to cancer care, such as telehealth, beyond the pandemic.'

Associate Professor Zee Wan Wong

Co-Chair, VCCN; Chair, Telehealth Expert Group, VCCN; Director of Oncology, Peninsula Health; Joint Clinical Director, SMICS

'The Safe Cancer Care campaign that was developed through the VCCN will help to support patients in continuing their cancer care without anxiety.'

Danielle Spence

Chair, Patient Information and Communications Expert Advisory Group, VCCN; Head of Strategy and Support, Cancer Council Victoria

SMICS 2019-2020: A year in review

Despite all of the challenges that 2020 has created, the Southern Melbourne Integrated Cancer Service has continued to strive for excellence in supporting people living with cancer.

We've had to change how we work with our colleagues, our health services and our community and be responsive, agile and flexible to the ever changing landscape of 2020.

"2019 – 2020 A Year in Review" showcases the very best of the outstanding work SMICS has undertaken to support and improve the health outcomes for people on their cancer journey.



2019 Cancer Forum

The MPCCC Cancer Forum dinner is an annual networking event for our partners and stakeholders and an opportunity to showcase current cancer improvement work in Victoria.

In 2019 the MPCCC Cancer Forum explored the theme of supportive care and its importance to people with cancer.

Officiated by Professor Andrew Way, MPCCC Chair (until April 2020), the 2019 MPCCC Cancer Forum was hosted at Huntingdale Golf Club on 3 September and featured presentations from:

- The Hon. Fiona Patten MP, Leader of the Reason Party and the instigator of Victoria's Voluntary Assisted Dying Act
- Professor Mei Krishnasamy, Chair of Cancer Nursing at the University of Melbourne
- Ms Vivienne Interrigi, former breast cancer patient at Monash Health
- Dr Kate Webber, Medical Oncologist from Monash Health.

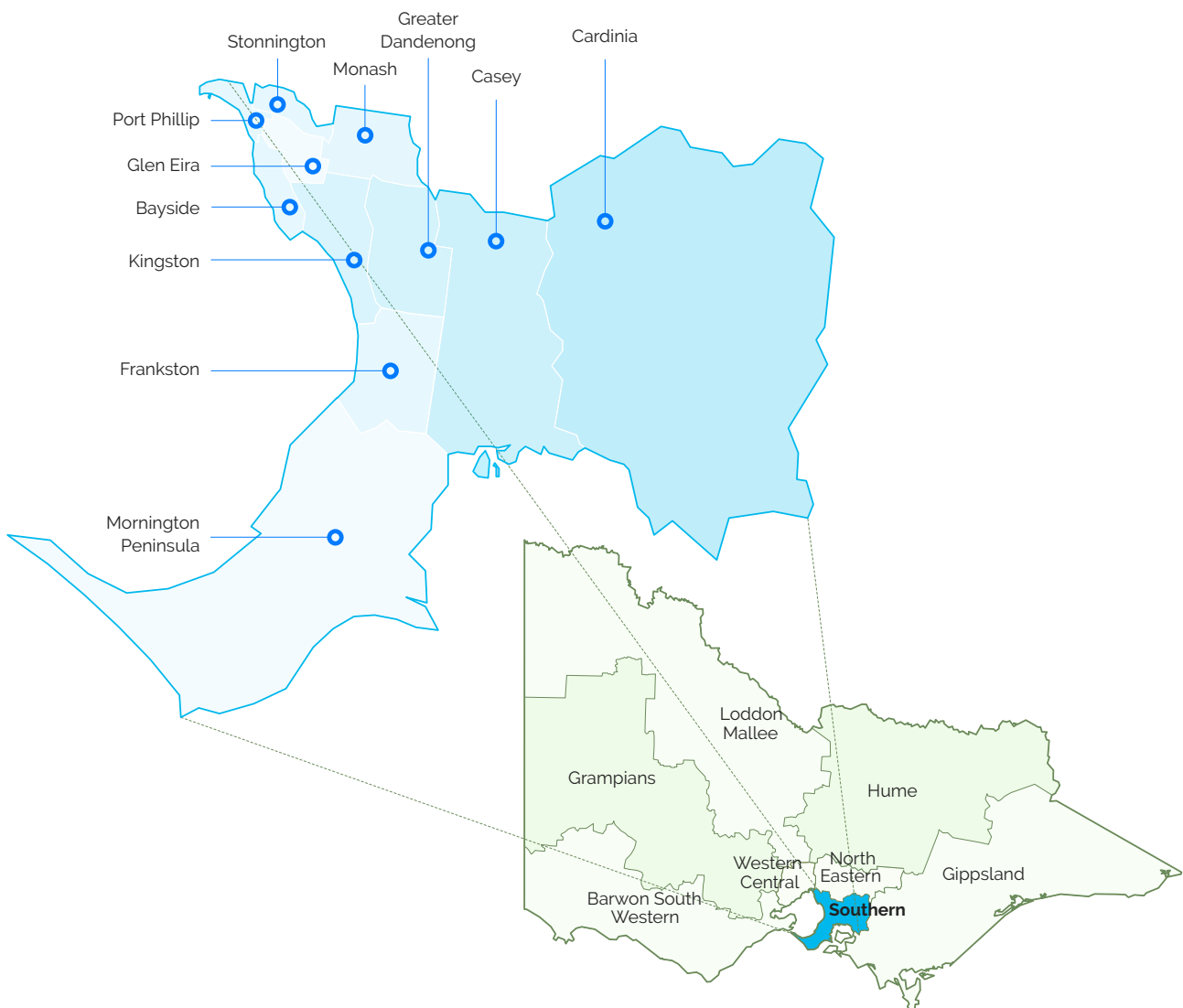


Understanding our community

Understanding our community

The Southern Melbourne Integrated Cancer Service (SMICS) provides a network to improve the quality and continuity of patient care and ensures that appropriate links exist between health services to optimise patient pathways for persons affected by cancer. SMICS is pivotal in ensuring strong coordination and planning across the southern Melbourne region.

