



The power of partnership.

New thinking. Real impact

The Alfred Research Alliance acknowledges the Traditional Owners of the land our precinct resides on, the Bunurong people of the Kulin nation.

We pay our respects to their Elders past, present and emerging, and extend that respect to all Aboriginal and Torres Strait Islander peoples.



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Welcometo the Alfred Research Alliance’s 2023-24 Annual Research Report.



AlfredHealth



Our 2023–24 Annual Research Report showcases the impact of a highly collaborative approach to health and medical research at the unique Alfred Precinct.

Bringing together a world-leading hospital, three universities, two research institutes and two industry partners, the Alliance combines expertise across biomedical science, clinical care and public health.

During the year, we continued to address some of the most complex health challenges facing our communities alongside strong performance and growth.

We secured \$221 million in external research funding and advanced research across priority areas including cancer, cardiovascular disease, infectious diseases and public health. Significant milestones included the opening of the Paula Fox Melanoma and Cancer Centre, further enhancing the precinct’s research infrastructure and capacity.

The year also saw the expansion of clinical trials, including the groundbreaking out-of-hospital ECMO trial, with the potential to transform emergency care and save lives in our community.

Researchers across the Alliance continued to harness emerging technologies such as artificial intelligence, genomics and advanced medical devices to drive innovation.

Among the year’s most notable achievements was the development of an artificial heart by Professor David Kaye and collaborators through the Artificial Heart Frontiers Program, based at the Monash Alfred Baker Centre for Cardiovascular Research. This pioneering technology may offer new hope to patients living with advanced heart failure and highlights the Alliance’s leadership in translating cutting-edge research into clinical solutions.

This report highlights the breadth and depth of research undertaken across the Alliance, celebrates the achievements of its world-leading researchers and clinicians, and demonstrates its ongoing commitment to translating discovery into better health outcomes for communities in Australia and around the world.





WHO WE ARE

The Power of our Partnership

We think in new and innovative ways and work together to translate the latest advances in medical research into outcomes that help address critical unmet clinical and public health needs locally, nationally, and internationally.

With more than 8,000 health professionals, researchers, students, and support staff, the Alliance brings together some of the world’s leading experts in almost every field of biomedical, translational, clinical, and public health research, education, and healthcare.

The unique integration of these fields creates an exceptional environment where new and improved diagnoses, treatments, and disease prevention strategies are discovered, developed, and implemented.

Here, also, students gain the education and training they require to take their place as tomorrow’s leading clinicians, nurses, scientists, and health professionals.

WHAT WE DO

New thinking. Real impact.

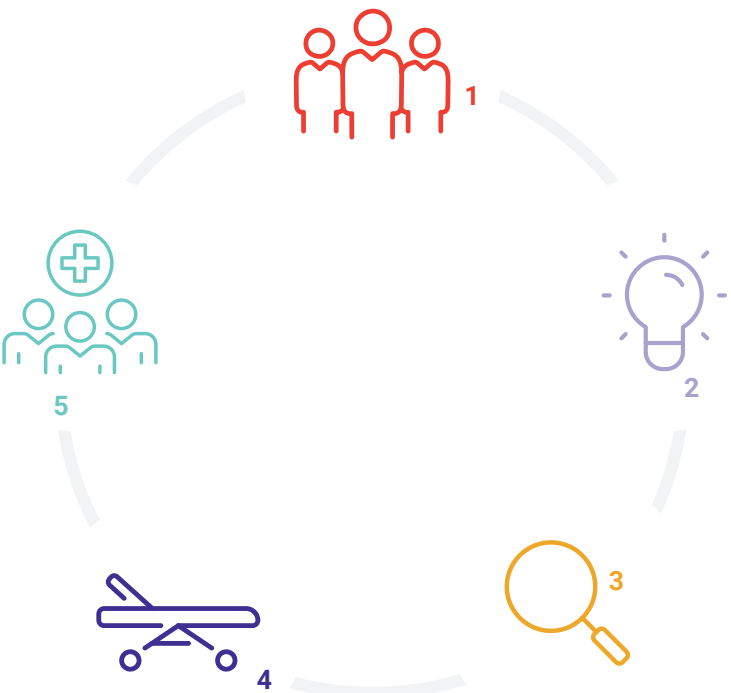
At the Alfred Research Alliance, our researchers take a clinical unmet need and apply their skills to find a solution for improving health outcomes.

Our work covers everything from biomedical discovery in the laboratory to applied research, clinical research, and public health and health services research.

By enabling discoveries to progress from bench to bedside to the broader community, our research forms a complete translational research cycle on one geographically distinct and uniquely interconnected precinct.

The overarching aim is to improve diagnosis, treatments, prevention and policy, creating better outcomes for the healthcare system and the wider community.

Our research cycle



- 1 Unmet clinical care
- 2 Biomedical discovery & applied research
- 3 Public health
Clinical trials
Health service research
- 4 Translation into clinical practise
- 5 Health outcomes for patients
New policy & practise
Healthcare modelling
Funding



1 Hospital



2 Biomedical SMEs



2 Medical Research Institutes



3 Universities



1,300+ Postgraduate students



1,500+ Researchers



8,000+ Staff and students



WHAT WE DO

Translating research into practice

Our research forms a complete translational research cycle on one geographically distinct and uniquely interconnected precinct.

At the Alfred Research Alliance, the latest advances in medical research are translated into the best possible clinical care and health outcomes.

Research Strengths

- 

Blood diseases and cancer
- 

Cardiovascular disease
- 

Diabetes and obesity
- 

Epidemiology and Public Health
- 

Infection and immunity
- 

Mental health and Neuroscience
- 

Nursing and allied health
- 

Trauma, critical care and perioperative medicine

WHAT WE DO

Clinical trials at the Alliance

We have more 600 trials open across all trial phases from Phase 1 (initial testing in a small group of people) to Phase 4 (monitoring the ongoing effectiveness of a treatment after it has been released to the public). In many cases, the preclinical research that informs these trials is conducted on our premises, and the integration into clinical practice follows the successful completion of the trial. This creates a full translational research loop on site, enabling our members to deliver better health outcomes, sooner.

Australia’s largest Phase 1 Clinical Trial Unit

Co-located on this campus is Nucleus Network, a leading Phase I facility capable of recruiting patients for pharmacokinetic (how drugs move through the body) studies in hepatic and renal patients.

This year, we were the Australian site selected to open a phase 1, first-in-human clinical trial to investigate a new treatment for Amyotrophic Lateral Sclerosis (ALS).

ALS is a progressive neurological disorder that damages nerve cells and causes disability. It specifically damages motor neurons, the nerve cells that control voluntary movements, causing them to shrink and die. With the loss of these nerve cells, the brain is no longer able to control muscle movement and patients progressively lose the ability to perform everyday tasks.

The trial, which has since met its Melbourne and global recruitment target, is assessing a new drug treatment to discover an unmet need for ALS, which is almost invariably fatal within [three to five] years of diagnosis.

The global burden of ALS is expected to increase due to ageing populations and longer life expectancies.





External funding awarded for health and medical research in 2023

\$221M

External research funding by funding source 2023

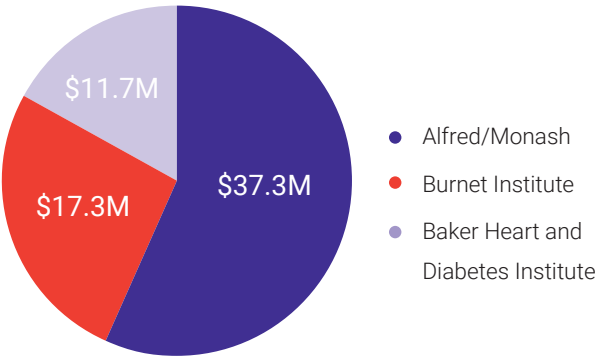
\$115M	\$23M
Australian competitive grants	Other public sector research income
\$35.3M	\$40.4M
Other competitive research grants	Industry income
\$8.6M	\$221M
Other research income	Total

A SNAPSHOT OF OUR YEAR

NHMRC funding commitments secured by Alfred Research Alliance commencing in 2024

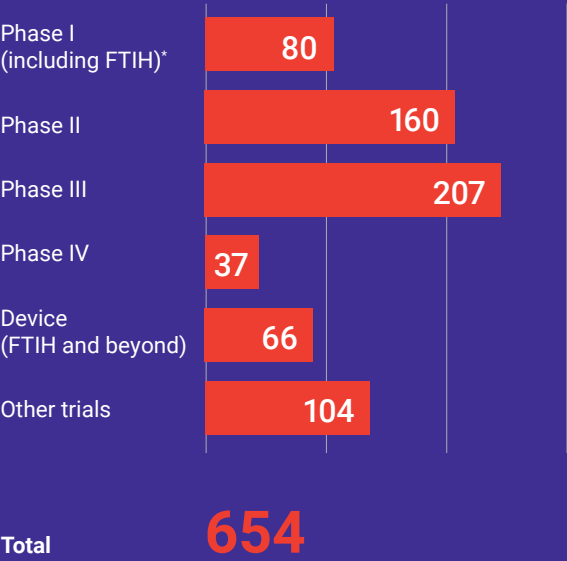
\$66M

NHMRC funding commitments directly administered by Alliance members



Philanthropy In addition to the \$221M in external funding secured specifically for research, Alliance partners also received more than \$26 million in philanthropy and fundraising revenue in 2023.

