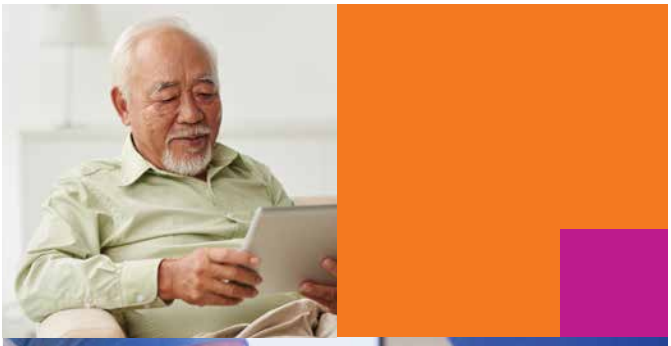
WESLEY MEDICAL RESEARCH

THE WESLEY HOSPITAL | ST. ANDREW'S WAR MEMORIAL HOSPITAL
BUDERIM PRIVATE HOSPITAL | ST. STEPHEN'S HOSPITAL

2019-2020

Impact Report

Giving hope. Changing lives.



Volunteers L-R Terry Frost, Janette McConaghy, Ray Crompton, Sid Owen and Lema Giurgiuman.

Contents

Who We Are

Established on 8th December 1994 by a group of dedicated doctors, Wesley Medical Research is Queensland's second-oldest medical research institute.

WHO WE ARE

For the past 25 years, Wesley Medical Research has continued to push the frontiers of medicine, delivering real impact to patients while contributing to research worldwide. At the core of the research philosophy is a strong corporate culture that focuses on giving hope and changing lives.

As the official research partner for the UnitingCare network, Wesley Medical Research is committed to investing in innovations that lead to faster diagnoses, better treatment options and ultimately cures for the most debilitating illnesses and disease.

VISION

To be recognised as a world leader in applied medical research and be acknowledged for achieving excellence and innovation in patient care.

Wesley Medical Research fosters a strong research culture in UnitingCare hospitals, improving patient outcomes by linking medical research and clinical practice.

MISSION

Immediate improvements in patient care and quality of life through applied medical research.

> We're focused on improving patient outcomes by linking medical research and clinical practice.

Chairman's Report

The COVID-19 pandemic highlights the continuing relevance and importance of medical research.

Thanks to our donors, Wesley Medical Research (WMR) is able to play a part in the fight against the COVID-19 pandemic through the establishment of our COVID-19 Rapid Response Research Centre.

We also committed to a fully-funded research grant round of $3.5 million. This can only occur through the continued magnificent support of our donors in challenging times. We especially acknowledge the support of Lyn and Bobbie Brazil, John and Wendy Thorsen, Mitsubishi Development (maintaining their unbroken support for 25 years), the Albrecht Foundation, the Vidyajey Foundation and In Vitro Technologies. Hearty thanks to them and to all our donors — without your support we could not continue.

I wish also to acknowledge the foresight of UnitingCare Queensland (UCQ) in establishing WMR more than 25 years ago and the current support of Michael Krieg, Group Executive Hospitals, and his team in working with WMR to support medical research at the UCQ hospitals — The Wesley Hospital, St Andrew's War Memorial Hospital, Buderim Private Hospital and St Stephen's Hospital.

Since the last Annual Report, our new General Manager, Dr Claudia Giurgiuman, has been appointed. She has been an inspiring leader and made significant improvements to WMR.

Board movements include the retirement of Christine Foley — thanks for her consistent support — and the appointment of Cheryl Clayton. Thank you to them for their willingness to serve and I look forward to their contributions.

As always, I am grateful for the support of my fellow directors, our management team and volunteers. I would like to personally thank our Chief Patron, His Excellency the Honourable Paul de Jersey AC, Governor of Queensland for his ongoing interest in the work of WMR.

This is my last Chairman's Report to you. On 25th November 2020, after six years as Chairman and more than 15 years as a director, I shall resign from the Board of WMR. I wish WMR and the new Chairman, Charlie Sartain, all the best for the future and continuing success in finding improvements to patient care of worldwide relevance.