SMICS and our member health services, along with the Monash Partners Comprehensive Cancer Consortium are recognised as the Cancer and Blood Diseases Theme of the Monash Partners Academic Health Science Centre. These affiliated organisations form Monash Partners Comprehensive Cancer Consortium which is one of the largest comprehensive cancer service networks in Australia.



SMICS services south east Melbourne, the fastest growing population area in Victoria. The SMICS catchment covers a total area of 2,967 square kilometres. It aligns most closely with eleven local government areas (LGAs):

The SMICS region is also home to a significant refugee population with the Greater Dandenong Local Government Area a signatory of the Refugee Welcome Zone declaration, to welcome refugees into the community, and enhance cultural and religious diversity.

Cancer incidence in southern Melbourne

The annual incidence for new cancer diagnoses in our region currently exceeds 9,617 with more than 2,910 persons dying from cancer each year.

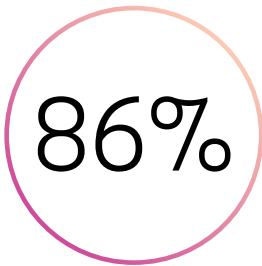
It is predicted that the annual incidence of new cancers in Victoria will exceed 48,000 per annum by 2033.

Our member health services deliver over 71,200 episodes of acute cancer care per annum, including medical, surgical, radiation oncology, day chemotherapy, imaging, pathology, palliative care, psycho-oncology, supportive care and allied health services.

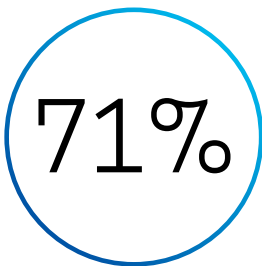
These services will grow in the coming years with the expansion of Casey Hospital and the growth in cancer service provision within the private sector.

71,200

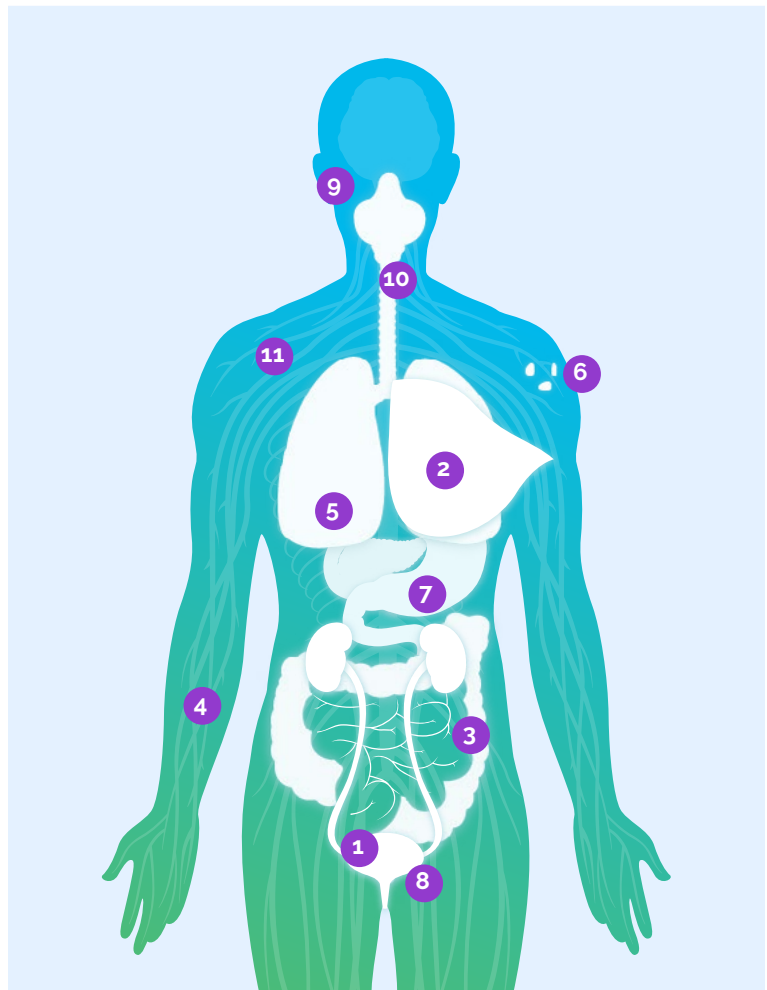
episodes of acute cancer care per annum



of newly diagnosed cancer patients have their treatment plan discussed at a multidisciplinary meeting



of cancer patients who reside in the southern Melbourne region survive for 5 years post diagnosis (Victorian Cancer Registry, Cancer Council Victoria 2020)



Human body stats

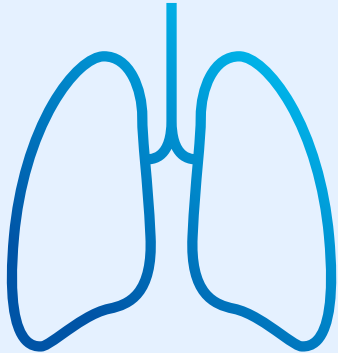
	New incidence	% 5 year survival rate
1. Genitourinary	2054	92%
2. Breast	932	91
3. Colorectal	944	70%
4. Haematological	677	71%
5. Lung	672	22%
6. Skin (Melanoma)	660	94%
7. Upper gastrointestinal	615	22%
8. Gynaecological	364	68%
9. Head and Neck	194	78%
10. Endocrine Glands & Thyroid	123	95%
11. Central Nervous System	151	25%

Improving cancer services

Implementing optimal care

Optimal care pathways implementation

Lung optimal care pathway



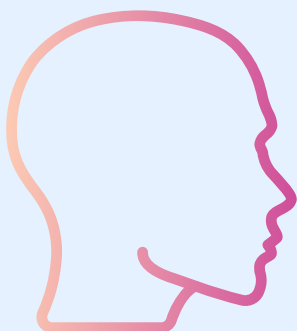
- Medical oncology clinic referral and triage processes streamlined to enable more coordinated and appropriate care prioritisation and management at Alfred Health and Peninsula Health
- Lung MDM referral form developed to improve timeliness of referral to treatment
- Median time from diagnosis to first palliative chemotherapy was maintained at Alfred Health despite a 30 per cent increase in newly diagnosed patients