Clinical trials in 2023



Students 2023

1325
Postgraduate degree students

291
Masters and PhD/doctoral student completions

Commercial impact

14
Provisional patent applications

3
National phase entry

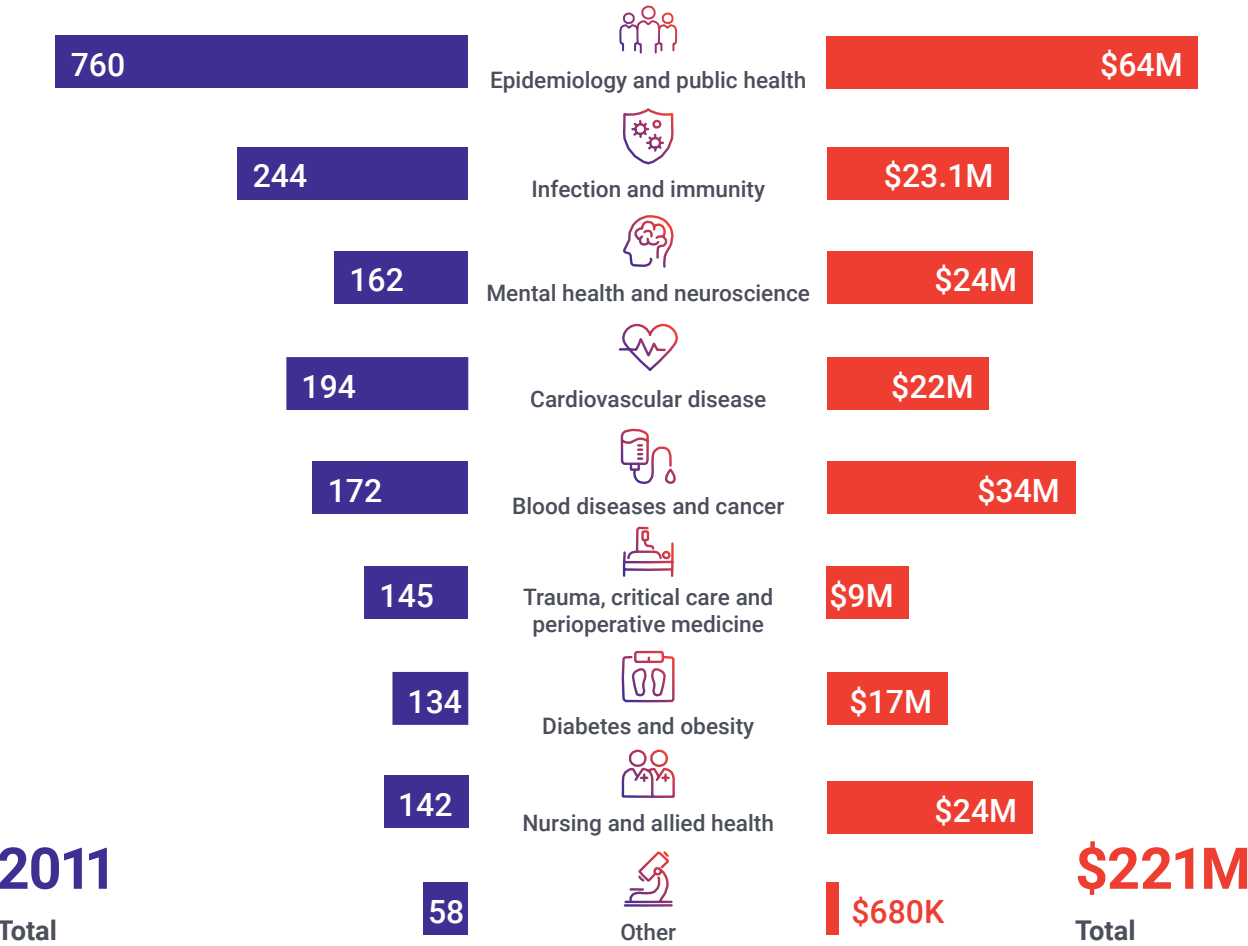
2
PCT patent applications

6
Patents granted

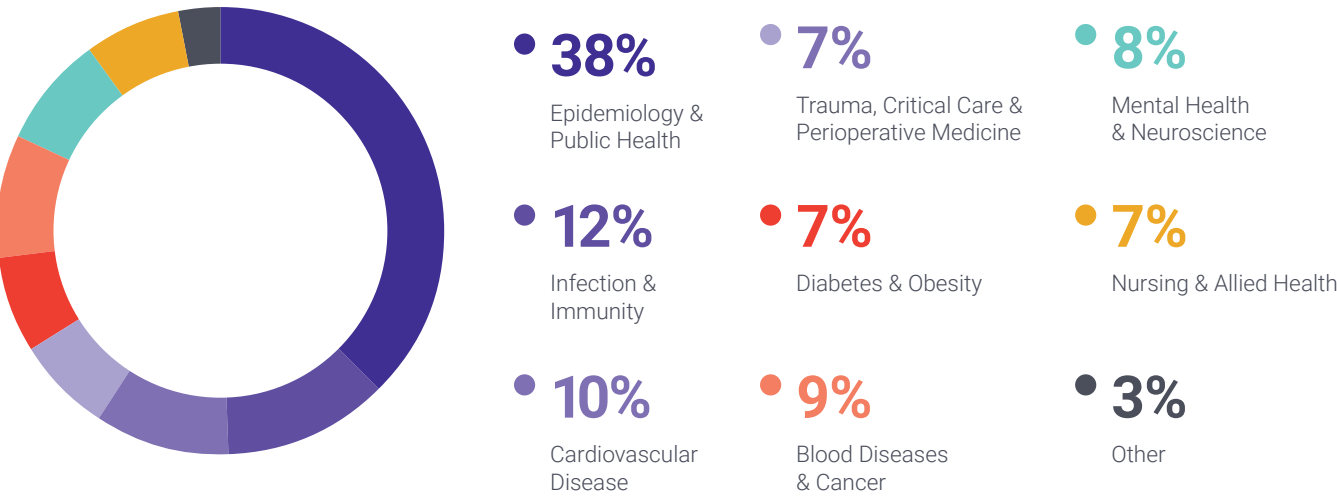
Research performance

Original research articles by research area 2023

External research funding by research area 2023



Original research publications by research area 2023





PRECINCT HIGHLIGHTS



10

Alliance researchers’ breakthrough study named Trial of the Year

A study investigating how effective additional antibiotics are in the prevention of post-joint surgery infection, undertaken by Alfred Health and Monash University, was awarded the prestigious Australian Clinical Trials Alliance (ACTA) Trial of the Year Award.

Deputy Director of Research in Infectious Diseases, Prof Trisha Peel, led the Australian Surgical Antibiotic Prophylaxis (ASAP) trial looking at whether adding a second antibiotic at the time of surgery, in addition to a standard course, helped prevent infection.

“While not common, post-surgery infection can be devastating and result in extended hospital admissions, further complications and mortality,” said Prof Peel.

“We wanted to examine whether the use of additional antibiotics, which is becoming more commonplace, actually helps or hinders the body’s ability to fight infection.”

Over 4200 patients were involved in the study, which ultimately found the addition of a secondary antibiotic did not protect against infection and may have in fact led to more infections and more adverse reactions for patients.

“Our trial has answered the important about whether more antibiotics are better for our patients having joint replacement

surgery: with the definitive answer a clear no”, said Prof Peel.

“Given the number of joint replacements performed in Australia and globally, this trial will have a significant impact on practice,” she said.

Prof Peel, said the award, which celebrates outstanding Australian achievements that advance clinical practice and save or improve patient lives, was a sign the trial was on track to guide practice.



+ Prof Trisha Peel, Deputy Director of Research in Infectious Diseases

“Being recognised in this way is a nice sign that your trial is being respected by your peers for being impactful and meaningful and will hopefully improve patient outcomes in years to come.” – Prof Tricia Peel

20

Monash University leads World Health Summit Regional Meeting

Monash University’s School of Public Health and Preventive Medicine hosted the 2024 World Health Summit Regional Meeting.

The three-day event brought 1,250 delegates from 40 countries to Melbourne, setting a record for attendance. The aim of the meeting was to address critical health challenges in the Asia-Pacific region, and united diverse sectors to discuss partnerships, research, innovation, and policy for impactful health outcomes.

Key themes included:

- Thriving Communities and Health - Emphasizing equity and well-being within communities.
- Climate Change and Health - Addressing health impacts of environmental changes and emergencies.
- Geopolitics and Health - Highlighting cross-border equity and collaboration.

The meeting prioritised regional health challenges that are reflected across the globe, such as Indigenous health, women’s health, and the intersection of climate change and political instability on health and healthcare systems.

Equity, trust-building, and community-led approaches to designing health systems resonated throughout the program.

Notable attendees included policy and health service leaders Dr Lucas De Toca, Australia’s Ambassador for Global Health; Esperanza Martinez, former Crisis Team Head for the International Committee of the Red Cross; and Dr Saia Ma’u Piukala. Indigenous health leaders were strongly represented, including Riana Manuel, Chief Executive of the Māori Health Authority New Zealand, and Prof Marcia Langton AO.



+ Prof Sophia Zoungas, Head of the School of Public Health and Preventive Medicine

“The partnerships fostered and opportunities to collaborate that have resulted are an important chance for those of us in the Asia-Pacific region to collectively chart a pathway towards enhanced health outcomes for everyone.”

PRECINCT HIGHLIGHTS



3

National boost for melanoma care and research



L:R Mr Chris Glanville; Victorian Premier, The Hon Jacinta Allan, Mrs Paula Fox; Prime Minister, The Hon Anthony Albanese; and, Prof Victoria Mar at the opening

The Paula Fox Melanoma and Cancer Centre – a partnership between Monash University and Alfred Health – has revolutionised care for Victorian patients.