Peter Allen,
Board Chairman

Welcome to Charlie Sartain, the new Board Chairman of Wesley Medical Research with effect from 25th November 2020. Charlie has been a director and Board member of Wesley Medical Research since 2009 and we look forward to his continuing contribution in this new role.

Governor's Message

It is a great honour, as Governor and Chief Patron of Wesley Medical Research, to publicly promulgate an organisation which brings great prestige to our state.

It was highly appropriate, in this COVID-19 disrupted year, that my first public engagement after initial restrictions lifted in June was to officially open the COVID-19 Rapid Response Research Centre.

Wesley Medical Research is to be congratulated for this highly relevant initiative, and more broadly for its effective programmes and visionary leadership.

The institute's research and influence bring to a magnificent accent our State's research capacity, in the pursuit of better health for all. I congratulate all involved with this remarkable Queensland institution.

GOVERNOR OF QUEENSLAND

His Excellency,
the Honourable
Paul De Jersey AC.
Governor of Queensland

At the official opening of the virtual COVID-19 Rapid Response Research Centre.

General Manager's Report

I am delighted to have taken on the leadership role at Wesley Medical Research in its 25th year — a year that we would all agree, may well be one of its most challenging yet.

What excites me most about leading Wesley Medical Research is the genuine love our people have for others. Every day our focus is on changing lives and giving hope to people — young and old — who struggle with some of the most debilitating illnesses and disease. We work alongside our UnitingCare partner to offer renewed hope when options are limited, and aim to find cures, treatments and solutions through applied medical research.

The life-saving power of medical research has been at the forefront of the medical community, but the COVID-19 global pandemic has made medical research personal.

We are blessed to work with some of the brightest research minds in the world right here in Queensland, which has led to the virtual COVID-19 Rapid Response Research Centre being established to enable local, national and international collaboration, as we join the global effort to combat COVID-19.

However, COVID-19 has not deterred our focus from addressing the (often silent) suffering of others whose disease may not have the same prominence on the global agenda.

That's why we have committed to an investment of $3.5 million in clinical innovation in 2019-2020, in areas including neurology, cancer, cardiovascular disease, infectious diseases and other conditions.

In February this year, we ran our first grant round in four years under a new Research and Grants Framework, and in collaboration with our Board, UnitingCare and our executive leadership team, we have developed a 3 year strategy for financial years 2021 to 2023. Our key priorities are:

- Building research infrastructure e.g. growing our clinical trials centre
- Advancing clinical innovation e.g. investing in cardiovascular disease, cancer and other diseases
- Establishing programs of research excellence e.g. neurology, infectious diseases, coeliac disease and immune health

I am pleased to report that our forward research investment despite the global pandemic has increased to $3.9 million in the financial year 2019-2020, from $1.7 million in 2018-2019. None of this would be possible without the generosity of our donors, supporters and advocates.

I wanted to thank the Clinical Informatics Unit, which ceased to operate within Wesley Medical Research on 1 July 2020 after six years of service. During this period the team displayed outstanding dedication to providing high quality clinical informatics support to specialties including cardiology and cardiac surgery, and also worked on developing a standardised Clinical Outcomes Improvement Program for the UnitingCare hospitals under the leadership of Dr Jillian Milne.

A very special thank you to Peter Allen, our outgoing Chairman, for his commitment to Wesley Medical Research. Here is a man with a heart of gold — committing 15 years of his life to the advancement of medical research! I wish him all the very best and look forward to working with our incoming Chairman, Charlie Sartain.