Colorectal optimal care pathway



- The number of patients with rectal cancer who had their treatment discussed at an MDM prior to first treatment increased from 81.8 per cent to 98 per cent
- Terms of reference developed and approved for Peninsula Health's newly established colorectal multidisciplinary team meeting
- Bowel surgery preparation brochure available in seven languages and will be provided to approximately 190 patients treated for bowel cancer at Dandenong Hospital per year

Head and neck cancer optimal care pathway



- General practitioner (GP) lecture series delivered across southern Melbourne to 52 attendees
- Direct referrals to Monash Health's head and neck cancer service increased from 23 per cent to 67 per cent
- Clearly established referral pathways for new patients were developed and are available on the Monash Health website,

[Health Pathways and the SEMPHN website](#)

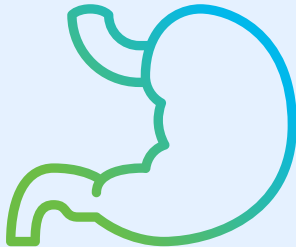
Prostate cancer optimal care pathway



Two hundred men (71 per cent) newly diagnosed with prostate cancer in southern Melbourne received written information about their diagnosis and treatment plan

- 96 per cent of men recalled received direct contact details for a prostate nurse
- 69 per cent received information about their local support group
- Sexual health issues were discussed with 80 per cent of patients

Oesophagogastric cancer optimal care pathway



- Prospective MDM presentation rates increased from 85 per cent to 100 per cent at Alfred Health and from 77 per cent to 90 per cent at Monash Health
- Time from diagnosis to first treatment reduced from 44 to 40 days at Alfred Health and 42 to 40 days at Monash Health
- Reduction in time from receipt of referral to first treatment from 48 days to 20 days at Alfred Health
- 200 oesophagogastric patient care plans were provided for use with newly diagnosed patients across southern Melbourne

Pancreatic cancer resectability project

SMICS has partnered with North Eastern Melbourne Integrated Cancer Service (NEMICS) to engage key stakeholders from across Victoria, including radiologists and surgeons working in key pancreatic surgery centres, to agree to adopt the International consensus on definition and criteria of borderline resectable pancreatic ductal adenocarcinoma 2017 to classify resectability in non-metastatic pancreatic ductal adenocarcinoma (PDAC) for use in Pancreatic Protocol CT reporting in Victorian health services.

A standard structured radiological synoptic reporting template has been developed to determine the PDAC resectability criteria and will be implemented at Alfred Health and Austin Health to classify and document disease resectability at multidisciplinary meetings (MDMs) during a 12-month pilot commencing in October 2020.

SMICS and NEMICS have engaged with the Upper Gastrointestinal Cancer Registry (UGICR) to collect the data from pilot sites via the registry REDCap database. The UGICR is a quality cancer registry that already collects similar data, creating an opportunity for a central collection point for the project.

The lack of agreed common criteria to define resectability to date has been a barrier to determining appropriate treatment for pancreatic patients and leads to a known variation of care. The adoption of a standard statewide definition on resectability and the development of a reporting tool based on that standard will help ensure appropriate and consistent management of patients. Furthermore, it is suggested that by being able to clearly define borderline resectable disease, further treatment options may become available to patients.



Aboriginal and Torres Strait Islander optimal care pathway

The government's Victorian cancer plan recognises that there are inequities for Aboriginal Victorians across the entire cancer pathway and that cancer incidence and mortality rates are higher. Collaboration and culturally appropriate care is supported throughout the southern Melbourne healthcare services. However, actual barriers or gaps for the management and support of Aboriginal and Torres Strait Islander people with cancer in the SMICS catchment are not specifically known. Data validity, disparate data sources and low numbers add to the challenges of accurately reviewing service delivery.

Partnering with Aboriginal communities and cancer and Aboriginal health services, this project has begun by mapping the journey and understanding the barriers and gaps in service delivery for the southern Melbourne area. By mapping services and the cancer journey taken by Aboriginal and Torres Strait Islander people in the area, different clinical and consumer perspectives will be explored and will provide insight into gaps and barriers. Education for staff (cancer service staff and Aboriginal health workers) will be developed to ensure care is delivered in a culturally appropriate way. A journey map specific to each participating healthcare service will be developed to support Aboriginal and Torres Strait Islander people diagnosed with cancer and their families navigating the cancer pathway in the southern Melbourne area.

Promoting supportive care

Mandarin living with cancer education program

Cancer Council Victoria, Monash Health and SMICS collaborated to adapt the Living with Cancer Education Program (LWCEP) to encompass Chinese culture and the Mandarin language. Interpreters from Monash Health and consumers assisted and informed the development of the Mandarin LWCEP. Key achievements in 2019–20 included the following:

- A focus group convened on 18 November 2019 to inform the program's development, with 11 Mandarin-speaking/Chinese participants involved.
- * Supported by interpreters, participants assisted in adapting the LWCEP to encompass the Chinese community's language, cultural and support needs.
- * LWCEP in Mandarin has been developed and is ready for delivery.
- * Mandarin-speaking interpreters, doctors and nurses have agreed to deliver the program.

Delivery has been delayed due to the COVID-19 health emergency. When this program is able to be delivered, the Chinese community will be better informed about their cancer care and will have a better experience of care.



Supportive care refresh project

The integration of supportive care into routine cancer care is defined as a characteristic of optimal service provision in the Victorian cancer plan and the optimal care pathways. The Supportive Care Refresh Project aims to improve supportive care practices across SMICS member health services by: building workforce capacity to identify and address supportive care needs; embedding supportive care into routine cancer care; strengthening referral pathways to appropriate services; and facilitating self-management utilising the WeCan resources.

In partnership with key stakeholders at The Alfred, Monash Health and Cabrini, SMICS began implementing the Supportive Care Refresh Project to improve supportive care screening, assessment and timely referral to appropriate services throughout the care pathway. Project implementation was delayed due to the COVID-19 pandemic, with an expected decrease in supportive care screening during this time. As the project restarts, the impact of COVID-19 on supportive care and opportunities for improving future care will be considered. In addition to improving patients' experience of care and outcomes, this project will assist member health services to achieve the Department of Health and Human Services' target of supportive care screening of 80 per cent of newly diagnosed cancer patients.