The world-class melanoma and cancer treatment and research centre was officially opened by Prime Minister, The Hon Anthony Albanese, and Victorian Premier, The Hon Jacinta Allan.

The new \$152.4 million facility is delivering lifesaving clinical trials, research and care under one roof, heralding a new era in cancer care.

The Centre is home for pioneering research and where our leading researchers will continue their fight against Australia’s deadliest disease, melanoma. It’s where clinical researchers will work with our scientists to understand and respond to the changing nature of cancer so we can save lives.

By integrating technology - utilising cancer registries, medical imaging, genomics and other large data sets - we can support The Alfred’s melanoma specialists to detect, diagnose, treat and ultimately prevent cancer.

By having clinical trials, translational research and patient care all under one roof, people with melanoma and other skin cancers will have access to the most cutting-edge and evidence-based care possible.

The Paula Fox Melanoma and Cancer Centre includes:

- Modern and welcoming treatment and consultation spaces for patients, including day therapy treatment chairs overlooking Melbourne’s iconic St Kilda Road and tranquil gardens.
- A Wellness Centre, providing a dedicated home for respite, education and support services for patients, their families and carers.
- A hub for clinical trials – enabling patients to receive access to cutting edge treatment in the same location.
- Integrated precision technology, promoting early detection of melanoma and connecting regional and rural patients with the very best of care.
- On-site research laboratories, allowing patients to benefit from advancements in medicine as soon as possible; and
- World-class research and training facilities, attracting the brightest and best minds in cancer care.



4

Artificial heart gives hope

A revolutionary, implantable mechanical device is set to provide new hope to patients with debilitating heart failure.

The Total Artificial Heart Project is co-led by the Director of Cardiology at The Alfred, Prof David Kaye and developed in Australia by BiVACOR.

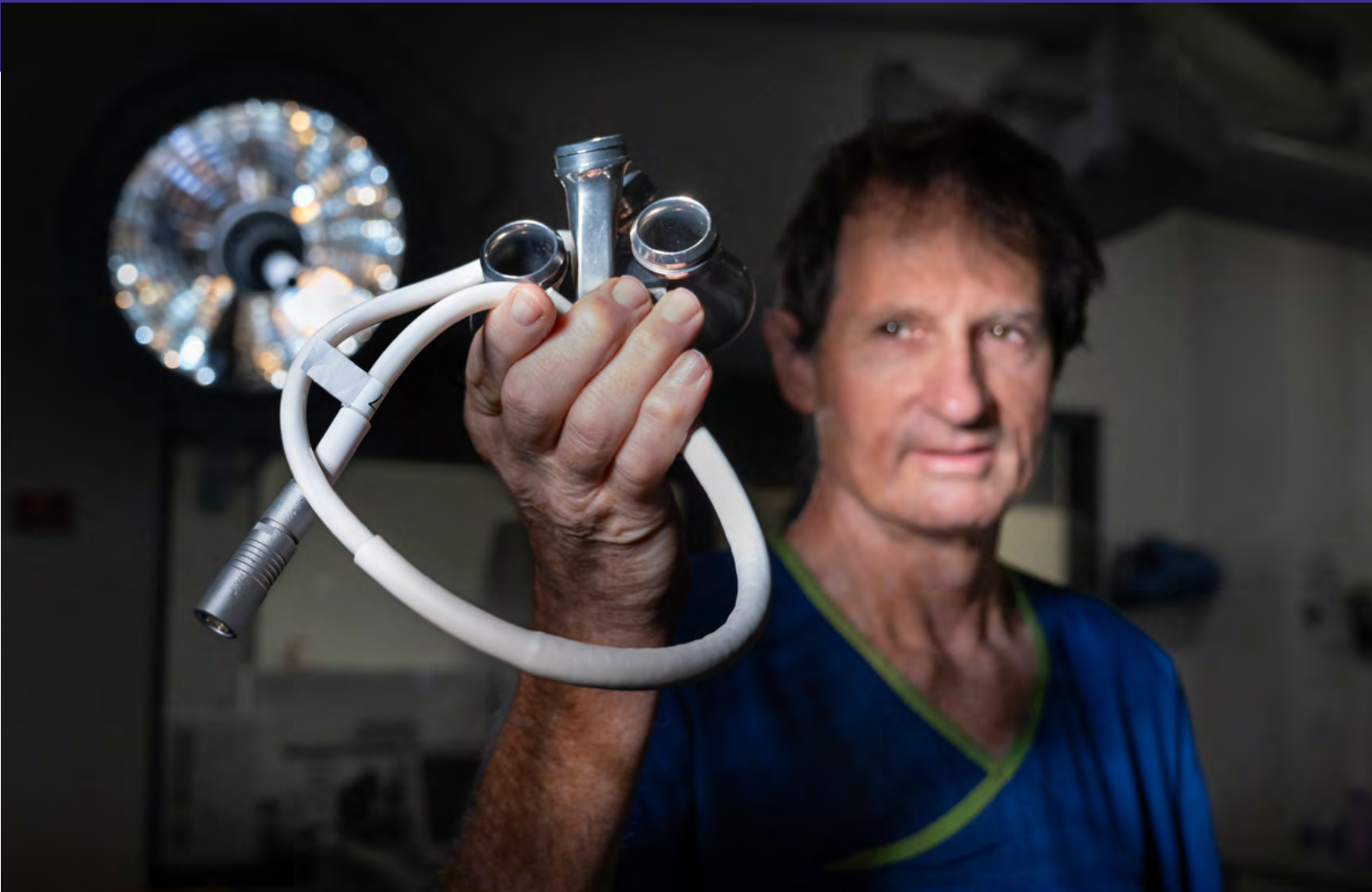
The total artificial heart can adapt its pumping capabilities through a novel engineering solution.

It is intended to fully replace a natural heart, providing patients with a possible alternative to a heart transplant.

Reflecting on this outstanding work, Prof David Kaye and the team at BiVACOR received a \$50 million federal innovations grant from the Medical Research Future Fund for the development of the total artificial heart.

The BiVACOR total artificial heart was placed in a living human for the first time, with the patient’s entire diseased heart removed and replaced with the device during an operation in the United States.

The total artificial heart is one of the technologies being created under the Artificial Heart Frontiers Program, based at the Monash Alfred Baker Centre for Cardiovascular Research at The Alfred.





OUR MEMBERS

The Alfred Research Alliance brings together eight independent and diverse organisations to create a community of excellence for research and education.



Alfred Health is a state-wide health service comprising The Alfred, Caulfield and Sandringham Hospitals, along with a large network of community programs and 14 services across Victoria.

The Alfred is one of Australia’s busiest hospitals, providing the most comprehensive range of adult specialist medical and surgical services in Victoria. The hospital is also a major tertiary referral teaching hospital with a commitment to research excellence and training for medical, nursing and allied health staff.



Monash Medicine, Nursing and Health Sciences is a research-focused faculty within one of the world’s top universities. It is a leading provider of education for doctors, nurses and allied health professionals in Australia.

Two of the university’s largest schools are located at the Alfred precinct within the Sub-Faculty of Translational Medicine and Public Health. Monash School of Translational Medicine is a major centre for clinical and biomedical research and education, with a focus on translational research including preclinical studies and early phase clinical trials of new treatments for human diseases. Monash School of Public Health and Preventive Medicine is a world leader in public health, clinical and applied research and education, including large-scale late phase clinical trials, clinical registries, population studies and health services research.



The Baker Heart and Diabetes Institute is an independent, not-for profit medical research facility with a proud history of discovery dating back to 1926.

The Institute’s research is focused on diabetes clinics, as well as providing a range of specialised education services.

The Baker Institute’s work extends from the laboratory to widescale community studies and intervention programs. The Institute also runs a range of specialist clinics, including cardiovascular and diabetes clinics.



At Burnet, we are helping to create the future of health, placing equity at the centre of what we do, and paying close attention to the intersection of health and the rapidly changing climate and environment.

We are working towards a future where diseases are eliminated, mothers and children are thriving, the world is better prepared for health challenges and people at risk are supported to reduce harms to their health.



Deakin University’s School of Nursing and Midwifery and Alfred Health Nursing Services have a long-established research and education partnership.

Through that partnership, staff at the Deakin Centre for Quality and Patient Safety Research are able to conduct high-quality research programs in the areas of patient safety, health services evaluation and knowledge translation.

This allows us to make a substantive contribution to scientific knowledge, clinical nursing practice and the quality of patient care. As well as research training, Deakin undergraduate and postgraduate students also complete clinical placements here for their nursing, allied health and health science degrees.



The La Trobe University Clinical School at The Alfred integrates research, teaching and clinical practice in allied health and nursing.

The broad objectives of the school are to provide national and international research leadership, conduct clinical research that makes a difference to patient outcomes, and promote interdisciplinary and inter-institutional collaboration in healthcare delivery and research. We provide a centre of excellence for education in nursing and are leaders in implementation science – the uptake of research evidence into clinical practice.



Nucleus Network is Australia’s largest Phase 1 clinical research organisation and the only Phase 1 specialist globally with facilities in the USA and Australia. Since our establishment in 2004, Nucleus Network has conducted well over 1000 Phase 1 clinical trials for biotechnology and pharmaceutical companies from across the globe, including China, Europe, Japan, South Korea, Taiwan and the USA.