Dr Claudia Giurgiuman,
General Manager

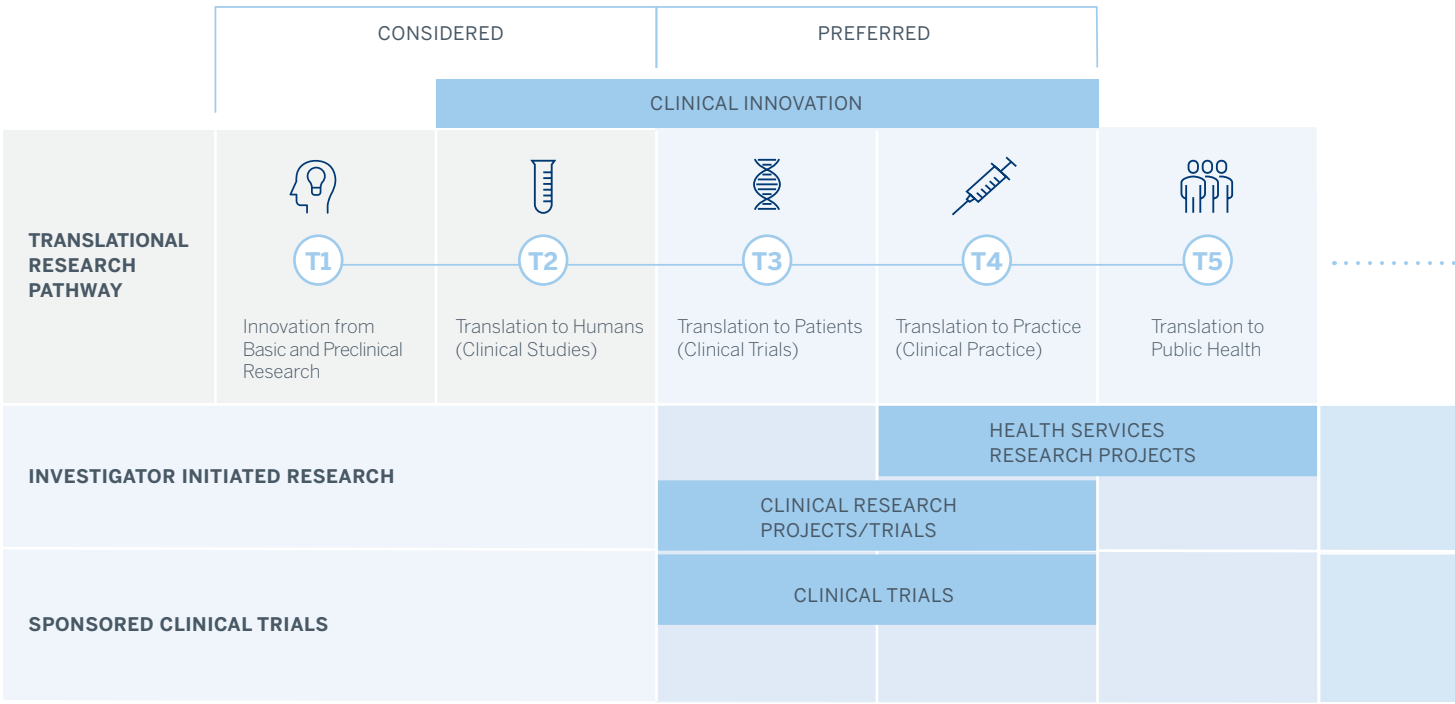
Looking Forward

The 3 year Wesley Medical Research Strategic Plan was developed in May 2020 and aims to create focus, alignment and momentum for the organisation in delivering improvements in patient care and quality of life through applied medical research.

The strategy has been developed in consultation with a range of stakeholders, including staff from Wesley Medical Research and our UnitingCare partner, Board members and external expertise.

As part of the Strategic Plan, a Research and Grants Framework and a Monitoring and Evaluation Framework was also developed to ensure equitability and transparency of the grant funding process and appropriate monitoring of research outcomes.

Research and Grants Framework



3 Year Strategic Plan

$10.8M

We will generate $10.8 million revenue over 3 years to invest in world-class research to significantly advance medical research and improve patient outcomes.

UNITINGCARE

In collaboration with UnitingCare, we will build research culture, capacity and capability thereby enhancing health care delivery in UnitingCare and beyond.

QUALITY RESEARCH

We will become the research partner of choice within UnitingCare.

NATIONAL LEADER

We will become a nationally competitive research institute.

PEOPLE FOCUS

We will enhance the capability of our people and our organisation to deliver on our mission.

RESEARCH INFRASTRUCTURE

We will build the research infrastructure within WMR to support medical research across the UnitingCare network.

