Preamble

The period 2020-25 provides an unparalleled opportunity for Peter MacCallum Cancer Centre (Peter Mac) to develop and deliver its most ambitious and exciting research strategy to date; one which manifests our unique standing as a single enterprise delivering large scale fundamental, pre-clinical and clinical cancer research integrated with clinical care and education. The strategy will build on past success, our current momentum and new initiatives already in train and contribute to Peter Mac’s overall strategic direction. Moreover, it will align with strategic plans developed by our partners and stakeholders including the Victorian State Government (Victorian Cancer Plan 2020-24; Health and Medical Research Strategic Plan 2020-30), Melbourne Academic Centre for Health (MACH) and the Victorian Comprehensive Cancer Centre (VCCC).

The review of Peter Mac’s research by a panel of outstanding national and international research leaders conducted in April/May 2019 has provided a timely, intensive and extensive assessment of strengths and opportunities of our program, forming an excellent reference to inform the 2020-25 Peter Mac Research Strategic Plan. As detailed herein, we continue to attract peer-reviewed grant support and, through the outstanding work of the Peter MacCallum Cancer Foundation, our philanthropic donations continue to grow. We publish papers of the highest quality, develop and extend mutually beneficial national and international partnerships, attract the best talent from across the globe and have significant influence across local and national research sectors. We are well positioned to expand our research scope and impact in 2020 and beyond. To do so, we must take advantage of opportunities that currently exist within our research ecosystem, in particular through attracting, retaining and resourcing research talent, building our capabilities in key areas of strategic development and augmenting our strategic partnership network.

Mutually beneficial and material partnerships are a cornerstone of our 2020-25 research plan. An important enhancer of our collaboration strategy over the last five years has been the VCCC, an alliance of ten Victorian organisations committed to cancer control. The alliance has enabled successful partnerships across a range of strategically important areas resulting in new initiatives such as the Centre for Cancer Immunotherapy and the Comprehensive Cancer PhD Program. These programs are exemplars of the benefits made possible through partnership with VCCC alliance partners. Peter Mac will continue to seek better outcomes for Victorians affected by cancer through partnership with the VCCC, particularly in the areas of cancer education, consumer engagement and clinical trials.

Peter Mac is also an important partner in national (Zero Childhood Cancer – ZCC, Australian Genomic Cancer Medicine Centre - AGCMC) and international (imCORE - Roche/Genentech, II-ON – Bristol Myers Squibb, OCTC - GlaxoSmithKline, POC – AstraZeneca) alliances that provide funding and research opportunities in precision medicine, innovative pre-clinical studies and first-in-human clinical trials. Moreover, strategic partnerships with the University of Melbourne (UoM) particularly in the areas of data-driven healthcare and health informatics, cancer genomics (in partnership with Illumina) and clinical research are growing and can be further leveraged to assist with the realisation of our strategic initiatives. Finally, our “neighbourhood” will soon be transformed through the introduction of biotechnology powerhouses in biological medicine (CSL) and genomic technology (Illumina) into the Parkville Precinct.
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Peter Mac Strategic Directions 2020-25

OUR STRATEGIC PILLARS ARE:

01 — World’s best cancer care

02 — World’s best cancer discovery research and translation

03 — Networks, partnerships and enterprise

04 — World-class cancer education

05 — Our people

OUR STRATEGIC ENABLERS ARE:

01 — High-trust, high-performance culture

02 — Sustainability

03 — Digital and connected health
Peter Mac Research Strategic Plan
2020-2025

CORE PURPOSE:
To constantly pursue excellence in the full spectrum of discovery-based, pre-clinical, clinical and health services cancer research, rapidly translate fundamental discoveries into clinical practice and implement evidence-based research outcomes into clinical practice and models of care across the breadth of the healthcare system.

MISSION:
Peter Mac will be an internationally renowned comprehensive cancer centre, performing cancer research that puts patients at the core of everything we do. We will generate new scientific knowledge that transforms our understanding of all aspects of cancer and drives continued enhancement of our integrated research and clinical care enterprise covering the patient journey from prevention, detection and diagnosis, treatment, through to survivorship, palliative care and end-of-life care.

CORE VALUES:
01 — Innovation
02 — Excellence
03 — Compassion

FOUNDATION ELEMENTS:
The aspiration of this strategic plan requires Peter Mac’s research to be simultaneously considered and agile, outwardly facing, truly collaborative and able to demonstrate impact. Our research support must be internationally world-leading, with the best cancer workforce across research and professional staff.

• **Leadership:** we will encourage and support leaders (at all levels of the organisation) to deliver against the research strategic plan and enhance research outcomes.

• **Partnerships:** we will enhance and grow our strategic partnerships and seek opportunities to deepen collaborations locally, nationally and internationally.

• **Accountability:** we will set clear and internally consistent expectations for research performance with objective measurement and appropriate reward and recognition for high performers. This will be across laboratory, clinical and health services domains, and will use benchmarking to drive organisational performance.

• **Talent:** we will recruit and train staff and students who align with Peter Mac values and display accountability, productivity and creativity.

• **Integration:** we will integrate our research activities within and across different disciplines, departments, craft groups and staff/student cohorts.
STRATEGIC DRIVERS

Providing an operational framework, Peter Mac’s research drivers are essential for steering innovative and financially sustainable research activities that are of high quality and demonstrate international impact and integrity. By effectively communicating the impact of Peter Mac’s outputs, we demonstrate how we are delivering on our aspiration to be a world-leading comprehensive cancer centre.

**Training and Education:** we will provide our staff and students with access to a broad range of educational and professional development opportunities internally and through linkages with our partners such as UoM and the VCCC.

**Funding and Investment:** we will seek to identify and pursue an increasingly diverse range of funding options and further enhance our relationship with the Peter Mac Cancer Foundation, establishing clear protocols and processes.

**Platforms and Technology:** we will ensure our platforms and technology are fit-for-purpose and that our staffing profile reflects a service-driven culture.

**Commercialisation and Business Development:** we will continue to ensure uplift in the pursuit of bold opportunities, strengthening financial management of commercially supported research.

**Quality Assurance and Compliance:** we will ensure Peter Mac’s reputation for the conduct of the highest quality research through the establishment of a dedicated research Quality & Integrity team.

**Communication:** we will proactively promote Peter Mac’s people and their work internally and externally to demonstrate our impact on advancing cancer care, nationally and internationally.

**An integrated Office of Cancer Research (OCR):** we will ensure integration of all research enablers through an Office of Cancer Research staffed by research professionals committed to providing the highest quality support for all Peter Mac’s research staff and students.

APPROACH:

- Harness and develop research leadership and talent.
- Build and promote a diverse and engaged workforce.
- Identify and enhance strategically important areas for focus and growth.
- Advance the integration of discovery-based research and clinical care.
- Facilitate and prioritise effective linkages across all research domains.
- Cultivate and lead local, national and international collaborations.
- Build a diverse and sustainable funding base from local, national and international sources.
- Provide leadership and advocacy on research funding, priorities and strategy across the national research sector.
- Reduce our environmental impact through improvement in research practices.
Our Aspirations and Directions

INTEGRATED PATIENT-CENTRED CANCER RESEARCH

Through our patient-centred model of cancer research we will generate new scientific knowledge and seek a deep and comprehensive understanding of cancer to support all stages of the patient journey from prevention, detection and diagnosis, treatment, through to survivorship, palliative care and end-of-life care.

Our model acknowledges the important role of patient samples, clinical information and outcome data and our patients will be supported to engage more fully in our research through patient portals and enhanced consumer advocacy, facilitated by the recent appointment of our Research Consumer Engagement Coordinator.