Our Australian Phase 1 facilities are in Melbourne and Brisbane, and our USA Phase 1 facility is in Minneapolis, Minnesota. Combined, our clinics offer more than 200 beds. All 3 clinics are strategically co-located within leading medical, research and biotech precincts: The Alfred hospital in Melbourne, the Royal Brisbane and Women’s Hospital in Brisbane, and Medical Alley in Minnesota.



360biolabs, a BioAgilytix company, is the leading and most comprehensive specialty laboratory in the Australia and New Zealand region focused on supporting pharmaceutical and biotech partners in all phases of drug development.

Recently joining the global BioAgilytix team and now with laboratory locations in North Carolina’s Research Triangle Park; Cambridge, Massachusetts; San Diego, California; Hamburg, Germany; plus Melbourne and Brisbane, BioAgilytix provides large and small molecule PK, immunogenicity, biomarkers, flow cytometry, virology and cell-based assay services supporting the development and release testing of therapeutics across a number of industries and disease states.

360biolabs and the global BioAgilytix laboratories offer assay development, validation and sample analysis under ISO/IEC 17025, ISO 15189, GLP and GCP, GMP quality control testing (i.e. product release testing, stability testing, etc in USA labs) and diagnostic testing services at its CLIA-certified, CAP-accredited Boston laboratory.



ALFRED RESEARCH ALLIANCE COUNCIL MEMBERS



Adam Horsburgh
Chief Executive Officer,
Alfred Health
Alfred Research Alliance,
Chair



Prof Stephen Jane
Dean, Sub-Faculty of
Translational Medicine
and Public Health,
Monash University &
Director of Research,
The Alfred



Prof Tracey Bucknall
Prof of Nursing, Alfred
Health & Deakin
University / Chair in
Nursing, Alfred Health



Prof Brendan Crabb
Director & Chief
Executive, Burnet Institute



Ms Angela Luttick
EVP, Commercial,
360Biolabs



Prof Meg Morris
Prof of Clinical
and Rehabilitation
Practice and Executive
Director ARCH,
La Trobe University



Prof David Tarlinton
Laboratory Head,
Immune Memory
Laboratory,
Monash University

ALFRED RESEARCH ALLIANCE SECRETARIAT



Prof John Greenwood
Director and CEO,
Baker Institute



Prof Colin Johnston
Ethics Committee,
Alfred Health



Dr Tony Kambourakis
Chief Medical Officer
and Executive Director
Medical Services,
Alfred Health



Dr Jason Lickliter
Chief Medical Officer,
Nucleus Network



Ursula McGinnes
Executive Director
of Public Affairs and
Communication,
Alfred Health



Kylie Bretag
Alfred Research Alliance
Executive Officer,
Alfred Health

2024 Alfred Health Research Week

Each year, we host a research week to showcase the excellence from across the Alliance precinct. It is an opportunity for our community of researchers to come together, discuss ideas and network.

The focus for research week was artificial intelligence in medical research, specifically highlighting the opportunities and challenges AI can help address here at the Alliance.



AI in Healthcare Research vs Regulation

The keynote address was presented by Tracey Duffy, First Assistant Secretary, Medical Devices and Product Quality lead at the Therapeutic Goods Administration.

Tracey's extensive experience with AI software includes advisory roles in the Department of Health and the private sector, making her well-suited to provide insights on AI in medical research. The theme of the address was Regulation vs Research. Tracey shared how the TGA regulates AI software. She then spoke to concerns and risks surrounding AI both for researchers and clinicians.

Tracey's keynote address was followed by a panel discussion. The discussion was hosted by Deputy Director of Research, Prof Terrence O'Brien. Joining Tracey on the panel was Prof Anton Peleg, Director, Department of Infectious Diseases; Amy McKimm, Chief Digital Health Officer; and David Ruschena, legal counsel.



RESEARCH WEEK 2024

SPOTLIGHT ON Artificial Intelligence in our research Showcase



+ L:R Prof Meng Law, Ms Chloe Shorten, Dr Shane Huntington OAM, Prof Tori Mar, Prof Tracey Bucknall, Dr Corey Giles, Prof Lei Zhang and Prof Belinda Gabbe

Alliance researchers showcased their innovative AI research projects to their peers as part of research week. The event was hosted by Dr Shane Huntington, science communicator and Chief Executive Officer at the Australian Society for Medical Research. The following is an overview of the research projects presented.

Melanoma

Prof Victoria Mar, AlfredHealth/ Monash University, shared how melanoma early detection using AI and 3D total body imaging is improving diagnosis and risk assessment.

Patient safety and care

Prof Tracey Bucknall, Deakin University, shared insights into potential for AI to assist with minimising patient harm and its costs, as well as how AI could provide real-time information to nurses and staff.

Cardiovascular

Dr Corey Giles, Baker Heart and Diabetes Institute, discussed how AI can assist with cardiovascular risk assessment and the potential for blood tests to predict

multiple conditions simultaneously. He outlined how his team used AI and machine learning to develop a lipid risk score.

Radiology

Prof Ming Law, Monash University, showed us the potential of AI in medical imaging, including how generative AI could create synthetic MRI scans that improve patient outcomes and reduce radiation exposure. Extending the capabilities of point-of-care MRIs with AI.

Sexual Health

Prof Lei Zhang, Melbourne Sexual Health Centre, Monash University, discussed AI tools for early STI diagnosis with the potential to break through the stigma and embarrassment of sexual health diagnosis and treatment leading to improved patient outcomes.

Orthopaedics/patient care

Prof Belinda Gabbe, Monash University, discussed the use of AI in Orthopaedics, specifically the PRAISE study, using AI to improve the care of wrist fractures.





OUR RESEARCH STRENGTHS



Blood diseases and cancer

High-precision radiation cuts prostate treatment time by 75 per cent

The Alfred became the first Victorian public hospital to offer a new form of radiation that drastically cuts treatment time for prostate cancer patients.

Stereotactic ablative radiotherapy (SABR) is a high-precision, high-dose radiation treatment usually used to treat cancer in the kidney, lungs or brain, and can now be used to treat certain prostate cancers.

Alfred Specialist Radiation Oncologist, Associate Prof Wee Loon Ong, said for patients this means their treatment is reduced from daily sessions every weekday over four weeks to just five sessions, over a week and a half.

“It’s a very precise, high-dose treatment meaning men with intermediate risk prostate cancer can be treated as effectively with fewer treatment sessions,” said Associate Prof Ong.

The first patient began their treatment at The Alfred in early 2024.

It has been a concerted effort from radiation oncologists, radiation therapists, medical physicists, and nursing staff to ensure we can deliver a safe and effective treatment.

SABR is more intensive from a treatment delivery point of view, where we need to continuously track the prostate during the treatment to ensure we’re targeting the correct area, without increasing the side effects of treatment.

For newly diagnosed prostate cancer patients, this standard-of-care treatment is as effective over fewer appointments, making it more convenient for them.



+ The Alfred’s radiation oncology team has introduced the new treatment for prostate cancer patients.



Monash’s Advocacy leads to major government change

Following the recommendations of a report led by Monash University’s Dr Jane Tiller and Professor Paul Lacaze, the Australian Government announced its plans to completely ban the use of genetic test results in life insurance underwriting.

Consistent with the recommendations, the Government announced that the Australian ban will not be subject to any financial limits, caps or exceptions, and will be reviewed after five years.

Dr Tiller, who was lead author of the Monash report, said a ban without exceptions was vital to provide consumers with certainty about the protection of their genetic information into the future.

“Our research has shown that the fear of insurance discrimination deters people from having genetic testing that could save their lives, or from participating in important genetic research. The announcement marks a decisive step by the Government to ensure Australians can make genetic testing decisions based on health needs, not financial implications,” Dr Tiller said.

Professor Lacaze, who is Head of Public Health Genomics at Monash University, said the decision paves the way for increased access to genetic testing and DNA screening for disease prevention.



+ Dr. Jane Tiller, Public Health Genomics, Monash University

Community-member, Kara Ryan found out she had a BRCA2 variant, which significantly increases her risk of developing breast and ovarian cancer, through her participation in Monash University’s DNA Screen study.

The Government’s announced reforms will prohibit life insurers from asking people like Kara for genetic results to discriminate and brings Australia into line with other countries such as Canada, which introduced a complete legislative ban in 2017.



OUR RESEARCH STRENGTHS



Blood diseases and cancer

Exercise during cancer treatment reduces cardiovascular risk



+ A/Prof Erin Howden, Head of the Baker Institute's Cardiometabolic Health and Exercise Physiology research

A randomised controlled trial out of the Baker Heart and Diabetes Institute has found that combining structured exercise training with reductions in sitting time protects against heart damage and declines in cardiovascular fitness in adults receiving stem cell transplantation for blood cancers.

The average blood cancer patient loses 15–24 per cent of their cardiovascular fitness during the allogeneic stem cell transplantation process and acute recovery phase (three-to-four months), the equivalent of around two decades of normal cardiovascular ageing, ALLO-Active trial lead researcher Hayley Dillon said.

Findings from the trial, published in *Circulation*, revealed that patients who participated in the four-month, multi-component activity program showed significantly better preservation of their cardiorespiratory fitness and cardiac function during and after the transplantation process, compared to those receiving standard care.

Associate Prof Erin Howden, Head of the Baker Institute's Cardiometabolic Health and Exercise Physiology research, said this is a significant step forward in improving long-term outcomes for allogeneic stem cell transplant patients.

“It might sound counter-intuitive to exercise while undergoing treatment for cancer, but we’ve found that intervening during and following hospitalisation for allogeneic stem cell transplantation with an activity program that combines structured exercise training and reductions in sedentary time, counteracts the declines in cardiorespiratory fitness and exercise cardiac function, as compared with standard-of-care-treatment,”



Expanding cancer clinical trials to regional and rural hospitals



+ Latrobe Regional Health's clinical trial unit has been part of the TrialHub program.