PROGRAMS OF RESEARCH EXCELLENCE

Establish two well-defined, multi-year, comprehensive, cohesive programs of research aligned with UnitingCare clinical disciplines and led by world renowned researchers.

CLINICAL INNOVATION

Maximise the conduct of high quality research across a range of clinical disciplines aligned with the UnitingCare network.

FUNDRAISING

- Raise funds for COVID-19 Rapid Response Research Centre.
- Raise funds for Coeliac Disease and Immune Health Research Program.
- Raise funds for Clinical Innovation.
- Raise funds for Biobank.

MARKETING

- Brand Identity.
- Brand Awareness.
- Marketing Collateral.
- UnitingCare Hospital Engagement.

OPERATIONS

- Digital Capability.
- Systems and process improvement.
- Increase facility utilisation.
- People and culture.

WMR Approvals Process

INDEPENDENT RESEARCH COMMITTEE

STRATEGY & DEVELOPMENT COMMITTEE

EXECUTIVE RESEARCH REVIEW COMMITTEE

WMR BOARD

25 Years of Giving Hope and Changing Lives


Bill Brett

1996

Professor Julie Campbell AO appointed as the Institute's first Director.

Accredited as a National Health and Medical Research Council (NHMRC) official administrator of federal government grants.


Work in vein not in vain

1994

Inaugural Board meeting. Mr Bill Brett Jnr appointed as the Chair of the Board.

1995

First research projects funded.

1997

First research symposium "Recent Advances in Oncology Research".

1998

The first Research Fellowship awarded to Dr Tara Veveris-Lowe.

2009

Queensland Premier Anna Bligh opened the Health and Medical Research Centre funded by a $10 million grant from the Queensland Government's Smart State Research Facilities Fund.
100th research project funded.

2013

Professor Christian Gericke was appointed CEO.

2010

Obituary: Rosalie Martin.
Rosalie was a Board member of Wesley Research Institute and a proud supporter of the Advocates group and Advocates events


Rosalie Martin


Chuck and Helga Feeney


Tissue Bank

2001

Mr Peter Brand was appointed Chair of the Board.

2003

Dr Jon Douglas appointed as the new Chair of the Board. 50th research project funded.

2004

Mr Martin Albrecht succeeds Dr Jon Douglas as Chair of the Board.

2005

The Institute received a $10 million grant from Atlantic Philanthropies.

2007

Queensland Premier Peter Beattie opened the new Clinical Trials Centre and Tissue Bank funded through $800,000 and $1.42 million grants respectively from the Queensland Government's Smart State Research Facilities Fund.

2014

The Wesley Research Institute merges with St. Andrew's Medical Institute to form Wesley-St. Andrew's Research Institute (WSARI). Mr Peter Allen was appointed as the new Chair of the Board.

2015

Lyn and Bobbie Brazil (the Brazil Family Foundation) donated $5 million to neurology research.

The organisation was renamed Wesley Medical Research. Professor David Paterson appointed CEO.

2019

Dr Claudia Giurgiuman was appointed General Manager, reporting to the Board in the organisation's 25th anniversary year.

2020

Launch of the COVID-19 Rapid Response Research Centre.


Lyn and Bobbie Brazil with neurology researchers

25th anniversary celebration at Governor's House; November 2019

Our Impact on Infectious Diseases

COVID-19 Rapid Response Research Centre

Wesley Medical Research's COVID-19 Rapid Response Research Centre comprises a dedicated team of world-renowned researchers and healthcare professionals who are committed to conducting research that delivers immediate improvements to the prevention, diagnosis, treatment and management of COVID-19.

By establishing strong collaborations with hospitals and research institutions in Australia and around the world, the Centre's program will arm the local, national and global community with the answers they need to control the virus and its long-term impact.