Peter Mac’s research will encompass three areas of equal value and standing:

1. Laboratory Research
2. Clinical Research
3. Health Services Research and Implementation Science

Each of these domains encompass various speciality areas and craft groups and provide for seamless translation of research findings from discovery to implementation.

Our researchers will access world-class facilities, and be aided by integrated and consistent research support services through the Office of Cancer Research, enabling all Peter Mac researchers to meet the highest standards of excellence and innovation, and deliver research outputs and outcomes of greatest impact.

Our research will be enhanced and enabled by generous support from donors to the Peter Mac Cancer Foundation and our donors.
Patient-centred cancer research model

Understanding cancer
Life after cancer
Treating cancer
Preventing cancer
Diagnosing and detecting cancer

Health Services Research & Implementation Science
Laboratory Research
Clinical Research
Office of Cancer Research
Accountability for the research portfolio sits with the Executive Director Cancer Research (EDCR). We will ensure this role is appropriately enabled to direct, oversee and report on all research activities within Peter Mac, working closely with the Chief Executive and Chief Medical Officer to integrate reporting lines where staff have dual or unclear clinical service and research accountabilities. Through the 2015-20 Research Strategic Plan we have established strong foundational governance structures across laboratory, translational, clinical and cancer experiences research domains, including establishment of the Research Executive committee. Research leadership and governance will further evolve with the Research Executive, consisting of the Executive Director Cancer Research, Associate Directors (AD - Laboratory Research; AD - Clinical Research; AD - Research Translation; AD - Health Services Research & Implementation Science; AD – Research Support and Development) being informed by the Research Leadership Group comprising of key leaders from across the organisation. Together this research leadership team will take increased responsibility for the strategic directions of the research portfolio, will define areas for strategic investment and will harmonise large funding opportunities. A research faculty model will be developed and implemented incorporating all research leaders across the organisation.

**OUTCOME MEASURES**

Research leadership and governance will be strengthened through the following:

**a —** Appoint Associate Directors with funded and protected time of at least 0.3 FTE to be dedicated to fulfilling the role.

**b —** Appoint a Research Leadership Group comprising of scientists and clinician researchers who are qualified and motivated to advise the Research Executive on a wide range of scientific endeavours relevant to research at Peter Mac.

**c —** Develop a research faculty model and implement an accountability framework that incorporates expectations of productivity, collegiality, strategic fit, and a process of faculty transition where needed.
The 2015-20 research strategic plan was the most ambitious and forward thinking ever implemented at Peter Mac and could not have been achieved without the outstanding support from the Peter MacCallum Cancer Foundation. Over the period July 1 2015 to June 30 2020, close to $28M in additional tied and untied funding was provided by the Foundation to support, initiate and grow new projects and programs detailed in the plan. This is in addition to $46M in untied base funding provided to support research platform technologies (e.g. Microscopy, Functional and Molecular Genomics, Centre for Biostatistics and Clinical Trials - BaCT) and professional services managed through the Office of Cancer Research (OCR) over that five year timespan. Moreover, the Peter Mac Cancer Foundation has supported essential infrastructure such as the purchase of a Gamma Knife and the da Vinci Xi surgical robot, and the implementation of a research-enabled electronic medical record (EMR) that provides a competitive advantage to our researchers and enables innovative research projects to be undertaken. Finally, our Foundation has played a pivotal role in securing "tied gifts" from donors that are directed towards specific research projects or, in some cases, support personnel in the form of scholarships and fellowships. The return on investment provided by the Peter Mac Cancer Foundation has been exceptional with our external grant revenue increasing to $60M in the 2019 funding round. The achievements brought about by the investment are tangible and clearly enhance Peter Mac’s global reputation as a comprehensive cancer centre of the highest calibre. Ongoing and enhanced support from the Peter Mac Cancer Foundation is essential to realising the strategic aims detailed in the 2020-25 research strategic plan. A close strategic alliance underpinned by excellent lines of communication is required to ensure that the Peter Mac Cancer Foundation can continue to provide outstanding support to Peter Mac’s research activities.
There are a number of distinct types of philanthropic support received from the Peter Mac Cancer Foundation, and it is important that the funds are strategically directed and used in every instance:

**Untied funds**: these funds are not generally directed to specific projects but rather to supporting essential operating functions such as platform technologies and core services (but generally not capital acquisitions) as well as professional services managed by the OCR. A relatively small proportion of these funds have also been allocated to specific initiatives such as personalised medicine and BaCT. This approach supports research endeavours for which grant opportunities are not generally available, and thus assist Peter Mac to build an excellent research environment that will allow us to attract and retain top post-graduate students, clinicians and researchers.

**Tied funds**: these funds are often tied to an individual researcher or specific area of research and should be used in accordance with donor intent. Where possible, and particularly where large donations are envisaged, it is becoming increasingly important to ensure that the funded activities are aligned with Peter Mac’s overall research strategy, and that a small proportion is put aside to cover associated institutional overheads.

**Grants-in-aid**: the Foundation currently allocates approximately $1.1M per annum to small grant applications that are assessed and ranked by internal and transparent peer review.

**New Initiatives**: the Peter Mac Cancer Foundation has supported new initiatives such as the electronic medical record, Centre of Excellence in Cellular Immunotherapy and Centre of Excellence in Prostate Cancer Imaging and Theranostics.

Growth in all types of fundraising income, particularly in untied funds is critical for growth and future success.

**OUTCOME MEASURES**

Our mutually beneficial relationship with the Peter Mac Cancer Foundation will be further strengthened through the following:

**a** — Build stronger, strategic communications relationships with the Peter Mac Cancer Foundation, including provision of a “menu” of prioritised needs to donors who have focused interests and establishment of an interface role within the OCR.

**b** — Align the 2020-25 research strategic plan budget with forward planning for the Peter Mac Cancer Foundation budget as early as possible in the annual cycle.

**c** — Assist the Peter Mac Cancer Foundation by supporting fundraising events and strategically meeting with donors, supporters and Foundation staff.
Strategic Goals

WORKFORCE DEVELOPMENT AND ENHANCEMENT

1. Attract, regularly appraise and retain the best cancer research workforce.

2. Develop the cancer research leaders of the future through active mentorship, education and strategic development of research programs and be a global destination of choice for comprehensive cancer research.

3. Improve diversity across the research workforce by striving for gender equity and representation of Indigenous and other minority groups across all levels of leadership.

INTERNATIONAL IMPACT

4. Be sought after as a collaborator by the top international comprehensive cancer centres and cancer research institutes.

5. Broaden the range of tangibly impactful clinical trials across all clinical research disciplines, applying international best practice standards.

6. Benchmark our research against international standards of excellence and impact.

TRANSLATIONAL PIPELINE

7. Make major scientific breakthroughs that enhance our understanding of cancer development, progression and evolution and translate our discoveries to clinical practice.

8. Foster innovation and application of new technologies in the detection, diagnosis and treatment of cancer in partnership with industry alliances and commercial partners.

RESEARCH SUPPORT

9. Enhance research support services that are distributed equitably, and are integrated, innovative and agile.

10. Enhance and diversify our research funding and investment.

11. Extend partnerships with industry alliances and commercial entities.

COMMUNITY ENGAGEMENT

12. Involve consumers in all research domains and provide clear pathways and processes for consumer engagement in research.