The Australian Government funded Alfred Health in 2020 to establish the TrialHub program to pioneer an Australian-first clinical trial partnership program with the goal of improving access to potentially lifesaving and life-improving cancer trials for regional, rural and outer metro patients.

Six Victorian hospitals were brought into the program to establish a clinical trial unit for the first time, or to improve clinical trial offerings and set up new trials.

More than 2000 patients have benefited from new cancer trials at Latrobe Regional Health, Bass Coast Health, Bendigo Health, Northern Health, Peninsula Health, and Mildura Base Public Hospital.

Almost 140 new clinical trials of various trial phases have opened across TrialHub's flagship sites, marking a significant improvement in patient access and in reducing barriers such as long distances and the emotional burden of having to travel to a metropolitan centre for a clinical trial.

Leveraging the expertise at The Alfred Hospital, the unique hospital-to-hospital support program has provided intense support across clinical trials operations and strategy, governance, workforce upskilling, communications and engagement, trial matching, and capability building support, as well as membership to the TrialHub-spearheaded Victorian Rare Cancer Clinical Trials Alliance.



OUR RESEARCH STRENGTHS



Cardiovascular

A new tool to reclassify heart risk and reduce heart attacks

Scientists at the Baker Heart and Diabetes Institute and La Trobe University have developed and validated a novel, blood-based risk score based on lipids (fats in the blood).

The tool, outlined in their pivotal paper in the Journal of the American College of Cardiology, aims to improve risk prediction and reclassify individuals within the intermediate risk group who might require aggressive preventive treatment or alternatively, a stepped-down approach such as lifestyle modification.

Scientists from La Trobe and the Baker Institute have developed a lipidomic risk score that refines intermediate risk assessment where traditional models like the Framingham Risk Score fall short.

This will aid clinicians in tailoring precise prevention and management strategies.

For many years, scientists have relied on traditional risk scores such as the well-known Framingham Risk Score which uses classical risk factors like ‘good’ and ‘bad’ cholesterol for stratifying individuals into high, intermediate, and low risk.

However, these traditional methods have many limitations, particularly in accurately assessing this middle or intermediate-risk group. This can be particularly dangerous as there is often a lack of symptoms in the early stages of disease and late diagnosis, when disease or heart damage is more difficult to treat, is common.



Innovation through AI and cardiology

The Monash Alfred Baker Centre for Cardiovascular Research held its first cross-disciplinary conversation about artificial intelligence solutions for heart problems, featuring key figures working at the intersection of artificial intelligence and cardiology, bringing expertise and insights from across the disciplines of basic science, IT, engineering, clinical care and industry.

The conversation was led by Alfred Health cardiologist and Adjunct Senior Research Fellow at Monash University, Dr Shane Nanayakkara, and delivered in collaboration with Monash University’s Faculty of Information Technology. The event participants heard new perspectives on AI and its potential applications to cardiovascular disease prevention and care, as well as the speakers’ personal experiences.



+ Dr Shane Nanayakkara, Senior Research Fellow at Monash University



+ Prof David Kaye

Director of the Monash Alfred Baker Centre for Cardiovascular Research, Prof David Kaye, said the centre was focused on creating opportunities for academic clinician partnered research and new pathways for clinical researchers at the Alfred Research Alliance Precinct.

The Monash Alfred Baker Centre for Cardiovascular Research supports collaborations that leverage the collective and complementary expertise across Monash University, Alfred Health and the Baker Heart and Diabetes Institute to tackle focus areas such as heart failure, mechanical circulatory support and heart transplantation, cardiac arrest and shock, coronary heart disease, medical devices and biomedical engineering, and structural heart disease.

The core aim is to bring together experts to nurture the creation of new ideas and innovations that will improve quality of life for many Australians and save lives.

OUR RESEARCH STRENGTHS



Cardiovascular

New study prompts call for considering cholesterol screening earlier in life

In the prestigious *Journal of the American Medical Association*, researchers from the Baker Heart and Diabetes Institute show that individuals who resolve high levels of all forms of bad cholesterol (known as non-HDL-cholesterol) by adulthood have a similar risk of cardiovascular disease to those who never had high levels.

In the research, Associate Prof Costan Magnussen stated that dyslipidaemia, a lipid metabolism disorder resulting in abnormal levels of cholesterol or fats in the blood in children is silent and potentially deadly. It is characterised by high levels of bad cholesterol including LDL-cholesterol, and triglycerides and contributes to the build-up of plaque in the arteries.

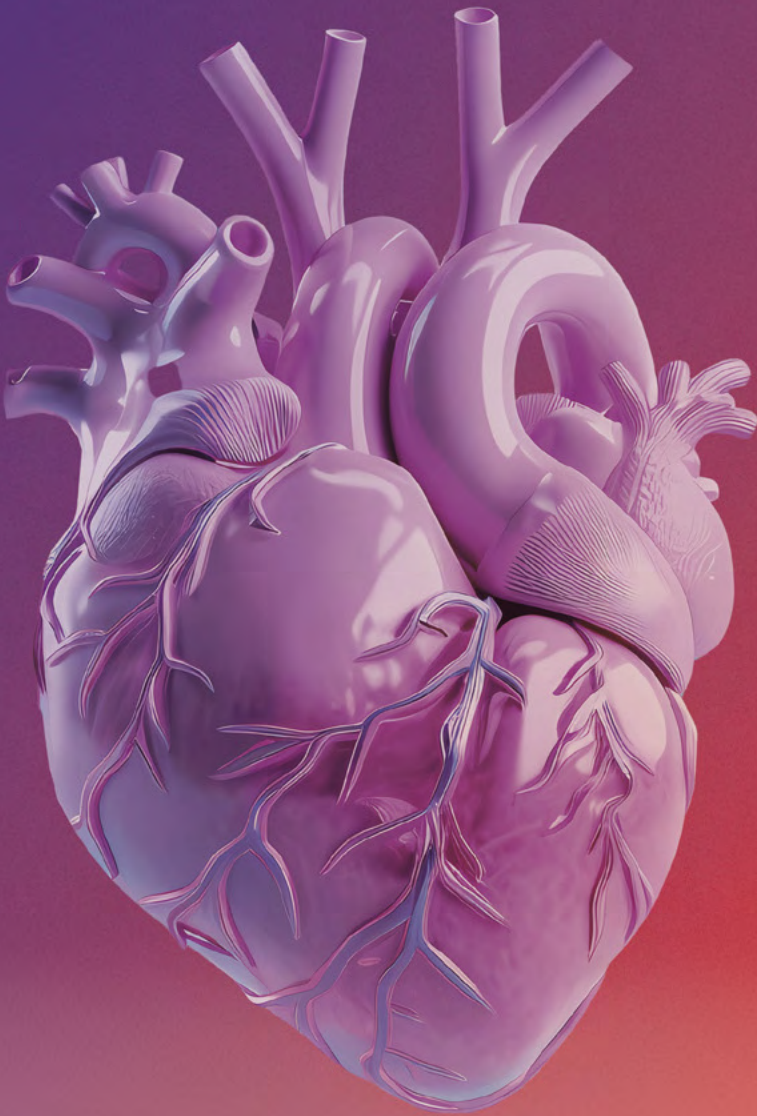
Associate Prof Magnussen says there is widespread research to show that cardiovascular disease begins early in life. “Abnormal ‘bad’ cholesterol in childhood, which is impacted by our genes, environment and lifestyle, is a significant concern,” he said.

The data in this study, which involved following more than 5100 individuals in the US and Finland over a long-term, indicated there was a window of opportunity prior to mid-adulthood when effective interventions may reverse the detrimental effect of childhood and young adulthood dyslipidaemia on heart disease risk later in life.

“We should at least be having the conversation about tackling elevated ‘bad’ cholesterol much earlier in life. The good news is that research increasingly shows that early intervention could positively impact the trajectory of a person heart health ”



“It may mean that we need to be more prescriptive about lifestyle interventions and increase awareness about this issue in childhood, adolescence, and young adulthood before it leads to a heart attack or stroke in later life.” - A/Prof Costan Magnussen





OUR RESEARCH STRENGTHS



Diabetes

Diabetes and Obesity Alliance brings experts together

The Alfred Research Alliance has one the highest concentration of leading Australian diabetes researchers with remarkable breadth ranging from basic, translational, public health research, and clinical care.

In 2023, four ARA organisations — Monash University, Alfred Health, Nucleus Network and the Baker Institute - joined forces to establish a Diabetes Alliance.

The Alliance aims to build capacity in early clinical scientists, recruit and retain emerging researchers, and advanced physician scientists. For patients, the aim is to discover new diagnostic and therapeutic targets, prevent complications, transform models of care, extend the life expectancy of people at risk, or living with, diabetes.

Type 2 diabetes incidence declines in Australian adults, but not in Australians born overseas

The incidence of type 2 diabetes in Australian adults has been declining since 2010, but the same cannot be said of Australian adults who have immigrated from Asia, North Africa, the Middle East and Pacific Islands.

A paper by researchers from the Baker Heart and Diabetes Institute published in Medical Journal of Australia found that although the incidence of type 2 diabetes continued to decline among Australian adults during 2010–2019 across all age, sex, socio-economic disadvantage and remoteness groups, incidence increased among people from particular ethnic backgrounds.