FOCUS AREAS FOR RESEARCH

GENERAL PUBLIC

A COVID-19 test result back to the patient in 60 minutes

CRITICALLY ILL

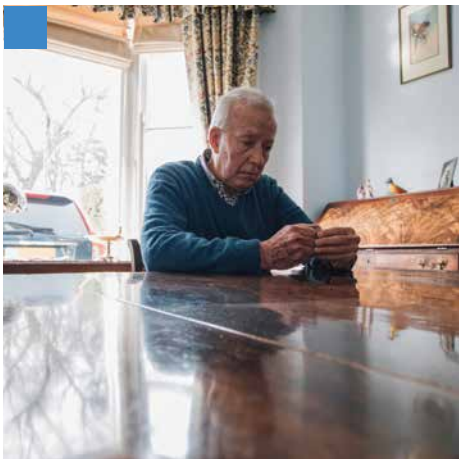
Global charaterisation of COVID-19 in critically ill patients

COVID-19 SURVIVORS

Assessing the long-term impact of COVID-19 on survivors

PRE-EXISTING CONDITIONS

Impact of COVID-19 on those with pre-exisitng conditions



FRONTLINE WORKERS

Protecting frontline healthcare workers against COVID-19

Dr Daman Langguth

Professor Bala Venkatesh

Professor John Fraser

1

PROJECT 1

A COVID-19 Test Result Back to the Patient in 60 Minutes

KEY RESEARCHER

Dr Daman Langguth, Immunologist

A new research study is exploring the use of a novel diagnostic technology to rapidly and accurately diagnose COVID-19 within an hour instead of days. The laboratory processing time to get a positive or negative result will only take 15 minutes, but from the point of testing it will take a total of 60 minutes to get a result back to the patient. The testing methods being developed will also be less invasive with the use of saliva samples in addition to nasal and throat mucus samples. The technology utilises target-specific nanostructured material for selective extraction of COVID-19. This technology is like an MRI (magnetic resonance imaging) for molecules.

IMPACT

A rapid diagnostic technology could dramatically impact how we contain the COVID-19 pandemic.

2

PROJECT 2

An anti-malaria drug could protect those on the frontine

KEY RESEARCHER

Professor Bala Venkatesh,
Intensive Care Specialist

With no proven treatment or vaccine for COVID-19, it is critical that we protect our frontline healthcare workers so they can continue caring for our most vulnerable patients.

The study aims to determine whether a safe, low-cost, orally available agent known as hydroxychloroquine (HCQ) commonly referred to as an anti-malaria drug could prevent COVID-19 infection in healthcare workers. The safety and effectiveness of using HCQ in preventing COVID-19 infection is being tested in a large multi-site clinical trial known as The Hope HCQ4 Healthcare Workers' study. Over 240 participants have been already recruited in this clinical trial in India. The multi-centre trial target is 7,900 healthcare workers.

IMPACT

Finding the answers we need to ensure our health services are able to cope with the unprecedented demands of the global pandemic.

3

PROJECT 3

Global Characterisation of COVID-19 in Critically ill Patients

LEAD RESEARCHER

Professor John Fraser,
Intensive Care Specialist

This study aims to provide those working in intensive care units with desperately needed scientific evidence to inform decisions on critical patient care.

The study has been a landmark collaboration across the globe bringing together medical experts from 400 health care centres across 52 countries. This global collection of intensive care unit data and analysis will be vital in discovering better patient management techniques and understanding how best to treat critically-ill patients. This study is a local, national and international collaboration and pro-bono support is provided by global giants Amazon and IBM.

IMPACT

Global data analysis can be the difference between life and death for critically-ill COVID-19 patients worldwide.

Associate Professor, Gianluigi Li Bassi

Dr John Rivers

> This study will ensure that the millions of people infected with the virus around the world receive the best medical care in the future.
>
> — Dr John Rivers

4

PROJECT 4

Assessing the Long-term Impact of COVID-19 on Survivors

LEAD RESEARCHER

Associate Professor, Gianluigi Li Bassi, Intensive Care Specialist

This study aims to explore the long-term impact of COVID-19 on kidney, lungs, liver and brain dysfunction as well as general health outcomes. The results of the proposed study may also help clinicians and general practitioners in aftercare to address specific problems in COVID-19 survivors.

This study will ensure that the millions of people infected with the virus around the world receive the best medical care in the future.

IMPACT

Long-term impact of COVID-19 can inform and improve clinical practice in the future.