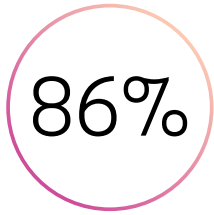
Study into the effectiveness and delivery of pre-treatment education at Cabrini Health for patients receiving cancer therapy

A research project was undertaken to determine the variation in content and delivery by nurses when providing pre-treatment patient education to treatment naïve patients receiving systemic cancer therapy at Cabrini Health. The views and perspectives of patients receiving the pre-treatment education were also examined to better understand their experience, retention of information and whether unmet supportive care needs of patients were being addressed.

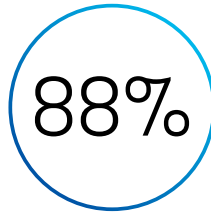
22 patient education sessions were audited via direct observation and 14 patient questionnaires completed.

A final project report was endorsed and recommendations accepted by the Director of Medical Oncology, CDU/Oncology Nurse Unit Managers and Nursing Director Medical Services. These included targeted in-service staff training; establishing stronger links with allied health services; developing a checklist for nurses that directs discussion; and the implementation of a SURC. An action plan has been developed to implement the recommendations to support the delivery of consistent, relevant and value-based information for patients receiving systemic cancer therapy at Cabrini.

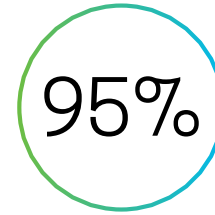
Sustaining colorectal cancer survivorship care at Monash Health



of participants reported feeling confident with GP follow-up



of patients who reported ongoing problems received support to manage them



of people received combined care for colorectal cancer and an additional comorbidity in a single GP consultation

A three-year pilot of colorectal cancer shared care at Monash Health and Eastern Health concluded in October 2019. Funded by the Department of Health and Human Services and North Eastern Melbourne Integrated cancer Service (NEMICS), this SMICS and NEMICS partnership project provided opportunities to test a new model of care across adjacent primary care networks.

Patients treated with curative intent for stages I–III colorectal cancer were eligible for shared care. The pilot found that shared care after treatment completion is highly acceptable to patients, general practitioners (GPs) and specialists. In all, 114 of the 122 (93.4 per cent) patients agreed to shared care. All specialists agreed to participate and just two GPs opted out.

Patients reported benefits of GP involvement in follow-up care after 12 months of shared care. These were themed as reassurance, familiarity, confidence, less travel and waiting times, accessibility, detailed discussion about other health issues / cancer treatment effects, and the crucial role for GPs in overall care and referrals. In all, 97.6 per cent of patients who returned 12-month surveys reported combining cancer and other condition follow-up in a single GP visit.

Further work is needed to enable reciprocal communication between acute and primary care and to embed more systematic approaches to shared care implementation. The model has been sustained and refined at Monash Health, providing holistic support and coordinated care after colorectal cancer.

Strengthening workforce capability

Cancer nurse coordinator community of practice - Monash Health

A program to provide constructive peer-to-peer support and professional development for cancer nurse coordinators has been developed to assess the professional development needs of these coordinators at Monash Health.

The program included research related to the nurses' job satisfaction, wellness and stress response.

Additionally, a schedule of six Community of Practice events were held, focusing on adolescent and young adult fertility preservation, cancer survivorship, cultural safety for Aboriginal and Torres Strait Islander peoples, voluntary assisted dying, bereavement and mindfulness.



VICS SOUTHERN MELBOURNE INTEGRATED CANCER SERVICE
Together for better cancer care

Ellen Heywood
Director, Clinical Operations
Cancer Services
Monash Health

Cancer Nurse Coordinator
Community of Practice Project
2020

www.smics.org.au

VICS SOUTHERN MELBOURNE INTEGRATED CANCER SERVICE
Together for better cancer care

Metastatic breast care nurse training and mentoring project

The metastatic breast care nurse training and mentoring project aims to provide online training and clinical placements at Monash Health for nurses to develop the skill set to provide care for patients with metastatic breast cancer.

The project partners are SMICS, Monash Health, Monash University and the McGrath Foundation.

Up to 30 nurses will be upskilled over a four-year period, with the first clinical placement for Monash Health nurses expected to be delivered in November/December 2020. Nurses external to Monash Health will begin in February 2021 provided COVID-19 restrictions allow.

A contingency plan for online clinical placements is under consideration.



Monash Health head and neck general practitioner education series

A series of three general Practitioner (GP) education workshops were developed and delivered across southern Melbourne with the Head and Neck Cancer Team at Monash Health. The workshops introduced GPs and practice nurses to the optimal care pathway for head and neck cancer. They also provided GPs with the information they need to recognise the early diagnostic signs and symptoms of head and neck cancer and guidelines for rapid patient referral into the Monash Health Head and Neck Cancer Service.

Presentations provided an overview of head and neck cancer surgery (which can include complex multimodal surgery carried out by teams of surgeons comprising ENT, plastics, faciomaxillary and neurosurgeons), complexities of chemotherapy and radiotherapy provision and how to manage associated side effects.

The important role of head and neck cancer nurse consultants and speech pathologists in providing care coordination, rehabilitation and supportive care provision was also outlined.

Some of the key messages for GPs were the importance of:

- early diagnosis and referral
- recognising the increased incidence of head and neck cancer in younger people
- HPV vaccination for young people
- recognising and managing the side effects of treatment.

Information about diagnosing head and neck cancers and when to refer is available on the Monash Health website at

[Head and Neck Cancer Guidelines and Referral.](#)



Preventing a trip to hospital

Symptom urgent review clinics

Demand for services that deliver systemic anti-cancer therapy (SACT) is increasing. The number of SACT episodes of service in Victoria has grown in recent years in both the public and private sectors. There is an increasing trend for SACT to be administered in the ambulatory environment, shifting the burden of managing treatment-related toxicities to the patient, carers and primary care providers. Patients are often unaware of the significance of their side effects and lack the confidence to manage their symptoms at home, resulting in unplanned emergency department presentations for many patients experiencing treatment-related side effects.