13. Be a trusted voice on cancer research issues for our patients, their carers and families, and provide advocacy for consumers across the sector.
Workforce Development and Enhancement

1. **Attract, regularly appraise and retain the best cancer research workforce.**

   Peter Mac will continue to develop, recruit and retain the best cancer research workforce through: (i) providing state-of-the-art research infrastructure and professional services; (ii) offering world-class research training and education and continued professional development; (iii) providing attractive financial support to our research leaders; (iv) ensuring adequate protected time to conduct research, particularly in clinical domains. Partnering, where appropriate, with the Peter Mac Cancer Foundation, University of Melbourne and other organisations, we will further expand and enhance our workforce and capacity building potential. These opportunities and support measures will be realised through a clear and actionable accountability framework.

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**OUTCOME MEASURES**

We will retain top tier researchers and be a destination site for high quality recruits through the following mechanisms:

a — The Discovery Partners Fellowship Scheme will be maintained and, where appropriate, enhanced in scope and scale. This scheme provides both financial support and provision for dedicated research time for clinical research leaders at Peter Mac.

b — A new recruitment and retention scheme will be employed to provide financial support to our established research faculty of international standing who provide tangible value to Peter Mac through their research activities and outputs. This scheme will include provision for dedicated research time for clinical research faculty and provide strategically prioritised salary support for laboratory group leaders.

c — Start-up packages will be provided to promoted internal candidates and new recruits of international standing whose primary academic and professional affiliation is with Peter Mac and who have a substantive research focus as a condition of their employment.

d — A dedicated competitive support scheme will be developed to provide clinician researchers undertaking higher degrees at PhD with concordant sessional (e.g. 0.1 FTE) clinical time within Peter Mac.

**Accountability**

We will set clear and internally consistent expectations regarding research performance, outputs and deliverables. Research faculty members will be formally assessed at a minimum every five years against clearly defined criteria to determine their suitability for re-appointment.
2. Develop the cancer research leaders of the future through active mentorship, education and strategic development of research programs and be a global destination of choice for comprehensive cancer research.

Peter Mac is committed to supporting and developing leadership capabilities at all levels, and across all research and professional staff. We aim to become a global destination of choice for cancer research training across discovery, clinical and health services research domains, and to continue to be highly sought after by international students for our varied offering in cancer research training.

With strong links to local and international universities and research institutes, the Peter Mac Research Education program provides a training and support framework for the academic and professional development of staff and students.

Peter Mac is home to over 140 research students undertaking postgraduate and Honours research programs. Most students completing projects at Peter Mac are enrolled through the University of Melbourne. We also host students from universities throughout Australia and overseas. Our student education program includes the Comprehensive Cancer PhD program (in partnership with the UoM and VCCC) providing students with the opportunity to expand their research knowledge and skills, while also developing transversible skills that will make an important contribution to their future career directions.

We will continue to strengthen our research leadership, mentorship and education portfolio, and in alignment with the broader Peter Mac strategic plan (2020-25) will introduce innovative training and education initiatives through a newly formed Office of Cancer Education. In addition, we will introduce bespoke modules (e.g. scientists in the clinic, clinical trial investigator training, consumer engagement) available to all research staff and students.

OUTCOME MEASURES

Leadership and mentorship capabilities will be enhanced by the following programs:

a — With Peter Mac People & Culture, develop a leadership training program for emerging research leaders, support early career fellowships and make available continuing professional development programs for research professional services staff.

b — Drawing on existing mentorship programs and activities within Peter Mac, develop and pilot a mentorship program for research trainees including targeted mentoring for female researchers.

Increase our academic and community education footprint through the following:

a — Increase the number of students undertaking postgraduate training at Peter Mac.

b — Continue Peter Mac’s active leadership role in the Comprehensive Cancer PhD program.

c — Support the development of an Office of Cancer Education.

d — Establish consumer-facing education programs (preventive, supportive care, survivorship).

Enhance professional training for our staff through the following:

a — Introduce bespoke training modules (e.g. scientists in the clinic, consumer engagement) available to all research staff and students.

b — Develop postgraduate and fellowship exchange programs with national and international comprehensive cancer centres, MRIs and universities, and leverage international postgraduate student programs through the University of Melbourne.
3. **Improve diversity across the research workforce by striving for gender equity and representation of Indigenous and other minority groups across all levels of leadership.**

Like many other academic research organisations, Peter Mac’s research workforce comprises a higher proportion of female researchers at the early career stages but by mid-career there is higher proportion of male researchers and the out of proportion ratio of male to female researchers at the most senior level is significant. While we have made some inroads in closing the gap between male and female researchers at the mid-career level, there is still much work to be done.

Peter Mac is committed to actively addressing gender inequity. Through the Research Gender Equity Committee (RGEC) and Peter Mac People & Culture we have promoted new initiatives, policies and procedures that redress gender inequities, and endeavour to embed changes in approach into all aspects of research activity. Initiatives include: Lea Medal to recognise and promote emerging female research leaders, female-only research group leader recruitment, family-friendly meeting room and return-to-work grants for parents. Input from the RGEC was integral in the development of Peter Mac’s Gender Equity Strategy to ensure an aligned and complementary approach.

The Women in Science Parkville Precinct (WiSPP) initiative involves four of Australia’s largest medical research institutes (WEHI, Murdoch Children’s Research Institute, Doherty Institute and Florey Institute) and Peter Mac. Its aim is to build a platform for change and enable women to lead and excel in medical research. Unsurprisingly, a WiSPP metrics collection exercise in 2016 demonstrated the patterns of gender imbalance apparent at Peter Mac extended across all WiSPP member organisations. To begin addressing these issues, a WiSPP Cross Institute Task Force was established to understand and address the underlying causes of gender imbalance in science leadership.

The Peter Mac RGEC will continue to pursue actions for improving equity in recruitment, career development and promotion, wages and parental leave using the WiSPP task force report as a guide to identifying and prioritising activities. The RGEC will oversee implementation and reporting on the task force recommendations and the response to the Peter Mac Gender Equity Strategy. In addition, the RGEC will investigate the benefit of seeking Athena SWAN accreditation through the Science in Australia Gender Equity (SAGE) initiative.

Drawing on knowledge gained from addressing gender equity, the RGEC will investigate the importance of diversity and representation of people with diverse backgrounds and experience (in particular Indigenous Australians and minority groups), and make recommendations to the Research Executive to address issues by December 2021.

**OUTCOME MEASURES**

In line with our enduring commitment to gender equity and diversity within our research faculty, we will continue to increase the number of senior female research leaders and initiate new programs to promote diversity, including the following:

- **a —** Target recruitment and enhance internal mentoring, development and promotion of female researchers at levels C-E.

- **b —** Develop and implement initiatives to improve gender equity outcomes using the WiSPP Cross Institute Task Force Report to guide identification and prioritisation of activities and ensure alignment with the Peter Mac gender equity strategy.

- **c —** Fund priority projects proposed by the RGEC with equity in recruitment, career development and promotion, wages and parental leave as action areas.

- **d —** Review of workplace diversity issues, particularly in regards Indigenous Australians in conjunction with Peter Mac People & Culture.

- **e —** Lobby major funding bodies to incorporate provision for maternity leave funding into all grants and fellowships.
4. **Be sought after as a collaborator by the top international comprehensive cancer centres and cancer research institutes.**

Peter Mac has developed mutually beneficial relationships with local, national and international partners to drive innovation in cancer research and patient care. Through our collaborative networks we are making important discoveries in fundamental cancer biology, genetics and genomics, and improving treatments for cancer patients. In the next five years, significant focus will be on building stronger local and national networks to share learnings and expertise, and ensure the community can benefit from investments in cancer research. We will continue to pursue opportunities to grow networks and partnerships through collaborative, national initiatives under the Medical Research Future Fund (MRFF), particularly through the MRFF Frontiers Program. We will leverage our international reputation to develop new strategic relationships with global academic and commercial partners.