Diabetes research reaches remote India

Professor Brian Oldenburg from Baker Heart and Diabetes Institute/ La Trobe University received a National Health and Medical Research Council grant aimed to foster research partnerships between institutions in Australia and the Asia-Pacific region and improve health outcomes for chronic conditions.

Prof Oldenburg is evaluating a lifestyle change program with young people from Meghalaya in north-eastern India, where many Indigenous people from the Khasi tribe live, to reduce the development of heart disease and diabetes.



People with diabetes treated with insulin have increased risk of serious injury

The Baker Heart and Diabetes Institute says the high risk of injury in people with type 1 diabetes and those with insulin-treated type 2 diabetes could be attributed to their likelihood of hypoglycaemic falls, when blood sugar levels dip dangerously low; and poorer eyesight and neuropathy, where decreased protective sensation makes individuals unaware that they are being burned.

Frailty and loss of muscle strength in people with diabetes are also concerning issues that warrant consideration when it comes to injury, Baker Institute experts say.

The findings, outlined in *Diabetes Care* and presented at the *American Diabetes Association Scientific Sessions* in Florida this by Berhanu Feleke, provide critical disability information for people with diabetes, health professionals and

policymakers.

The study’s authors, led by Profs Jonathan Shaw and Dianna Magliano, call for intervention programs to consider falls prevention strategies and development of muscle strength in people with diabetes associated with insulin-use.

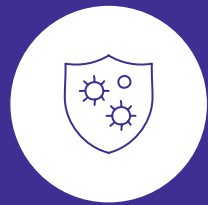
The study also serves as a powerful reminder of the new and emerging complications of diabetes. While many people are aware of the traditional complications of diabetes such as eye, heart and kidney disease, this study reinforces the need to broaden that focus to include emerging issues such as disability and frailty.



Prof David Greening and A/Prof Sara Baratchi



OUR RESEARCH STRENGTHS

AlfredHealth +  MONASH University

Infectious Diseases

Search for HIV cure won't stop

The first of two HIV cure research trials has concluded at The Alfred, as researchers continue their search for new ways to improve the treatment.

"There's a lot of hope," says Associate Prof James McMahon, Head of Clinical Research in The Alfred's Department of Infectious Diseases, responding to the recently published results of the first trial, co-led with experts from Denmark and known as TITAN.

TITAN, is the first of the two new trials being conducted by members of The Alfred's Infectious Diseases team, aimed to determine if drugs involved in the treatment of other medical conditions could also play a positive role in the treatment of HIV.

"To my knowledge, these are the first cure-focused treatment interruption studies done in Australia," adds Dr Jillian Lau, an Infectious Diseases physician at Alfred Health.

Both A/Prof McMahon and Dr Lau are especially conscious of the challenges involved with asking participants to temporarily abandon their existing treatments – even while under the careful supervision of the clinical research teams.

"If you're someone with HIV, one of the first things you're told is that if you get on these antiviral medications, you'll have this normal, long, healthy life," A/Prof McMahon describes.

"You're also constantly reinforced to take them all the time and told if you stop them your virus will come back."

"But we're doing this so that we can try and understand a certain endpoint, result or impact of these interventions in the study," adds Dr Lau. "It's necessary at the moment in terms of where we are in HIV cure science to see what happens when we stop HIV treatment to determine if the drug that we're testing or the intervention that we're testing has any true impact," A/Prof McMahon said.

"What we're really interested in is can we use a very low dose to improve its safety profile to get that increased response towards HIV, and these doses are extremely low compared to what's used to treat cancer."



 A/Prof James McMahon and Dr Jillian Lau



AlfredHealth

World's second-most published researcher celebrated

The world's second-most published researcher in sexually transmissible infections (STIs) and STI prevention has been recognised with a prestigious honour from the Australian Academy of Science.

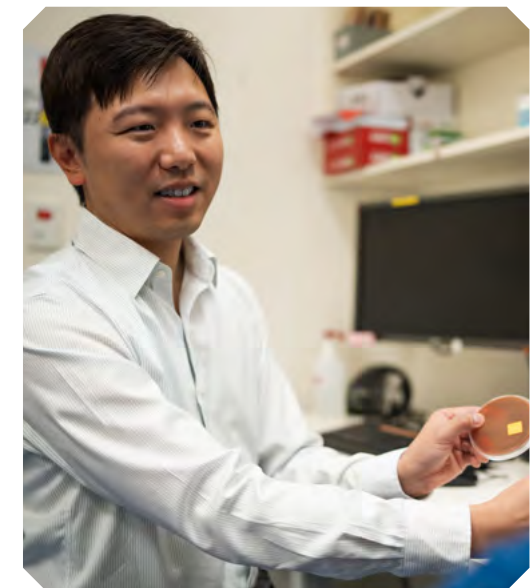
Prof Eric Chow, an epidemiologist and researcher at Melbourne Sexual Health Centre, is the recipient of the 2024 Gottschalk Medal, which recognises outstanding research in biomedical sciences by individuals up to 10 years after completion of their PhD.

The award is just the latest in a long line of achievements for Prof Chow, who – alongside colleague Prof Christopher Fairley – is credited with the world-first discovery of kissing and saliva as primary risk factors in the spread of Gonorrhoea.

Prof Chow is also a leading global voice in the studies of human papillomavirus (HPV), with multiple examples of his research published in esteemed journals, including *The Lancet Infectious Diseases*. This research effort has also continued to inform global policies around HPV vaccination strategy.

"I am honoured and humbled to receive this prestigious award from the Academy," said Prof Chow.

"I really love this area – that we can actually do research to help people, to help the community and protect the community."



+ Prof Eric Chow, an epidemiologist and researcher at Melbourne Sexual Health Centre



OUR RESEARCH STRENGTHS



Epidemiology and public health

Burnnext initiative to accelerate better health for all

Burnnext is an accelerator program that enhances Burnet Institute’s ability to translate medical research into practical health benefits and drive high-impact outcomes.

One of its projects is EXPAND-C: Expanding access to hepatitis C testing and treatment through community pharmacies.

Led by Deputy Program Director of Disease Elimination Prof Joe Doyle, the project is designed to make it easier for people to receive timely hepatitis C diagnosis and treatment in accessible community-based settings.

The EXPAND-C project team will deliver and evaluate the model by providing rapid point of care hepatitis C tests to health workers situated in community pharmacies.

The team hopes to conduct more than 1,000 rapid point-of-care tests over the next two years, with the ultimate goal of accelerating the elimination of hepatitis C as a public health threat in 2030.

EXPAND-C aims to widen existing healthcare options for people, especially those living with disadvantage, by acknowledging community pharmacists as important members of the public health team.

The second project is Burnet Diagnostic Initiative’s (BDI) Alanine Transaminase (ALT) point-of-care test. Led by Scientific Director of Research Translation, Prof Heidi Drummer and senior research scientist, Dr Lilian Hor, it builds on the success of an ALT prototype test developed by the BDI team earlier last year.



A point-of-care test can provide rapid onsite results to detect high levels of ALT in the blood, which can indicate potential liver damage and enable faster interventions.

“Funding from Burnnext will accelerate the development of the liver health test, which is used as a monitoring tool for people undergoing treatment with specific drugs,” Professor Drummer said.

Dr Hor said the wider availability of this type of diagnostic tool will mean that people undergoing clinical trials can monitor their liver health to ensure they remain healthy.

Burnnext is an accelerator program that enhances Burnet’s ability to translate medical research into practical health benefits designed to progress research translation and drive high-impact outcomes.



Improved syphilis test provides rapid results

Diagnosing syphilis can be challenging, as antibodies to the infection persist even after treatment, making it difficult for many tests to distinguish between active and past infections.

The current diagnostic process requires multiple tests, creating barriers to timely treatment and increasing costs, particularly in low-resource settings.

To address this, the Burnet Diagnostics Initiative (BDI) has successfully developed an improved test that can accurately distinguish between active and past treated infections.

Adapted into the AtomoRapid@Pascal device, the test delivers results in 15 minutes and can be used as a portable self-test or by a healthcare practitioner.

Burnet senior research scientist Dr Elsie Williams, who leads the project, said a rapid and accurate test allows diagnosis and treatment to happen in a single visit.

This is particularly important in regions where untreated syphilis contributes to high rates of miscarriages, stillbirths, and severe birth defects.

“Syphilis is completely treatable with a simple antibiotic injection, if identified early,” Dr Williams said.

The test is currently being evaluated in a clinical study at the Alfred Hospital. Usability field studies have also begun at PRONTO! Clinic, a Melbourne sexual health service.



OUR RESEARCH STRENGTHS



Epidemiology and public health

Critical research to understand environmental impacts on health

Prof Yuming Guo, a distinguished Professor of Global Environmental Health and Biostatistics at the School of Public Health and Preventive Medicine, is leading the largest and comprehensive study of the global, regional and national mortality burden attributable to air pollution caused by wild/bush fires.

“The long-term effects are not well understood, so we’ve dedicated significant effort to studying the health impacts on communities along Australia’s eastern seaboard after the 2020 megafires.”

Prof Guo said.

In 2024, the team published global estimates of the health burden caused by smoke from landscape fires. While 221 direct deaths were recorded worldwide in 2018, their analysis—including air quality, demographic data, scientific literature, and health records—estimated over 1.5 million deaths linked to smoke exposure, primarily through longer-term respiratory and cardiovascular conditions.

Of the 1.5 million deaths annually directly attributable to landscape fire pollution the researchers found:

- 450,000 cardiovascular deaths
- 220,000 respiratory deaths
- Deaths caused by wild/bush fire were four times higher in low-income countries than high-income countries
- The global cardiovascular deaths due to fire pollution increased by an average 1.67 per cent per year

The study concluded that LFS air pollution induces a substantial global mortality burden. The health impact of increasing LFS air pollution could be mitigated through implementing effective and evidence-based fire management, and careful planning and design of natural and urban landscapes.