Several symptom urgent response clinics (SURCs) have been implemented across Victoria's public hospitals in metropolitan and regional areas. Implementation of these clinics has shown high rates of patient participation in the SURC model of care, a reduction in emergency presentations, improved patient satisfaction throughout treatment and favourable clinician support. SMICS has provided over \$300,000 in grant funding to establish SURCs at Alfred Health, Peninsula Health and Cabrini Health.

Telehealth

The COVID-19 pandemic has required rapid adjustment in health service delivery. In response to the pandemic, SMICS supported our member health services to rapidly incorporate telehealth into oncology service delivery models. Utilising telehealth services has ensured continuity of high-quality cancer care throughout the pandemic while protecting vulnerable patients and healthcare workers.

Although some health services had established telehealth systems, they were not widely utilised by oncology services until the introduction of a new MBS billing code in April 2020. SMICS has supported Alfred Health, Monash Health and Peninsula Health to rapidly adopt telehealth during this time by rescheduling more than 300 outpatient appointments, providing patient education on accessing HealthDirect, refining telehealth procedures in oncology clinics and collating information resources to assist patients and carers to participate in telehealth.

SMICS is also supporting a statewide telehealth mapping exercise to inform and enhance the use of telehealth in cancer care.

Chemo in the Home

As part of its COVID support effort, SMICS helped established the Chemo in the Home program, operated by Cabrini Health. The model reduces risk to often immunocompromised patients by avoiding the need to leave home to attend treatment in a day oncology clinic.

SMICS supported Cabrini Health by assisting with project planning, service mapping and in revising forms to be used as part of the program. Patients have already begun participating in this new initiative, and it is anticipated that up to 10 patients per week will benefit from this new service.



Piloting patient-centred programs

Using the latest genomic research to inform personalised cancer care

The MPCCC Precision Oncology Program coordinates research and clinical care for patients with rare, advanced stage and therapy-resistant cancers.

The program supports analyses of comprehensive genome profiling data, enabling health professionals to understand the genetic variations of a patient's cancer and to recommend the best treatment options available.

MPCCC's Molecular Tumour Boards provide collaborative forums for cancer health professionals and researchers to discuss and interpret the results of genome profiling. These meetings help to guide decision making about treatments for individual patients. Current MPCCC Molecular Tumour Boards specialise in:

- pancreatic and upper gastrointestinal cancers
- rare cancers and cancers of unknown primary site
- prostate cancer
- thyroid cancer.

In addition, the MPCCC Precision Oncology Program provides educational opportunities to prepare the cancer workforce to apply precision oncology in ways that support excellence in patient care.

Local, interstate and international guest speakers are invited to present at Precision Oncology Seminars held across MPCCC partner health services on topics such as:

- genetic sequencing of solid tumours
- novel therapies for high-risk childhood cancers
- cancer biomarker research and discovery in immunotherapy
- the Australian Genomic Cancer Medicine Program – a national precision oncology initiative
- cancers of unknown primary
- health economics of comprehensive genome profiling compared with 'standard of care' genetic testing
- clinical bioinformatics
- circulating tumour DNA ('liquid biopsies') for molecular disease monitoring.

The MPCCC Precision Oncology Program has been made possible by funding from the Victorian Government and Monash University.



'The MPCCC Precision Oncology Program provides a fantastic opportunity for clinicians and researchers to become involved in applying cutting-edge standards of care in ways that improve the quality of care of our patients.'

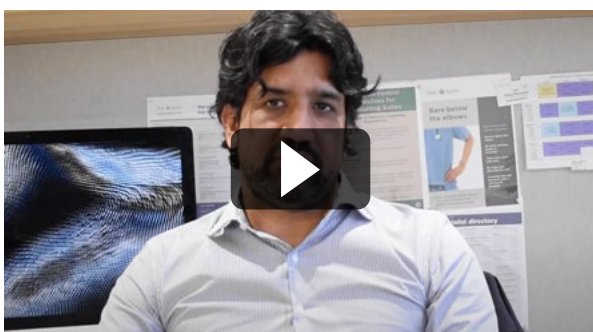
Professor Mark Shackleton

Clinical Lead, MPCCC Precision Oncology Program; Director of Oncology, Alfred Health; Professor of Oncology, Monash University

'This program will help make tumour profiling widely accessible through MPCCC partner health services.'

Dr Muhammad Alamgeer

Medical Oncologist, Monash Health



Collaborating with community health professionals to treat cancer-related depression

Depression often goes undiagnosed in people with cancer, and there are too few resources in the hospital system to support adequate treatment.

In 2018–19, MPCCC piloted a collaborative model of care to treat cancer-related depression, connecting hospital specialists, community-based psychologists and general practitioners.

At the conclusion of the 12-month study, an independent evaluation was conducted, including both quantitative and qualitative indicators.

The quantitative evaluation found that most participating cancer patients with depression experienced a clinically significant improvement to their depression. Of these, 78.6 per cent recorded a five-point or more reduction on the Patient Health Questionnaire at 12 weeks post-treatment. This translated to quality of life improvements related to relationships, self-worth, pain and emotional wellbeing.

The qualitative evaluation, which took the form of interviews with a representative selection of participants and patients, also found the model to be highly effective.

Health professionals involved in the pilot recommended continuation and expansion of the collaborative-care model to support cancer patients with depression, in both metropolitan and regional settings.

In response, the Victorian Integrated Cancer Services have now formed a working group to consider how to implement the collaborative model of care to treat cancer-related depression across Victoria.

This project was made possible by funding from the Victorian Government.



'I now feel more confident in working with people affected by cancer beyond the life of this project.'

Participating community psychologist

'The program changed her whole experience of what she'd been going through. She felt that she was able to manage things better and feel more in control.'

Community psychologist speaking on behalf of a participating patient

Improving access to clinical trials in regional Victoria

Improving access to cancer clinical trials for people living in regional and rural Victoria is a priority of the Victorian cancer plan 2020–2024.

Working together, Monash Health and Latrobe Regional Hospital have established a new oncology clinical trials centre at Latrobe Regional Hospital, with three investigator-led cancer clinical trials now open to patients across Gippsland.