By 2025 Peter Mac will have confirmed and enhanced its position as Australia’s premier comprehensive cancer centre, delivering cancer research that puts patients at the core of everything we do, and be a partner of choice for top international comprehensive cancer centres, cancer research institutes and industry partners.

**OUTCOME MEASURES**

We will enhance our status and influence nationally and globally through the following programs and initiatives:

- a — Establish broader comprehensive cancer networks across Victoria and interstate, and lead a proposal to the federal government to establish a National Comprehensive Cancer Network.
- b — Enhance engagement with the VCCC and alliance partners, and support Peter Mac staff to take up leadership positions in the VCCC.
- c — Enhance our partnership with the University of Melbourne, including agreeing and pursuing key priorities for collaboration bilaterally and with third parties (e.g. The University of Manchester/Christie Hospital, the University of Bonn, Fudan University).
- d — Enhance local and national collaborations through the Australian Association of Medical Research Institutes (AAMRI), MACH, ZCC, AGCMC and other networks.
- e — Build on formal relationships through MOUs with “like” organisations such as MD Anderson Cancer Center and Dana-Farber Cancer Institute and establish new MOUs with leading comprehensive cancer centres in Europe, Asia and the USA.
5. **Broaden the range of tangibly impactful clinical trials across all clinical research disciplines, applying international best practice standards.**

Clinical trials are a significant mechanism to accelerate new treatments and practices and to provide our patients with early treatment options and improved clinical practices. Peter Mac is currently involved in over 300 clinical trials and we will ensure that all trials in which Peter Mac researchers are involved continue to uphold the highest international standards of design and conduct. The Parkville Cancer Clinical Trials Unit (PCCTU) provides dedicated international-standard services for the conduct of clinical trials in the areas of haematology, medical oncology and palliative care. Likewise, the Centre for Biostatistics & Clinical Trials (BaCT) provides full service trial development and management services for investigator-initiated and collaborative group studies and commercially-sponsored trials. Peter Mac will undertake an evaluation of clinical trial services to recommend options for the effective and efficient provision of future clinical trials services across the entire Peter Mac ecosystem to at least the international standard provided by PCCTU and BaCT.

**OUTCOME MEASURES**

We will increase new treatment options for our patients through the following clinical research initiatives:

a — Ensure systems are in place for all clinical trials to conform to international principles of Good Clinical Practice.

b — Ensure that clinical research investigators are appropriately trained, experienced and have sufficient time and resources to undertake clinical trials.

c — Provide more systematic scrutiny of quality assurance reports in relation to the set-up and conduct of clinical trials and performance monitoring to time and to target, with adequate OCR funding to support these functions.

d — Increase the number of investigator-led and commercially-sponsored clinical trials run by Peter Mac researchers.

e — Grow the BaCT business model to provide greater intramural services, and extend the client base beyond Peter Mac.

f — Extend the impact of PCCTU across Peter Mac through the provision of expertise to a larger cohort of medical specialty areas and the roll-out of world-class Standard Operating Procedures (SOPs).
6. **Benchmark our research against international standards of excellence and impact.**

Benchmarking research performance at an organisational level provides many benefits, including facilitating continued institutional support from philanthropic and other sources, building meaningful continuous learning partnerships with international and national collaborators, and focusing accountability on key outcomes. We will demonstrate the impact of our research relative to comprehensive cancer centres globally through international benchmarking, taking into consideration willingness to partner, size, scale and similarity of health services and research sectors. As a first step, we will improve our research data systems to enable accurate recording and reporting of all Peter Mac research data. This will not only enable meaningful external benchmarking but will improve internal accountability frameworks to drive organisational performance improvement. We will work with our benchmarking partner/s to identify what it is important and feasible to measure to demonstrate research performance in comprehensive cancer research. Agreed benchmark metrics will be collected and compared between the parties on a regular, agreed frequency.

**OUTCOME MEASURES**

We will achieve research outputs and impact comparable to international comprehensive cancer centres as measured and enabled through the following:

- **a** — Review and implement system upgrades for collection of performance data and metrics.

- **b** — Establish a benchmarking framework in consultation with comparable international comprehensive cancer centres.

- **c** — Perform a benchmark comparison with a partner organisation (e.g. Princess Margaret Cancer Centre) ensuring appropriate administrative and project management support to ensure qualitative and quantitative benchmarking.

- **d** — Collect and promote stories of research impact.
We recognise that research growth must be feasible, sustainable and capable of delivering outcomes of the highest impact. We will increase capacity around our key strengths and strategic priorities, and will work with our collaborators where they are better placed to lead research in particular domains. Our sustained growth and impact will rely on investment in the following key areas:

1 — Excellence. Our research will be conducted at a nationally and internationally competitive level, driven by world-leading content experts and their teams, and will make a positive contribution to our global standing in research excellence.

2 — Strategic advantage. The research area of focus will deliver a strategic advantage to Peter Mac nationally and internationally, including development of selected areas of strategic importance and adopting leading scientific trends.

3 — Translational pipeline. The research will enhance our pipeline starting at discovery science, transitioning through pre-clinical studies to clinical research and trials, to health services and implementation science to improve patient outcomes.

4 — Partnerships and collaborations. The research leverages and enhances internal collaborations and/or those with local, national or international partners.

5 — Sustainability. We will ensure our commitment to financial and environmental sustainability. New sources of income will be leveraged to enhance our translational pipeline and measures will be undertaken to reduce our environmental impact.

6 — Feasibility. Risks associated with a given initiative can be managed and there is expertise, infrastructure and resources available, including access to appropriate patient cohorts where required.

7 — Commercialisation. The research will provide opportunities to capture, protect and grow our intellectual property portfolio.

We recognise two interdependent stages along the translation continuum: translation of discovery research to clinical research (T1), and implementation of clinical research to clinical treatments and practices (T2). Aligning priorities across discovery, clinical and health services research and implementation science will be essential to driving translation to measurable and impactful outcomes.
LABORATORY RESEARCH PRIORITIES AND OUTCOMES

Understanding cancer

Life after cancer

Preventing cancer

Diagnosing and detecting cancer

Treating cancer

Computational Biology

Cancer Immunology

Organogenesis

Tumour Angiogenesis and Microenvironment

Health Services Research & Implementation Science

Gastrointestinal Cancer

Women’s Cancer

Cancer Biology & Therapeutics

Prostate Cancer

Clinical Research

Laboratory Research
Our laboratory-based research program is discovery driven and seeks to answer fundamentally important questions regarding the genetic, epigenetic, metabolic, biochemical and biological processes that when perturbed drive cancer onset, progression and spread. These initiatives underpin our focussed efforts to drive improvements in the prevention, detection, diagnosis and treatment of cancer. Peter Mac will continue to invest in, and strengthen, our investigator-driven laboratory research programs, through strategic recruitment of new talent, the development of our outstanding early career researchers and enhanced support of high-performing laboratory research faculty members. We will continue to support and enhance our Clinical Associates Program providing access and research support to clinicians undertaking discovery research. We will support our laboratory researchers through the provision of state-of-the-art platform technologies and high level professional services managed by the OCR.

**OUTCOME MEASURES**

The laboratory research program will have enhanced outputs and will grow in impact through the following:

- **a** — Re-organisation of laboratory research programs with defined roles and responsibilities for program leaders.

- **b** — Provide a program-based structure for development of the next research leaders with a particular focus on gender equity and diversity.

- **c** — Provide strategically prioritised salary support for group leaders with a focus on emerging fundamental research leaders as part of a retention and development strategy.