+ Prof Yuming Guo, a distinguished Professor at the School of Public Health and Preventive Medicine.



Respiratory

Peanut allergy treatment study receives \$12m boost



+ Treasurer Tim Pallas, Emeritus Prof Jenny Rolland, Breakthrough Victoria CEO Grant Dooley, allergy sufferer Aleisha Bannan with baby Stevie, Brandon Capital MD Chris Nave and Prof Robyn O’Hehir gather for the funding announcement.

A \$12 million was awarded to progress Phase II clinical trials of a promising peanut allergy treatment, initially developed by Alfred Health and Monash University researchers.

Minister for Economic Growth Tim Pallas announced the \$12 million investment as part of a \$66 million funding round to develop the novel peanut allergy treatment.

Aravax is a clinical stage biotechnology company focused on revolutionising food allergy treatment through its lead product, PVX108. The immunotherapy uses synthetic peptides to mimic key parts of peanut proteins with the potential to retrain the immune system to tolerate peanuts without causing allergic reactions.

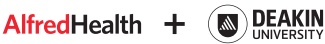
This unique treatment is the result of more than 25 years of research led by Allergy and Clinical Immunology Prof Robyn O’Hehir at Alfred Health and Monash University.

Prof O’Hehir, who is a co-founder of Aravax, said treatments like this one are vital for peanut allergy sufferers, who live in constant fear of suffering an anaphylactic reaction. The funding boost will enable expanded clinical trial access across Australia and the United States.

“While still early days in clinical translation, the data suggest that monthly doses of our peanut therapeutic could transform how we treat patients even with severe peanut allergy,”

Prof O’Hehir said.

OUR RESEARCH STRENGTHS



Neuroscience and mental health

Music and Movement: A Powerful Intervention for Dementia Patients



+ Dr Daphne Cheung, Senior Research Fellow at Alfred Health, School of Nursing & Midwifery, Deakin University

A Deakin University research project is looking at how a music-with-movement intervention can help dementia patients.

Led by Dr Daphne Cheung, Senior Research Fellow, Alfred Health-School of Nursing & Midwifery/ Deakin University, the research focuses on dementia care and supporting family carers, frailty and gerontechnology (focuses on using technology to improve the lives of older adults) to see if the well-being and symptoms of older individuals with cognitive impairment can be improved using music.

The music-with-movement intervention was developed collaboratively with nurses, music therapists, psychologists, and social workers. It has proven effective in improving verbal fluency and short-term memory, while also alleviating depressive symptoms and agitation. The intervention has since integrated augmented reality and motion-sensing technology and has been widely disseminated in Hong Kong.

The latest development is to modify the intervention to promote the cognitive and physical functions of older people with Mild Cognitive Impairment (MCI).



AlfredHealth



Expansion of Parkinson’s research

Australia will now have the capacity to host more in-depth and innovative clinical trials for Parkinson’s disease after Shake It Up Australia donated \$150,000 to develop a best-practice model at The Alfred.

The funding will allow the Neuroscience Clinical Trials Unit, Australia’s only early- phase neuroscience clinical trials facility, to be refurbished with cutting-edge equipment.

The upgraded centre will increase access to ‘first-in-disease’ therapies and accommodate multi-day patient stays. The aim is to create a blueprint for a nation-wide Parkinson’s clinical trials network.

The upgraded hub will give scientists the tools to conduct boundary-breaking trials in greater volume, increasing our understanding of the disease and pushing us closer to cracking the disease’s code.

Dr Kelly Bertram, head of movement disorders at The Alfred, hailed the refurbishment of the Neuroscience Clinical Trials Unit as an exciting moment for Parkinson’s researchers and patients.

“Parkinson’s disease is very common, and increasing in prevalence, but all treatments to date have only provided symptomatic benefit without altering the disease course,”

- Dr Kelly Bertram





OUR RESEARCH STRENGTHS



Neuroscience and mental health

New drug could be the answer to devastating type of dementia

Monash University researchers are assessing a new drug that could be a game changer for the dementia that has struck US actor Bruce Willis, and countless others as young as 35: Behavioral variant frontotemporal dementia (bvFTD).

Neuroscientists Prof Terence O'Brien and Dr Lucy Vivash from Monash University's School of Translational Medicine, are leading a phase 2b clinical trial in which half the participants will receive 52 weeks of treatment with sodium selenate, and the other half a placebo.

Unlike other types of dementia, such as Alzheimer's Disease, there are no treatments; but the new drug — sodium selenate — has shown to be safe and well tolerated in people living with bvFTD, as outlined in the team's 2022 study.

While relatively rare, FTD causes progressive damage and shrinkage to either or both the frontal or temporal lobes of the brain, along with behavioural changes such as impulsivity, inappropriate behaviour and emotional indifference, and loss of language.

"This is an internationally unique clinical trial that, if positive, would bring to patients the first proven disease-modifying treatment for this currently untreatable and devastating progressive neurodegenerative disease," Professor O'Brien said.

Now, the team is preparing to announce the next step - measuring the drug's impact on brain functioning.



L:R Prof Terence O'Brien, Department of Neuroscience and Dr Lucy Vivash, Senior Research Fellow, Monash School of Translational Medicine



Ending weight stigma for women

People with larger bodies commonly face a pervasive, resilient form of social stigma, often facing discrimination in the workplace as well as in educational and healthcare settings.

Weight stigma is particularly prevalent across the preconception, pregnancy, and postpartum (PPP) periods. It has the potential to negatively influence the physical and psychological health outcomes for mothers and children.

Monash University Health and Social Care Unit researchers Ms Haimanot Hailu and Dr Briony Hill have developed a blueprint for eliminating weight stigma for PPP women called SWIPE.

"These women experience weight stigma in almost all social domains," says Dr Hill.

"It is associated with psychological distress and avoidance of health care, with potential for harmful downstream health consequences."

SWIPE is part of an extensive suite of research - the largest in Australia – that Dr Hill and her team have been working on for years, building strong foundations, a body of evidence, and policy guidance to effectively end weight stigma for women in the PPP stages of life.

Dr Hill, an ARC Discovery Early Career Researcher Award (DECRA) Fellow, is one of only a handful of researchers globally pursuing research to understand how weight stigma can be eradicated at all levels to reduce the burden and blame on women across the reproductive life phase.



+ Monash University Dr Briony Hill

"Weight stigma against PPP women needs to end and we are doing everything we can to address it."

- Dr Briony Hill.

OUR RESEARCH STRENGTHS

AlfredHealth



Trauma, critical care and perioperative medicine

| Groundbreaking out-of-hospital ECMO trial



+ Senior Intensivist Sacha Richardson shows off some of the lifesaving equipment that can be used in the community.

The Alfred is the first hospital in Australasia to incorporate a revolutionary clinical trial using portable cardiopulmonary bypass machines outside of the hospital.

This trial program is part of a broader scheme of transforming care for the community in groundbreaking ways that are saving lives.

The program, in partnership with Ambulance Victoria and called CHEER3, is a feasibility study which provides lifesaving extra corporeal membrane oxygenation (ECMO) machines not only throughout the hospital, but in the community as well.

An ECMO machine takes over from a critically ill patient’s lungs and heart when their own organs cannot function, by circulating blood through a machine outside their bodies.

An ECMO is only used in the most critical circumstances and when the heart is unable to restart using conventional methods.

Incredibly, since the trial started, eight people have gone home to their families with excellent neurological outcomes – despite an average of more than 45 minutes of CPR – returning to full-time work and an active lifestyle. A further three people whose lives could not be saved, were still able to donate organs and tissues.

Trial co-lead, and Alfred Intensive Care specialist, Dr Sacha Richardson said his team had been using ECMO in the hospital-setting for years, but advancement meant the machines were now small enough to take to the street.

“We are the first in Australasia to do this,” Dr Richardson said. “We are one of perhaps half a dozen cities around the world that have the capability for it, but The Alfred already has so much experience looking after many ECMO patients.”



Nursing and Allied Health

Nursing research continued to drive advancements in patient care, shaping the future of healthcare through innovation and evidence-based practice. Over the past year, research efforts have focused on developing new models of nursing care, integrating artificial intelligence (AI) into clinical practice, and exploring cutting-edge treatments to enhance patient outcomes.



Reducing mental deterioration during hospital stays

Deakin University researchers have been looking into mental state deterioration (MSD) in medical wards, a significant challenge that can lead to distressing outcomes for both patients and staff.

Tendayi Bruce Dziruni, PhD Candidate, Deakin University evaluated the DivERT system, a rapid response approach designed to address MSD early and proactively, aiming to reduce crisis-driven interventions such as Code Grey.

His findings highlight the importance of tailored training, timely MSD assessments, and organisational support in improving patient care. While the data does not directly establish causation, trends suggest that DivERT is associated with fewer Code Grey responses, especially during initial episodes.

This research emphasises the value of multidisciplinary collaboration and a positive organisational culture in addressing both the medical and mental health patient needs.

Bridging care beyond hospital walls

Nurses share the common experience of navigating the complex criteria of home-based services to determine the best care pathway for our patients. Recognising this challenge, a team from Alfred Health's Acute and Integrated Care, in collaboration with Data & Analytical Services, explored how machine learning could support ward teams in identifying patients suitable for home-based care.

The result of this collaboration was the development of the Home-based Eligibility Analysis and Recommendation Tool (HEART).