The next steps to improving access to clinical trials will be to facilitate opportunities between metropolitan and regional cancer centres by introducing telehealth and piloting tele-trials.

The Monash-Gippsland Tele-trials Project has been made possible by funding from the Victorian Government.



Measuring patient experiences and outcomes

Two complementary MPCCC pilot projects are trialling the collection of patient-reported outcome measures (PROMs) and patient-reported experience measures (PREMs) to help cancer patients and clinicians in identifying and addressing a wide range of health concerns.

Targeted patient questionnaires are used to collect information about how well a patient's physical, emotional, social and informational needs are being met during their cancer treatment.

Each pilot project is trialling a different method of data collection. Evaluation will inform broader implementation across MPCCC partners and sites beyond.



Pilot A: Collection of registry-based patient-reported experience and outcomes data

The participants in this pilot are people with pancreatic cancer being treated at Alfred Health, Monash Health, Eastern Health or Peninsula Health. Each participant receives an online survey at regular intervals over the course of their treatment. The data collected through this pilot is integrated into the Upper Gastrointestinal Cancer Registry, a clinical quality registry based at Monash University, and will be used to inform future health service planning and research.

Pilot B: Real-time collection of patient-reported experience and outcomes data

This pilot invites cancer patients at Monash Health to complete a pre-appointment questionnaire with their treating oncologist, providing 'real-time' feedback about their health concerns and quality of life. Patients' responses are discussed during their appointment and enable appropriate, targeted and holistic cancer management and referrals for care.

Supporting innovation through research

Applying new technologies to detect melanoma early

Monash University's School of Public Health and Preventive Medicine is using state-of-the-art total body 3D skin imaging systems to detect and diagnosis melanoma earlier.

The new imaging systems, funded by the Australian Cancer Research Foundation, will soon be available in 15 health services across Victoria, New South Wales and Queensland. Each machine contains 92 cameras that simultaneously capture the entire skin surface and a create an avatar of a patient's skin. This can then be reviewed by a dermatologist via telehealth.

Using 3D software, dermatologists are able to zoom in and closely examine skin lesions. The software also supports dermatologists in their detection of changes in a patient's skin over time.

'With this equipment, we will have the ability to transform the ways in which melanoma is detected and improve access to advanced diagnostic technologies, particularly for people living in regional areas,' said Director of the Victorian Melanoma Service at Alfred Health and Adjunct Associate Professor at Monash University Associate Professor Victoria Mar.

In addition, Associate Professor Mar is currently investigating whether artificial intelligence (AI) could be used to further support diagnoses of melanoma.

'The machines are currently able to detect changes in lesions but cannot determine whether they are benign or cancerous,' explained Associate Professor Mar.

The Australian Centre of Excellence in Melanoma Imaging and Diagnosis, a national collaboration involving researchers from Monash University, the University of Queensland and the University of Sydney, will inform how imaging technologies can effectively detect changes in a patient's skin and identify cancerous cells early.

Melanoma is 12 times more prevalent in Australia than the global average, with approximately 28,000 diagnoses each year. Early detection is the best way to reduce the need for costly and intrusive late-stage melanoma treatments, and to improve prognosis for patients.



Bone marrow transplant trial to inform use of stem cell transplants for people with blood cancers

A national bone marrow transplant trial led by the Australian Centre for Blood Diseases (ACBD) at Monash University is investigating how to improve the survival of people with blood cancers who receive stem cell transplants.

Stem cell transplants have the potential to cure people with blood cancers, but around 20 per cent of transplant recipients succumb to graft-versus-host disease (GVHD), and better strategies are needed to prevent this complication.

Funded by the Medical Research Futures Fund, the research will include developing new genomic assays to detect patient-specific mutations and identifying biomarkers in patient samples.

The results of the five-year trial will be integrated into the Australian Bone Marrow Transplant Recipient Registry, which the ACBD research team anticipates will enhance transplant practice across Australia.

'This trial will compare the impact of standard therapy against the stem cell transplant approach to inform more effective and efficient use of therapies for blood cancer,' said Professor David Curtis, Head of Blood Cancer Research at the ACBD.



Clinical trials adapt to challenges of COVID-19 and discover opportunities for the future

The Monash Health Clinical Trials Unit has discovered more patient-centred and efficient ways to manage cancer trials as an unexpected outcome of COVID-19.

Monash Health Translation Precinct adapted quickly to COVID-19 restrictions to ensure patients with cancer were able to participate in clinical trials, despite significant challenges.

'Knowing that people undergoing cancer treatment are already vulnerable to infections, we prioritised reducing travel as much as possible,' said Ms Karen Gillett, Clinical Trials Manager at Monash Health.

Consultations quickly transitioned to telehealth to minimise face-to-face contact, a delivery model that patients and oncology researchers have readily adapted to, and may also work to fast-track opportunities for tele-trials. Additionally, patients were referred for tests at local centres where possible, including for imaging and blood tests.

Another innovation that will most likely continue is remote monitoring of people on clinical trials. Secure new online systems and processes have been implemented between trial coordinators and pharmaceutical sponsors to meet the ethical requirements of validating and monitoring clinical research. This can reduce the cost and administrative processes involved with running clinical trials.



Monash University's vital role in advancing global prostate cancer research

A landmark clinical trial, ENZAMET has highlighted the contribution of universities in advancing medical research across the world.

The ENZAMET trial is led by the Australian and New Zealand Urogenital and Prostate Cancer Trials Group, chaired by Professor Ian Davis, Head of the Eastern Health Clinical School at Monash University, who is also global co-chair of ENZAMET. ENZAMET initially opened as an academic study in Australia and New Zealand, rapidly involving sites in Canada, Ireland, the United Kingdom and the United States. It accrued 1,125 participants between 2014 and 2017.



At its first interim analysis in 2019, ENZAMET demonstrated a 33 per cent reduction in the hazard of death among men with prostate cancer using enzalutamide, a novel hormone therapy.

'The findings from ENZAMET have been included in treatment guidelines around the world and could make a big difference to thousands of men who are diagnosed with metastatic prostate cancer,' said Professor Davis. 'This trial has put investigator-initiated cancer research in the spotlight, on a global scale.'