- **d** — Increase the depth of selected critical research fields and establish new foci of laboratory research through recruitment and/or development of existing and emerging research leaders. We have invested extensively in strategically recruiting outstanding researchers in breast, haematological, prostate cancer research and disciplines including cancer immunology, metabolism and organogenesis. Further targeted recruitment into prostate cancer research and investment in other established and internationally respected programs including but not restricted to ovarian cancer, gastrointestinal and melanoma is required to enable succession planning and to maintain our competitive advantage. New discipline areas for expansion to boost existing capabilities include but are not restricted to: computational cancer biology, single cell genomics, radiation biology and DNA damage response and repair.

- **e** — Expand clinical associate roles to provide Peter Mac clinicians with opportunities to undertake laboratory research and further enhance alignment of laboratory and clinical research. This can be through Group Leader-run laboratories and through Centres of Excellence of strategic importance (e.g. Cellular Immunotherapy, Prostate Cancer Imaging and Theranostics) and Translational Research Centres.

- **f** — Enhance the platform technology cores through additional funding for equipment and more strategic alignment with the needs of laboratory researchers through user groups.

- **g** — Reduce our impact on the environment through the implementation of initiatives such as the Harvard Green Labs program.
CLINICAL RESEARCH PRIORITIES AND OUTCOMES

Understanding cancer
Life after cancer
Treating cancer
Preventing cancer
Diagnosing and detecting cancer

Immuno-Oncology
Laboratory Research
Clinical Research

Health Services Research & Implementation Science
Imaging & Diagnostics
Palliative Care
Pharmacy
Familial Cancer
Infectious Diseases
Nursing & Allied Health
Cancer Surgery & Anaesthesia
Medical Oncology
Radiation Oncology

2020 — 2025
Research Strategic Plan
Peter Mac has an international reputation for excellence in clinical research with a renowned clinical trials program strategically invested in innovative first-in-human and early phase trials, and recognised leadership across a number of tumour streams (e.g. haematology, melanoma, lung, prostate, ovarian and breast cancer) and modalities (e.g. immunotherapy, targeted therapies, functional imaging/radiochemistry and chemo-radiation). Our trials portfolio has grown in scope and prominence through the development of the Parkville Cancer Clinical Trials Unit (PCCTU), continued support from our Biostatistics and Clinical Trials (BaCT) unit and growth in human ethics and sponsorship committees through the OCR.

Peter Mac is home to many large cohort studies that collect biospecimens and survey data from patients and the broader population to build large open-access resources for innovative research projects. Cohort studies (e.g. kConFab, AOCS, CASCADE, Lifepool) give our researchers and collaborators access to a vast array of annotated clinical samples and associated clinical data and these initiatives require continued support.

**OUTCOME MEASURES**

The clinical research program will have enhanced outputs and will grow in impact through the following:

a — Provide salary support for dedicated research time for established clinical research leaders as part of a retention and recruitment strategy.

b — Continue to support early career clinical researchers through the Discovery Partners Fellowship Scheme.

c — Extend OCR functions for clinician researchers undertaking investigator-initiated studies to include mandatory support for budget building and financial management, as well as facilitation through the Peter Mac Sponsorship process.

d — Under direction from the Associate Directors, Health Services Research and Implementation Science, Clinical Research and Research Translation, supported by the Office of Cancer Research, harmonise research management practices across the full range of Peter Mac’s clinical research.

e — Where appropriate broaden the role of PCCTU to specialist groups beyond Medical Oncology, Haematology and Palliative Care. Simultaneously, ensure that SOPs and trial development, implementation and governance models established by PCCTU and BaCT are utilised across the organisation to ensure a uniform minimum standard for clinical trial management and accountability.

f — Leverage the capability of already well developed and managed tissue banks, cohorts and registries to ensure their ongoing viability and increase capacity where needed.

g — Develop and implement a new strategy for the personalised medicine program at Peter Mac incorporating molecular pathology and tissue banking.

h — Through partnerships with the VCCC and other organisations, further develop novel trial processes including registry trials, teletrials and cohort studies.

i — Develop and implement strategies for investment and growth in radiation oncology and surgical oncology research.

j — Develop strategies for investment and growth in molecular imaging and nuclear medicine research.
HEALTH SERVICES RESEARCH AND IMPLEMENTATION
SCIENCE PRIORITIES AND OUTCOMES

Cancer Experiences & Wellbeing

Laboratory Research

Understanding cancer
Life after cancer
Preventing cancer
Diagnosing and detecting cancer
Treating cancer

Clinical Research

Consumer Voice

Health Services Research & Implementation Science

Survivorship

Efficacy & Efficiency
Peter Mac will invest in Health Services Research and Implementation Science (HSRiS) as a major new research theme. Health services research will be embedded across the organisation to ensure that translational and clinical research outcomes are optimised for successful implementation/commercialisation. The HSRiS stream will focus on improving care and treatment experiences, and health and wellbeing outcomes, for all patients. This initiative underpins translation by generating knowledge and understanding to enable effective, efficient and safe implementation of all research to drive improved patient outcomes. This theme will initially focus on areas of measurable strength and opportunity, such as clinical care pathways and models of care, infectious diseases, prehabilitation and rehabilitation, physical and psychosocial treatment sequelae, behavioural science in cancer, wellness and survivorship and allied health. Areas for strategic growth will include but not restricted to nursing research, digital health research, pharmacy research, epidemiology, health informatics research, and health economics. Partnership with the School of Population Health and other University of Melbourne departments will be essential.

**OUTCOME MEASURES**

The HSRiS program will have enhanced outputs and will grow in impact through the following:

a — Appoint an Associate Director HSRiS to strategically develop this new theme.

b — Recruit and promote research leaders in specific aspects of HSRiS to expand the size and scope of the initiative.

c — Leverage the implementation of an electronic medical record system across the Parkville precinct to improve the collection and utility of patient data.

d — Support development of the Academic Centre for Nursing in partnership with the University of Melbourne to build capacity in nursing research.

e — Expand cancer prevention research programs and initiatives.
8. Foster innovation and application of new technologies in the detection, diagnosis and treatment of cancer in partnership with industry alliances and commercial partners.

PLATFORM TECHNOLOGIES

Access to the cutting-edge facilities, equipment and technical expertise at Peter Mac is critical to driving research outcomes and attracting and retaining world-leading researchers. Laboratory platform technologies including flow cytometry, advanced histology and microscopy, molecular genomics, functional genomics, research computing and bioinformatics, experimental animal models (mice, zebrafish, drosophila) and preclinical imaging are essential for laboratory and translational research and must be supported. User groups for the core facilities, each chaired by a group leader, will be established to oversee cost recovery, usage, maintenance, replacement and refreshment of key technologies, as well as identify business opportunities and further investment needs in cutting-edge facilities. The General Manager, Laboratory Research will continue to review core facility services and support to ensure:

• Services offered reflect the ongoing needs of our researchers.

• Equity across the research faculty, including access for clinical and health services researchers to core facilities.

• Business acumen in relation to asset management and optimisation.

• Monitoring and reporting of usage, outputs and impact.

• Ongoing professional development for platform technology leaders and technical staff.

Our translational research centres provide a fundamentally important translational interface between laboratory and clinical research, and are key components of our partnerships with the biotechnology and pharmaceutical sectors.

Our key clinical core facilities include the Centre for Biostatistics and Clinical Trials (BaCT), which provides services to Peter Mac researchers on a fee-for-service basis for clinical trials, including study design and development, data management, study start up and statistics; and the Parkville Cancer Clinical Trials Unit (PCCTU), which supports the conduct of clinical trials for medical oncology, haematology and palliative care. Strategic growth of these important clinical core facilities are covered above.