Using machine learning techniques, the team extracted key biomedical phrases and characteristics from over 3,000 past Hospital in the Home patients to create four model patient profiles. The HEART tool compares each admitted patient against these models, offering clinicians a data-driven method to identify suitable candidates for home-based care. This innovative approach not only proved successful in supporting clinical decisions but also highlighted gaps in home-based services, informing future service design to expand care beyond hospital walls.



OUR RESEARCH STRENGTHS

AlfredHealth + LA TROBE UNIVERSITY



The partnership between Alfred Health, La Trobe University and the Alfred Research Alliance combines clinical research, health services research and biomedical research, with education and training, to create translational outcomes.

Allied Health conference record attendance

The inaugural 'Innovations in Allied Health Hospital Workforce National Conference' was held in 2024.

This was a La Trobe University School of Allied Health, Human Services & Sport, and Alfred Health event, supported by the La Trobe University Embedded Allied Health Research Network (LEARN).

Over 500 people registered to attend the conference, which aimed to understand challenges associated with the Australian allied health hospital workforce, and strategies working towards addressing related practice, knowledge and research gaps.

Alfred Health, Chief Executive Officer, Mr Adam Horsburgh and La Trobe University's Head of Clinical Education Associated Prof Matthew Oates opened the conference.

Presenters included both Australia's and Victoria's Chief Allied Health Officers, representation from Victoria's Department of Health, the CEO of the Victorian Healthcare Association, and Directors/Deputy Directors of Allied Health, Chief Allied Health Officers and Allied Health Discipline Managers from The Alfred, Northern, Eastern, Barwon Health, Royal Melbourne Hospital and Royal Children's Hospital, and the Peter MacCallum Cancer Centre.

Research presentations covered topics including allied health assistants, international workforce perspectives, the rural health workforce, and allied health clinical skills development and wellbeing.



+ L/R Prof Nick Taylor, A/Prof Casey Peiris, A/Prof Julia Gilmartin-Thomas, Prof Adam Semciw.

Platform technologies

Our important platform technologies offer researchers the opportunity to undertake critical biomedical and clinical research in the pursuit of new health interventions.

Often, platform technologies are housed in dedicated facilities and require skilled staff to operate and maintain them. The resource-intensive nature of establishing platform infrastructure paves the way for supporting a collaborative and open access ethos in the research community, and the Alfred Research Alliance is no exception.

At the Alliance, there are many platforms that offer access to world-leading facilities and services to advance innovation. A brief outline of the platform technologies is below.

ARAFlowCore facility is Monash’s state-of-the-art cell sorting and analysis laboratory. It has PC2 capability for animal and human cell sorting, as well as a dedicated PC3 environment for infectious sample sorting.

Monash Histology Platform at Alfred Precinct is a node of the Monash Histology Platform offering a professional histology service, as well as equipment access for do-it-yourself histology.

Monash Micro Imaging at the Alfred Precinct manages core imaging resources including confocal, conventional fluorescence and deconvolution microscopy on site. Super resolution technologies are also available.

Genomics Capability through Monash University and Alfred Health offers state-of-the-art sequencing capability with a wide range of sequencing applications and instrumentation, including a NovaSeq 6000.

Metabolomics Platform at the Baker Heart and Diabetes Institute uses liquid chromatography-tandem mass spectrometry techniques to obtain metabolic profiles (primarily lipids and fats) from cell and animal models and clinically relevant human samples.

Monash’s ARA Preclinical Imaging Facility is a purpose-built preclinical imaging facility in collaboration with the Baker Institute, housing a 9.4T MRI scanner with cryocool technology, a NanoPET-CT system and a world-first magnetic particle imaging (MPI) scanner.

Clinical Research at the Baker Institute offers a range of imaging and diagnostic tools including MRI, transthoracic and stress echocardiography, and body composition (DEXA) scanning. Other research and investigational services are also available.

Antiviral Testing Facility at Burnet Institute has the capacity to evaluate chemical agents for inhibitory activity against HIV and herpes simplex (HSV) type 1 and 2 viruses in cell culture, enabling development of better treatments or prophylactics.

Translational Cardiology Centre at is a group of highly specialised translational research scientists and clinicians who lead new ideas and discoveries from the bedside to bench and bench to bedside

Burnet Diagnostics Initiative was established in February 2021 to translate existing and new technologies to practical health solutions and products. Bringing research and diagnostics capability together provides a unique opportunity to help solve challenging health problems.

Preclinical Metabolic Phenotyping/Bioenergetics Facility at the Baker Institute enables high-quality metabolic and physiologic phenotyping to study models of obesity, diabetes, cardiovascular disease and other metabolic diseases.

Optima suite of tools at Burnet Institute helps decision-makers choose the best public health investments through mathematical models of disease transmission and progression integrated with an economic analysis framework and mathematical optimisation.and mathematical optimisation.

The Monash Outcomes Research and health Economics (MORE) develops epidemiological and economic models to evaluate impacts of ill health and benefits of interventions, translating measures of efficacy into measures of effectiveness and cost effectiveness.

To find out more about any of the above platform technologies and who to contact, go to<https://www.alfredresearchalliance.org.au/resources/platform-technologies-capabilities/>



Bioinformatics and biostatistics

Bioinformatics and biostatistics use computer technology to collect and analyse different types of biological datasets, from genetic codes to large population datasets. Both Monash University and the Baker Heart and Diabetes Institute provide important bioinformatics and biostatistical support for researchers at the Alfred Research Alliance.



For more on the Alliance’s bioinformatics capabilities, visit alfredresearchalliance.org.au/resources/platform-technologies-capabilities/bioinformatics-and-biostatistics/

Monash Bioinformatics Platform at the Alfred Research Alliance networks bioinformaticians working at Monash University and its affiliates. Offering bioinformatics tools and computing resources for data analysis, visualisation and exploration, the platform supports a diverse range of research projects.

Bioinformatics Program at the Baker Institute builds its capacity through internal and external collaboration, support and training. The program offers data analysis and cross-omic integration for a range of different technologies including genomics, epigenomics and more, using a diverse set of analytical techniques.

Biostatistics Consulting Platform (BCP) at the Monash School of Public Health and Preventive Medicine provides high-quality biostatistical support to Alfred precinct-based researchers from Monash and Alfred Health. BCP biostatisticians help with experimental design, statistical analysis, and advice on methods and software.

Clinical registries and biobanks

The Alfred Research Alliance is home to the largest concentration of clinical registries in Australia. The precinct also houses biospecimens, samples and other datasets that provide important resources for researchers.

Monash clinical registries at the School of Public Health and Preventive Medicine maintains 40+ clinical registries (databases that systematically collect health information on people who have been treated or diagnosed with a certain illness) to benchmark outcomes, report on quality of care and monitor safety of new drugs, devices and surgical procedures.

AusDiab is coordinated by the Baker Heart and Diabetes Institute and is the largest Australian longitudinal population-based study designed to examine the natural history of diabetes, heart disease and kidney disease in Australians over 25 years of age.

The ASPREE Healthy Ageing Biobank at Monash University houses biospecimens from Australian participants of the NIH/NHMRC-funded ASPirin in Reducing Events in the Elderly clinical trial. Together with clinical data from the participants, they are a unique resource for genetic and biomarker discoveries in older Australians.

Victorian HIV Blood and Tissue Storage Bank and clinical database is a state-wide Victorian HIV Service at The Alfred and Burnet Institute, storing serum samples from HIV viral load tests for patients managed at The Alfred. The biobank currently holds nearly 70,000 samples linked with clinical information from almost 5000 HIV patients.



For more information on the Alliance’s clinical registries and biobanks, head to alfredresearchalliance.org.au/resources/platform-technologies-capabilities/clinical-registries-and-biobanks/

Ethics at the Alliance

The Alfred Research Alliance members are committed to maintaining the highest standards of ethics and compliance in all research endeavours.

We work closely together to ensure that current standards are applied consistently across the precinct and that the relevant legislation, regulations, guidelines and codes of practice for all ethical research conduct are actively met at every level.

Shared resources also help our member organisations to navigate ethics approval processes in an efficient and streamlined manner, which enables us to get research underway sooner.

Human research ethics

The Alfred Hospital Ethics Committee is a NHMRC-registered and certified Human Research Ethics Committee, which undertakes ethical review of human research for all Alliance members and can also review applications for any site participating in the Victorian or national ‘single ethical review’ (or ‘streamlined’) scheme.

The Ethics Committee is supported by two sub-committees: the Research Review Committee, which undertakes a preliminary specialised scientific/medical and safety review of drug, device and risky interventions; and the General Ethical Issues Sub-Committee, which considers more general ethical issues, including but not restricted to human research, of relevance to Alfred Health and the wider community.

Animal ethics

The Alfred Research Alliance Animal Ethics Committees (AECs) undertake the ethical review of proposals for the use and breeding of animals for scientific purposes for Alliance-based organisations.

There are two AECs in operation, each meeting on a monthly basis, resulting in the ethical review of proposals on a fortnightly basis. The AECs are supported by the Alfred Research Alliance Animal Ethics Office, which coordinates post-approval monitoring of research projects and annual reporting to state government on behalf of Alliance members licensed for the use of animals for scientific purposes.

Dealings with genetically modified organisms

The Monash University Biosafety Committee, via the Monash Research Office, administers compliance with regulations covering genetically modified organisms for Alfred Health, Baker Heart and Diabetes Institute and Burnet Institute, as well as Monash University.



Visit alfredresearchalliance.org.au/research/research-ethics-and-compliance to find out more about ethics across the precinct.

Alfred Research Alliance

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