'It demonstrates the important role universities play in advancing medical research across the world and the direct benefits a supported medical research sector can deliver to people living with cancer and many other diseases too,' said Professor Davis.

ENZAMET was the recipient of a prestigious trifecta of awards from the Australian Clinical Trials Alliance (ACTA) award in 2020. These include the ACTA Trial of the Year Award, the ACTA STInG Excellence in Trial Statistics Award, and the ACTA Consumer Involvement Award.



Tumour growth stopped in its tracks by novel brain cancer treatment

Research from Monash University's Department of Neuroscience, led by Dr Mastura Monif, may offer new hope to people with one of the most aggressive forms of brain cancer, glioblastoma.

With a prognosis of around 14–15 months survival after diagnosis, this lethal cancer accounts for around 80 per cent of all brain cancers and is commonly diagnosed in people between the ages of 30 and 40.

Existing treatments combine adjuvant therapy and surgery but significantly reduce quality of life and only extend the lives of patients by more than a few months.



Dr Monif and her team are collaborating with researchers and clinicians from Alfred Health, Melbourne Health and the University of Melbourne. Using patient tumour samples, Dr Monif's team discovered that a protein, P2X7R, inhibits the growth of glioblastoma.

'In the culture setting, tumours exposed to P2X7R blockers showed a significant reduction in growth and, more importantly, the drug we tested was better than the conventional chemotherapy,' said Dr Monif.

Dr Monif believes this novel treatment could be life changing for people affected by glioblastoma and is working to achieve funding for ongoing preclinical studies and hopefully a first-in-human trial.

Ground-breaking aerosol chemotherapy offers targeted approach and reduced side effects

A ground-breaking treatment from Germany, Pressurised Intraperitoneal Aerosol Chemotherapy (PIPAC), is being trialled with bowel and stomach cancer patients at Epworth HealthCare.

Participants in the trial receive three rounds of aerosol chemotherapy, administered during keyhole surgery at six-week intervals. The aerosol is administered directly onto the tumour at high speed and 'soaks' into the tumour nodule.

'The treatment is sprayed directly onto the tumour site instead of injecting it into the patient's bloodstream like a conventional course of chemotherapy,' explained Associate Professor Craig Lynch, General Surgeon (Gastroenterology) at Epworth HealthCare. 'This delivery method reduces the nasty side effects associated with conventional therapies, which attack healthy cells in the body in addition to cancer cells.'

'Each time we examine the tumour after therapy, we can see it is shrinking, and we observe scarring on the tumour. It's wonderful to see this treatment take effect on patients whose options would otherwise be limited to palliative care,' said Associate Professor Lynch.

It is anticipated that the aerosol treatment could also be used preoperatively to shrink tumours, which could reduce the impact of surgery on patients. The possibilities of this treatment to both reduce side effects and extend the lives of people with cancer are highly promising.

PIPAC was first trialled in Europe in 2011 and is currently being trialled at four sites in Australia across Victoria and New South Wales. Internationally, the treatment has been used on other cancers, including ovarian cancer, and it has potential to be used on a wider number of cancers in Australia.

The PIPAC trial at Epworth HealthCare is funded by the Epworth Medical Foundation and involves patients whose cancers have not responded to chemotherapy.



Gut health may be key to treating solid tumours

Researchers at Alfred Health and Monash University are investigating the link between gut health and the effectiveness and safety of immunotherapies in treating solid tumours.

'A tumour is comprised of many different types of cells and tissue, and cancer cells are just one piece of the puzzle that researchers can examine,' explained Dr Miles Andrews, Medical Oncologist at Alfred Health and Research Fellow at Monash University.

'We've known for a long time that many things, including cancers and the drugs we use to treat them, disrupt the balance of immune cells in the human gut, and this has flow-on effects for immunity elsewhere in the body. We're using that knowledge to break down tumours into different parts, to manipulate immune cells and attack cancer cells in a more precise and targeted way,' Dr Andrews added.

Using biomarkers to test how cancer genomes, patient microbiomes and treatment outcomes are linked, the study aims to identify microbial interventions with the potential to enhance treatment outcomes for different types of cancers, including melanomas and lung cancers. The results could potentially be applied to a range of other solid tumours in the future.



Harnessing data to support the delivery of value-based cancer care

A new data linkage system, Fast Healthcare Interoperability Resources (FHIR), is being piloted by three of the cancer clinical quality registries at Monash University, with funding allocated by Monash Partners from the federal government's Medical Research Futures Fund.

A new technology, FHIR enables previously incompatible datasets to 'talk to each other', overcoming a major barrier to the collection and use of data for healthcare improvement, research and innovation.

Monash University began deploying FHIR in four MPCCC health services in late 2019. The pilot project will enhance data collected by the prostate, lung and pancreatic cancer clinical quality registries. It will do this by drawing key data from hospital-based electronic medical records to produce registry-level reports. These reports will benchmark practices used to monitor trends in clinical and patient-reported outcomes.

Key learnings from this important work will inform how to expand the scope and reach of the FHIR system to streamline data collection from most institutions around Australia.

'Now, more than ever before, our health services need data management systems that communicate effectively with each other so we can inform flexible models of care,' said Professor John Zalcborg OAM, Clinical Lead of the FHIR project originally developed by Professor Sue Evans in the School of Public Health at Monash University.

'Additionally, cancer registries have an important role to play in directing cancer research towards priority areas,' Professor Zalcborg added.

The FHIR team is now examining how elements of the database can be automated, and research is being undertaken to develop an app to support this process.



'We believe FHIR can support growing cancer incidence amid a growing population in Victoria by harnessing data to match patients with clinical trials, assist them and their treating teams by generating reports, and a whole host of other functionalities.'

Mr Vinoo Abraham

Project Manager, Monash Partners

'This project aims to enhance understandings of the 'real-world' impact of cancer care, and in doing so increase our health system's ability to respond to the needs of people with cancer, and deliver value-based care.'

Professor Helena Teede

Executive Director, Monash Partners

Improving the effectiveness of immunotherapy for solid cancers

Researchers from the Monash Biomedicine Discovery Institute (Monash BDI) are using gene editing and pharmacological approaches to improve the effectiveness of immunotherapies for people with breast and colon cancers.