OUTCOME MEASURES

Platform technologies will remain cutting edge and will fully support our research enterprise through:

a — Establishing user groups overseen and directed by group leaders of appropriate content expertise for laboratory platform technologies.

b — Continuing to invest in cutting-edge technology for platform technologies through external grants, trusts and foundations, philanthropic bodies and through partnerships with industry.

c — Growing our computational biology, bioinformatics and artificial intelligence endeavours and investing in innovative solutions for data storage and high-end computing.

d — The Associate Director Research Translation establishing and growing the size, scope and impact of our Translational Research Centre laboratories.
DIGITAL RESEARCH STRATEGY AND PATIENT DATA

Peter Mac will establish a digital research strategy that will utilise data to improve operational delivery, clinical care including precision medicine and virtual models of care, and secondary use of data for research. The electronic medical record system being rolled out across the Parkville precinct will enable interoperable digital patient records to be utilised to improve clinical services. In addition, the electronic medical record offers the potential for researchers to mine, interrogate and integrate patient data to drive innovative discoveries in epidemiology, health services research and evidence-based outcomes. Real time data acquisition and use can be augmented through the development and use of novel digital health hardware, software and integrated systems. Appropriate use of the data within the electronic medical record provides the platform for Peter Mac to increase our clinical trials portfolio and boost our precision medicine initiatives.

As a founding member of the Digital Health CRC (DHCRC), Peter Mac has an opportunity to collaborate with DHCRC partners to develop, utilise and where appropriate commercialise new digital health applications. Together, the electronic medical record, DHCRC and initiatives to grow our computer science and artificial intelligence capacities provide an unprecedented opportunity to expand our digital health research enterprise.

OUTCOME MEASURES

Our research digital health strategy will align with the broader Peter Mac digital and connected health plan leading to greater research outputs and impact through. We will:

a — Invest in enhancements to the electronic medical record system to ensure that it is configured to provide a data-rich environment with capacity to drive diverse research programs.

b — Co-appoint a senior academic role with the Centre for Digital Health Transformation at the University of Melbourne to lead the digital strategy.

c — Invest in the expertise and infrastructure required to maximise the potential of data recorded in the electronic medical record to enrich the quality and quantity of research undertaken at Peter Mac.

d — Extend collaborative opportunities for research projects and programs through the DHCRC.

e — Make targeted investment in digital solutions to extend the scope and impact of our predictive medicine program.
9. Enhance research support services that are distributed equitably, and are integrated, innovative and agile.

The Office of Cancer Research (OCR) provides support through the continuum of Peter Mac’s research and for Research Executive through individual researchers, students and core facilities. Research support services include: management of core facilities, grant administration, industry alliances and partnerships management, research administration, research computing and information technology, communications, training and education and financial and facilities management. As well, the OCR provides a range of compliance and quality assurance functions including research ethics and governance, research integrity, clinical trial sponsorship and pharmacovigilance and biosafety. These functions will be further aligned within the OCR, and where appropriate expanded in scope and capacity to ensure international best practice standards in integrity and compliance.

Along with the PCCTU and BaCT, the OCR plays an important role in supporting clinical trials, in particular investigator-initiated trials, at Peter Mac. Recognising the growth in clinical trial activity an evaluation of clinical trial management and services will be undertaken to identify suitable and sustainable options for comprehensive and integrated clinical trial services across a broad range of Peter Mac clinical groups.

To guide Peter Mac’s aims of benchmarking, accountability and performance management in research, systems used by the OCR will be upgraded and amalgamated where possible to enable simple but comprehensive reporting of all research metrics.

10. Enhance and diversify our research funding and investment.

While research funding for Peter Mac grew substantially during the period 2015-20, there remain key financial pressures, including recent changes to the funding environment through the NHMRC and indirect cost recovery. However, the ongoing roll-out of the MRFF provides many opportunities to expand and further diversify funding through industry alliances and commercial revenues. Being mindful of the constraints of a highly competitive funding environment, the new strategic plan period will seek moderate funding growth with investment targeted to continue to develop our pipeline from discovery research to the implementation of new therapies and models of clinical care.

The most important and valued funding source for Peter Mac’s research is philanthropic funding through the Peter Mac Cancer Foundation, without which the research portfolio could not continue to achieve breakthroughs in understanding of cancer and patient outcomes. We will enhance our relationship with the Foundation to ensure we continue to demonstrate our value to donors.

Peter Mac will continue to grow and diversify competitive grant applications, including MRFF, Australian Research Council fellowships for fundamental biological research, Cooperative Research Centres and international funding.

The OCR’s support to investigator-driven grant schemes will continue to add value by convening regular and timely grant review panels, streamlined notification and advertisement of funding opportunities, quality review and feedback on grant applications, and efficient and effective post-award services.

Increased focus will be given to strategic research development around large, collaborative and multi-disciplinary grants and national initiatives.
DIRECT FUNDING

The current operating budget for Peter Mac’s research ventures has risen from about $60M in FY14/15 to about $90M in FY19/20. Peter Mac derives research support through multiple sources including but not restricted to those listed below.

1 — Peer reviewed funding organisations - examples include Australian funders such as NHMRC, CCV, NBCF, MRFF, ARC, VCA and international organisations such as NIH, DoD, Komen Foundation.

2 — Philanthropy - primarily Peter Mac Cancer Foundation but also other national philanthropic bodies such as The Snowdome Foundation, The CASS Foundation, The Lorenzo and Pamela Galli Medical Research Trust, ACRF and international charities such as The Prostate Cancer Foundation.

3 — Industry - collaborative research agreements between commercial partners and individual labs/investigators, and larger collaborative efforts through global alliance partnerships provide an ever-expanding funding pool.

4 — Government - both state and federal governments have occasionally provided one-off funding for Peter Mac initiatives that are research driven or have a strong research emphasis. Examples include state government funding to initiate the Victorian Centre for Functional Genomics and research programs administered through the VCCC, and federal government funding for the Centre of Excellence in Cellular Immunotherapy.
INDIRECT FUNDING

Research indirect costs fund operational and administrative activities not related to personnel, major capital or consumables. Peter Mac receives indirect research funds primarily through two sources:

1 — Research Block Grants (RBG) - this federal government program provides ~20 cents indirect funding for each dollar of direct research funding administered through eligible higher education providers. Most of Peter Mac’s peer-reviewed funding is administered through the University of Melbourne, and our Enhanced Agreement with them provides for RBG funds to flow to Peter Mac. Unfortunately, Peter Mac is excluded from the state government Operational Infrastructure Scheme (OIS) that specifically supports medical research institutes, and excludes hospitals and universities. It has been calculated that Peter Mac receives 65% of indirect funding that a “like” medical research institute in Victoria receives.

2 — Indirect research funding from commercial agreements - Peter Mac currently seeks to apply a 35% indirect research fee to all research contracts with commercial entities. This has been largely achieved for laboratory research through tightened governance but for clinical research such as industry-sponsored clinical trials 23% indirect research budgets are the norm.

OUTCOME MEASURES

We will increase our indirect funding envelope through the following:

a — Enhance the functional relationship with Peter Mac Cancer Foundation to obtain leveraged funding to support the 2020-25 Research Strategic Plan.

b — Grow our direct research funding envelope by 20% over five years.

c — Increase our indirect funding base by increasing overheads for commercial research from 35% to 45% for laboratory research and from 23% to 30% for clinical research.

d — Increase our indirect funding base by lobbying state government to admit Peter Mac into the OIS scheme or through establishment of a new OIS-like scheme for research-intensive hospitals.

e — Continue to invest in the OCR to ensure first class support for our researchers to identify and apply for funding that is appropriately costed.
11. **Extend partnerships with industry alliances and commercial entities.**

Building on the strengths of our international industry alliances and our partnerships with international comprehensive cancer centres, we will foster a collaborative environment and seek to share insights and work with global partners towards improving our understanding of cancer and outcomes for our patients. We will continue to grow and strengthen our networks in North America and Europe and increase our focus in the Asia-Pacific.