Professor Tony Tiganis and Professor Nicholas Huntington from the Monash BDI received a \$1.78 million grant from the National Health and Medical Research Council to advance their research using chimeric antigen reception (CAR) T-cells and natural killer (NK) cells to combat solid tumours. The team's preclinical studies demonstrated that deleting immune-regulatory enzymes in CAR T- and NK cells increased their effectiveness against solid tumours such as breast cancer.



'We have validated the potential for modified CAR T-cells to revolutionise the therapy of solid tumours and believe that, with continued research, we can expand the application of this approach to many different cancers,' Professor Tiganis said.

Improving the future accuracy and application of precision oncology

A partnership between Monash Biomedicine Discovery Institute (Monash BDI) and the MPCCC Precision Oncology Program is using innovative research technologies, including multi-omic and organoid profiling, to improve the future accuracy and application of precision oncology.

'Multi-omics' include advanced molecular and functional analysis techniques that may offer more comprehensive patient screening for molecular alterations than current genomics screening.

'Current genome screening tests are typically restricted to analyses of known mutations in a small number of cancer genes,' said Professor Roger Daly, Cancer Program Lead and Head of the Department of Biochemistry and Molecular Biology at the Monash BDI. 'This means that important molecular changes in a cancer could go undetected, and patients may miss out on trying potentially effective therapies.'



Through the MPCCC Precision Oncology Program, consenting patients' tumour samples are shared with Monash BDI researchers to apply multi-omics techniques and create tumour-derived organoids. The project aims to identify and test whether particular therapeutics could be effective for specific patients, with an initial focus on triple-negative breast cancer, pancreatic cancer and cancers of unknown primary.

'Techniques like transcriptomics, proteomics, immunoproteomics and phosphoproteomics can be used to generate a comprehensive molecular profile that may identify new targeted therapy options for a patient, or identify biomarkers that predict response to therapy, including immunotherapy,' said Professor Helen Abud, Professor of Anatomy and Developmental Biology at the Monash BDI, who leads the Monash Organoid Program.

'Using this knowledge, we can predict responses to particular drugs and then test the efficacy of these therapies on our patient-derived organoid models, which are essentially mini-tumours grown in the lab. This can mimic the ways a real-life patient's tumour would respond, and help identify optimal treatments,' Professor Abud explained.

Results from the Monash BDI multi-omics and organoid program will be presented to the MPCCC's Molecular Tumour Boards for discussion and educational purposes.

Less stress can slow tumour growth in people with breast cancer

Research at Monash Institute of Pharmaceutical Sciences has discovered that stress affects cancer cells and the surrounding tissues.

The two-year study published in *Cancer Clinical Research* trialled the use of beta-blockers in women newly diagnosed with breast cancer and found that blocking stress made cancer cells less likely to spread.

Beta-blockers stop the body from hearing adrenaline, which limits the body's response to physical and emotional stress. Beta-blockers have been used routinely for decades to treat high blood pressure and have few negative side effects.

'In this study, I've channelled my curiosity about the interplay between stress and cancer into a therapeutic technique that could significantly improve cancer outcomes and quality of life for people with breast cancer,' Lead Investigator and Drug Discovery Biologist Associate Professor Erica Sloan explained.

'Not only did beta-blockers turn off genes that help the cancer spread, they also supported the recruitment of cancer-fighting immune cells to the cancer,' she added. 'This is exciting as it suggests beta-blockers could be used to enhance existing cancer treatments.'

Additional research is required to identifying exactly when and how stress-limiting pharmaceuticals should be administered, and to understand the best way to incorporate them with standard cancer treatments such as chemotherapy.

Associate Professor Sloan hopes the approach can be tested in a large-scale clinical trial in future. Breast cancer consumer advocacy groups, including Pink Hope, are watching with interest.



Organoid research to identify the need for invasive surgery in colorectal cancer patients

Researchers at the Cabrini Monash University Department of Surgery and the Monash Biomedicine Discovery Institute are collaborating to investigate a less invasive approach to colorectal cancer management by using mini lab-grown tumours or 'organoids' to test how rectal tumours will respond to certain therapies.

Conventional therapies for rectal cancer involve chemo or radiotherapy, coupled with aggressive surgery, which often has highly disruptive side effects including sexual and urinary dysfunction.

'Our research discovered that almost 20 per cent of rectal cancer patients could avoid the life-altering surgery without increasing the risk of cancer recurrence,' said Dr Rebekah Engel, Senior Research Fellow at Cabrini Institute.

Published in May 2020 in the *International Journal of Colorectal Disease*, the study of 364 patients showed that 69 experienced remission after chemotherapy or radiotherapy alone.

'The outcomes from this study may allow us to develop a model to select patients who will be suitable for non-surgical management of their rectal cancer,' Dr Engel said.



Prostate cancer prevention one step closer with outcomes of landmark genetic research

Monash University's Precision Medicine research group has discovered multiple new genetic risk factors that make men susceptible to aggressive prostate cancer in a landmark study that will contribute to future prevention of the disease.

Led by Dr Tu Nguyen-Dumont, the research group used gene panel sequencing to compare the genetic variants of 787 Australian men with aggressive prostate cancer and 769 men with non-aggressive prostate cancer. Further research compared gene variations in 920 men with either a strong family history of prostate cancer or the aggressive form of the disease.



The study used whole exome sequencing to discover 10 new genes associated with prostate cancer risk, with all but two of these connected with the aggressive form.

'This new data will improve the care of men with and without prostate cancer, including the ability to predict susceptibility to aggressive prostate cancer and put in place measures to mitigate or even prevent the disease,' said Dr Nguyen-Dumont.

The findings of this research were published in *European Urology* and the *International Journal of Cancer* and are the product of decades of collaborative research with Cancer Council Victoria's Cancer Epidemiology Division.

Contact Us

Contact MPCCC

+61 3 8572 2707

info@monashpartnersccc.org

www.monashpartnersccc.org

Contact SMICS

+61 3 9928 8541

smics@monashhealth.org

www.smics.org.au

Subscribe

[MPCCC Newsletter](#)