Project funding and investment from industry alliances has grown to more than $12 million since 2015. Having a proven track record puts Peter Mac in prime position to further grow alliance funding, albeit at a moderate level, to ensure sustainability of the portfolio and capacity to service the needs of our investigators and industry partners. Peter Mac, recognised as an international leader in clinical and translational research, has been invited as a formal partner in alliance relationships with Roche/Genentech (imCORE), Bristol Myers Squibb (II-ON), GlaxoSmithKline (OCTC) and most recently AstraZeneca/MedImmune (POC). Peter Mac stands as the sole Australian centre amongst global centres of excellence.

Our Commercialisation Framework sets out the principles for making commercialisation decisions at Peter Mac, including strategic advantage and reputation, feasibility and risk, impact, attracting and retaining talent, and revenue and funding. The same principles will apply across the spectrum of industry and commercial dealings, underpinned by improved business practices and strategy for growth and return on investment.

We will continue to pursue commercial partnerships and initiatives with pharmaceutical, biotechnology and medical technology companies where they are strategically aligned and offer dual outcomes of translating our research towards new treatments and interventions, and financial return. The Executive Director Business Ventures, Director of Commercialisation and Business Development, Head of Industry Alliances and Partnerships and members of the Research Executive team will play key roles in ensuring positive outcomes in this domain.

**OUTCOME MEASURES**

We will increase our commercial research activities through the following:

- **a** — Set streamlined and effective processes for contract and intellectual property management, and provide education and training to staff to improve commercialisation and business literacy.

- **b** — Actively pursue involvement in additional global alliances where research impact, opportunity and capacity are aligned with Peter Mac’s research strategy.

- **c** — Cost our contracts to include overheads that reflect the indirect costs of research but are cognisant of sector-wide acceptability.
12. **Involve consumers in all research domains and provide clear pathways and processes for consumer engagement in research.**

People with lived experiences of cancer are uniquely positioned to provide researchers with valuable insights into the realities of cancer and cancer treatment. There is also an increasing community and government expectation that individuals should be active participants in making decisions about their health. The National Health and Medical Research Council’s *Australian Code for the Responsible Conduct of Research*, for example, states ‘Appropriate consumer involvement in research should be encouraged and facilitated by research institutions and researchers’.¹ This position is echoed within the organisation’s 2016 *Statement on Consumer and Community Involvement in Health and Medical Research*, which states its vision as ‘Consumers, community members, researchers and research organisations working in partnerships, to improve the health and well-being of all Australians through health and medical research’.²

Effective consumer engagement has also become a pressing funding issue for Peter Mac researchers, with an increasing number of research funding bodies now requiring evidence of meaningful consumer engagement as part of their grant application processes. These bodies include Cancer Australia, Victorian Cancer Agency (VCA), National Breast Cancer Foundation, Cancer Council Victoria and others. Prior to 2019, Peter Mac researchers (particularly clinical researchers) worked to build their own links with consumers through personal connections or those of colleagues. Many of these consumers assisted in preparing lay grant summaries. The links were few in number and Peter Mac had limited grant success when consumer involvement was required.

In 2019, after poor consumer engagement was identified as the key factor impacting 2018 VCA grant success, Peter Mac undertook a limited program of support for researchers wishing to expand their knowledge and activity in this area. This included delivering a consumer engagement workshop for researchers, and working with Peter MacCallum Cancer Centre’s Acting Manager Consumer Engagement to match researchers with suitable consumers. These activities have been identified as major factors impacting on dramatically improved VCA success in 2019.

To enhance our consumer engagement we will develop, implement and evaluate a Research Consumer Engagement Support Program. This program aims to assist Peter Mac’s clinical, translational and laboratory researchers in creating links with consumers, and in building effective working relationships with these individuals as collaborators in planning, executing and communicating their research. This, in turn, aims to enhance the overall quality and community relevance of Peter Mac’s research, and competitiveness for future grant funding.

**OUTCOME MEASURES**

We will achieve an annual increase in consumer engagement across our research domains through the following:

a — Recruit a Research Consumer Engagement Coordinator.

b — Pilot a Research Consumer Engagement Support Program with clear KPIs and evaluation metrics.

c — Develop and implement an evidence-based three year strategy for expanding research consumer engagement at Peter Mac.

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13. Be a trusted voice on cancer research issues for our patients, their carers and families, and provide advocacy for consumers across the sector.

Our model of patient-centred research, embedded in an environment dedicated to comprehensive cancer care, is unique in Australia. We recognise the opportunity to work with local partners, as well as the responsibility to demonstrate national leadership though forging comprehensive cancer networks across Victoria and more broadly across Australia.

Research communication is critical to the success of this plan, particularly internal communications, advocacy with state and federal agencies to facilitate national comprehensive cancer networks, and building local, national and international partnerships. A Research Communications Strategy will be developed to support strategic directions as outlined in this Research Strategic Plan. The strategy will consider traditional electronic and print media as well as modern channels for research communications such as social media platforms.

OUTCOME MEASURES

We will enhance our internal and external communications reach and impact through the following:

a — Develop and implement a research communications framework and strategy.

b — Align public health messaging with Cancer Councils and other health networks.
Implementation

Implementation of the Research Strategic Plan will be overseen by the Research Executive, who will ensure regular updates to the Research Leadership Group, and quarterly reporting to the Research Committee. Benchmarks will be reported triennially. A scientific review will be undertaken by the Scientific Advisory Panel midway through the strategic planning period (2022-23) with the next Research Strategic Review due in 2024.

Members of the Research Executive and Research Leadership Group will be responsible for the conduct and delivery of major projects and actions under the Research Strategic Plan. Collected data from individual performance measurement will be collated to measure organisational performance and provide data for benchmark reporting.
The Peter MacCallum Cancer Centre Strategic Directions 2015-2020 statement provided the blueprint for Peter Mac to provide the world’s best standard of care, and to foster leadership to enable us to excel as a premier international cancer centre across both research and clinical practice.

**OUR FOUR STRATEGIC PILLARS WERE TO:**

01 — Provide the world’s best patient care

02 — Accelerate discovery and translational research

03 — Focus on cancer prevention and wellness

04 — Develop new business models and ventures

**FOUR ENABLERS WERE ALSO BEEN IDENTIFIED AS BEING CRITICAL TO DELIVERING OUR VISION:**

01 — Collaborative partners and ventures

02 — Specialised education and professional training

03 — The best cancer workforce

04 — Advanced technology and infrastructure

Research excellence is fundamental to the delivery of all four strategic pillars. Peter Mac is the lead cancer institution in Australia where research and clinical care is truly embedded across the fabric of the organisation.
The Peter Mac Research Strategic Plan 2015-2020 contained 31 key performance indicators (KPIs). The progress and achievements across the KPIs are summarised below.

- **Strengthen governance and leadership**: An extensive overhaul of research governance has taken place, including the implementation of a Research Executive structure headed by the Executive Director Cancer Research. This structure has enabled greater strategic oversight of all Peter Mac research. The strengthening of relationships between Peter Mac Research Leadership and UoM Research Leadership (Dean and Associate Dean of Research - Faculty of Medicine; Director - UoM Centre for Cancer Research - UoM Medical School) coupled with the signing of the second Enhanced Research and Collaborative Agreement (2017-21) between Peter Mac and UoM has provided the foundation for joint recruitment and investment across the two institutions. Peter Mac has also enhanced its affiliations with other Australian universities, including a memorandum of understanding with Monash University, and a collaboration with Swinburne University of Technology that culminated in Peter Mac being included in the Digital Health Cooperative Research Centre.

- **Stronger and better connected laboratory research programs**: Strategic recruitment of laboratory researchers and clinician-researchers has greatly strengthened our research faculty, and Peter Mac has become a destination site for national and international researchers. Twenty new laboratory group leaders have been recruited to or appointed at Peter Mac since 2015. Formalising the role of Clinical Associate has provided Peter Mac clinicians with opportunities to be integrated into specific laboratories and scientific programs.

- **Building on existing strengths**: Research programs for melanoma and skin cancer, cancer immunology, women’s cancer, cancer experiences and haematology-oncology have been expanded substantially. This has included recruiting staff, attracting research funding and establishing collaborative research agreements with other research institutions. In 2019, the VCCC Centre for Immunotherapy was established, which is led by Peter Mac and directed by Prof Joe Trapani.

- **Strategically build selected programs**: New laboratory research programs include cancer metabolism, prostate cancer, gastro-intestinal (GI) cancer, translational haematology, organogenesis and computational biology. All have included new recruitments and appointments, integration with clinical programs and key clinician-researchers.

- **Embarking on new initiatives**: The Centre for Clinical Cancer Genomics was established to drive our precision medicine activities and has resulted in the development of Nexomics and the associated ability to provide advanced molecular pathology tests for clinical trials with a greater business and revenue producing focus. Through recruitment of staff to Peter Mac and establishment of collaborations, Peter Mac has formed a partnership with the ZCC initiative, which is a national paediatric cancer program. Two centres of excellence – (1) Centre of Excellence in Cellular Immunotherapy and (2) Centre of Excellence in Prostate Cancer Imaging and Theranostics; were established with major grant funding from the Australian Federal Government and Prostate Cancer Foundation (USA) respectively, each supported by additional funding through the Peter Mac Cancer Foundation.

- **Clinical trials**: A new trials unit, the Parkville Cancer Clinical Trials Unit (PCCTU), was established in 2016 to coordinate, manage and run cancer clinical trials across Peter Mac, the Royal Melbourne Hospital and the Royal Women’s Hospital.
• **Research enablers:** The development of our Technology Transfer Office has enabled growth of our commercialisation activities and the appointment in 2019 of a Director of Commercialisation and Business Development has further expanded the scope and scale of these activities. The Office of Cancer Research has been restructured and expanded to provide increased professional services support (e.g. in financial management, grant applications and administration, education, consumer engagement) to all Peter Mac researchers. The growth in postgraduate education at Peter Mac has exceeded all expectations. We are a destination site for students and health professionals wanting higher degrees and provide continued professional development opportunities to all research staff and students. Peter Mac was the driving force behind the establishment of, and continues to lead, the Comprehensive Cancer PhD program, which brings together cancer-related PhD students from the 10 VCCC partner organisations and currently has over 200 students.

• **Technologies, infrastructure and supporting resources:** A Computational Cancer Biology research program has been established, and has now expanded from one laboratory group leader to three. The capacity of the Bioinformatics Core Facility and Research Computing team has expanded to more broadly support basic and clinical informatics across Peter Mac. The Cancer Tissue Collection after Death (CASCADE) study been extended to cover prostate and breast cancer tumour streams in addition to the original ovarian cancer. Funding for CASCADE and other cohort studies at Peter Mac has been provided through links with Peter Mac research laboratories. All of the platform technology cores within the VCCC building are led and managed by Peter Mac. Services are provided to the laboratory researchers of the other building tenants (University of Melbourne and Melbourne Health) on the same basis as to Peter Mac staff. Our successful application to the Australian Cancer Research Foundation for platform technology equipment as well as other philanthropic funding provided by trusts and foundations allowed Peter Mac to achieve the target of $3 million in funding within three years. Peter Mac has established patient derived xenograft (PDX) programs in melanoma, prostate cancer, oesophageal cancer and adult and paediatric haematology-oncology, and we have achieved co-investment in PDX through our collaborations in paediatric cancer.

• **Workforce:** Between 2014 and 2019, the number of graduate research students at Peter Mac increased from 84 to 138. The number and percentage of clinical graduate research students also increased in that time with 42 (30%) clinicians currently enrolled in our graduate research program. An additional 20 clinicians are planning to commence graduate research degrees in 2020 (cf an average of 8.5 clinicians commencing per year from 2014-2019). The implementation of a Discovery Partners Fellowship Scheme for emerging and mid-career clinical researchers has had a tangible effect across several clinical research domains with 13 three-year fellowships awarded to date.

• **Communication and advocacy:** A Strategic Research Communications Officer was appointed in 2019 working within the Office of Cancer Research. This role liaises with the Peter Mac Communications team to prepare press releases for major publications, funding, clinical trial completions and other announcements. Social media (including Twitter) is being used to further promote our research activities in the community, with a particular focus on growing Peter Mac's reputation as a world-class cancer research facility among the academic community. Peter Mac regularly advocates for and promotes health and medical research in the health sector, particularly to address the paucity of funding for research infrastructure in public hospitals.

• **Resourcing and sustainability:** Since 2015 the operating budget for Peter Mac's research ventures has risen from about $60M in FY14/15 to about $90M in FY19/20. In 2019 Peter Mac submitted 370 lead applications, across 102 schemes. This resulted in a success rate of 35% across all schemes for the year deriving about $60M in new peer-reviewed funding that will start in 2020.
A Review of Research at Peter Mac was undertaken in April/May 2019. Chaired by Prof Ian Frazer, a panel of eminent national and international cancer researchers and clinicians (see Appendix B) made recommendations to guide the strategic priorities for research to enable Peter Mac to:

- Exploit strategically important areas for focus and growth
- Cultivate integration across all Peter Mac’s research domains
- Mature and expand local, national and international collaborations
- Build and engage a workforce that is equitable and sustainable

The panel acknowledged and confirmed the well-deserved international reputation of Peter Mac in the field of cancer research and the considerable contribution to advancing clinical practice through research and leadership. The panel noted that since the 2013 Research Review there has been significant growth in research funding and outputs, strengthened governance arrangements, and Peter Mac’s successful move to the VCCC building in Parkville with concomitant opportunities to enhance partnerships within the Parkville Biomedical Precinct.

The panel provided 22 recommendations that were presented to Peter Mac Research Executive, the research faculty, Peter Mac Executive, Peter Mac Research Committee and the Peter Mac Board. A detailed description of the panel recommendations and the management response to these recommendations were developed. The panel report and recommendations, and the management response, have served as a reference for the 2020-25 research strategic plan detailed herein.

### PETER MAC RESEARCH AT A GLANCE

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## Appendix B.
Research Strategic Review
Panel Members

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<tr>
<th>PANEL MEMBER</th>
<th>HOME INSTITUTION</th>
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<tbody>
<tr>
<td>Professor Ian Frazer</td>
<td>CHAIR, Translational Research Institute Australia</td>
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<tr>
<td>Professor Christobel Saunders</td>
<td>University of Western Australia</td>
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<tr>
<td>Professor Suzanne Chambers</td>
<td>University of Technology Sydney</td>
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<tr>
<td>Professor Quynh-Thu Le</td>
<td>Stanford School of Medicine, Stanford, USA</td>
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<tr>
<td>Professor Amit Oza</td>
<td>Princess Margaret Cancer Centre, Toronto, Canada</td>
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<tr>
<td>Dr Peter Campbell</td>
<td>Wellcome Sanger Institute, Cambridge, UK</td>
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<tr>
<td>Professor Greg Rubin</td>
<td>Newcastle University, Newcastle upon Tyne, UK</td>
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