5

PROJECT 5

Impact of COVID-19 on those with Pre-Existing Conditions

LEAD RESEARCHER

Dr John Rivers, Cardiologist

The global pandemic has meant that preventative social distancing and isolation measures could impact high risk patients with pre-existing conditions, such as those with heart disease, who have not been infected with the virus, but have been avoiding their routine care appointments.

This study aims to use smartphone technology to help these patients in a higher risk category avoid the necessity to attend routine care appointments, but still continue to maintain and monitor their general health.

IMPACT

Smartphone technology can prevent an increase in other diseases for high-risk patients impacted by COVID-19.

- Global data analysis can be the difference between life and death
- Long-term impact of COVID-19 can inform and improve clinical practice
- Smartphone technology can prevent an increase in other diseases
- Determining the efficacy and safety of existing drugs in preventing COVID-19 infection

Our Impact on Mental Health in Regional and Rural Queensland

Pilot program launched to improve mental health services in the Bowen Basin.

Ground-breaking research is being carried out in the Bowen Basin, as part of the Wesley Medical Research COVID-19 Rapid Response Research Centre, with funding from resources company Mitsubish Development.

In collaboration with QUT's Australian Centre for Health Services Innovation (AusHSI), a dedicated team of researchers is currently developing a pilot program to improve mental health services and outcomes for rural communities in the Bowen Basin. Mental health issues are becoming increasingly prevalent as the impact of the COVID-19 pandemic continues to take hold of these communities.

The pilot program will focus on a review of outcomes, barriers and facilitators of current mental health services to develop and trial a new model of care. This $500,000 program will access more than one million data points, including interviews with community members to identify existing mental health services and how they can be improved. This will provide a targeted response to the increased mental health issues arising due to the pandemic.

Following implementation, the impact of the pilot program will be evaluated to inform sustainable mental health services, which can be expanded to other communities and areas across Queensland.

Phase 1 of the three-phased research program has now been completed. The initial phase of the research program has identified and mapped out current mental health services and various stakeholders, and as a result, over 50 potential stakeholders from the region were identified and contacted.

Town Hall meetings are now being arranged to engage local stakeholders and community members in the process of selecting and operationalising the new model of care. These meetings will enable further facilitation of discussions around the current findings, recommended models of care, resources and funding requirements as well as identifying potential partners and in-kind support for the pilot program.

Mitsubishi Development Chief Executive Officer, Mr Sadahiko Haneji said that while the resources sector had kept many Australians employed during the coronavirus, there were many more in the community suffering job loss in sectors that will not recover quickly.

"In our discussions with Wesley Medical Research we were concerned by new modelling that indicates Australia's suicide rate could surge by up to 50 per cent as the impact of job loss and economic hardship start to affect mental health. We have more than 50 years of experience operating in the Bowen Basin and know that mental health issues are more prevalent amongst the young and those who live in rural and regional Australia — so there was no question that we would act on this," Mr Haneji said.

Given that the predicted suicide rate is likely to overshadow the number of deaths in Australia directly attributable to COVID-19 infection, Australia's mental health system must urgently be equipped to respond to the expected dramatic increase in demand for services.

"When Mitsubishi Development approached us with their concerns, we designed a program that will have immediate impact in the Bowen Basin community by enabling access to a new evidence-based model of care to improve mental health outcomes, " Dr Claudia Giurgiuman, General Manager, Wesley Medical Research added.

Thank you to Mitsubishi Development Pty Ltd, for their long-standing support over 25 years as a valued corporate donor. Their generosity and loyalty has made a tremendous impact on patient outcomes over the years.

L-R Mr Sadahiko Haneji, Chief Executive Officer, Mitsubishi Development Pty Ltd; the Governor of Queensland, His Excellency the Honourable Paul de Jersey AC; Dr Claudia Giurgiuman, General Manager Wesley Medical Research.

> Australia's mental health system must urgently be equipped to respond to the expected dramatic increase in demand for services.

1 in 5

One in five (20%) Australians aged 16-85 experience a mental illness in any year.

54%

54% of people with mental illness do not access any treatment.

8.3

An average of 8.3 deaths are registered as suicide in Australia each day.

50%

Suicide rates in Australia pre-pandemic are predicted to increase by up to 50% as a result of COVID-19.

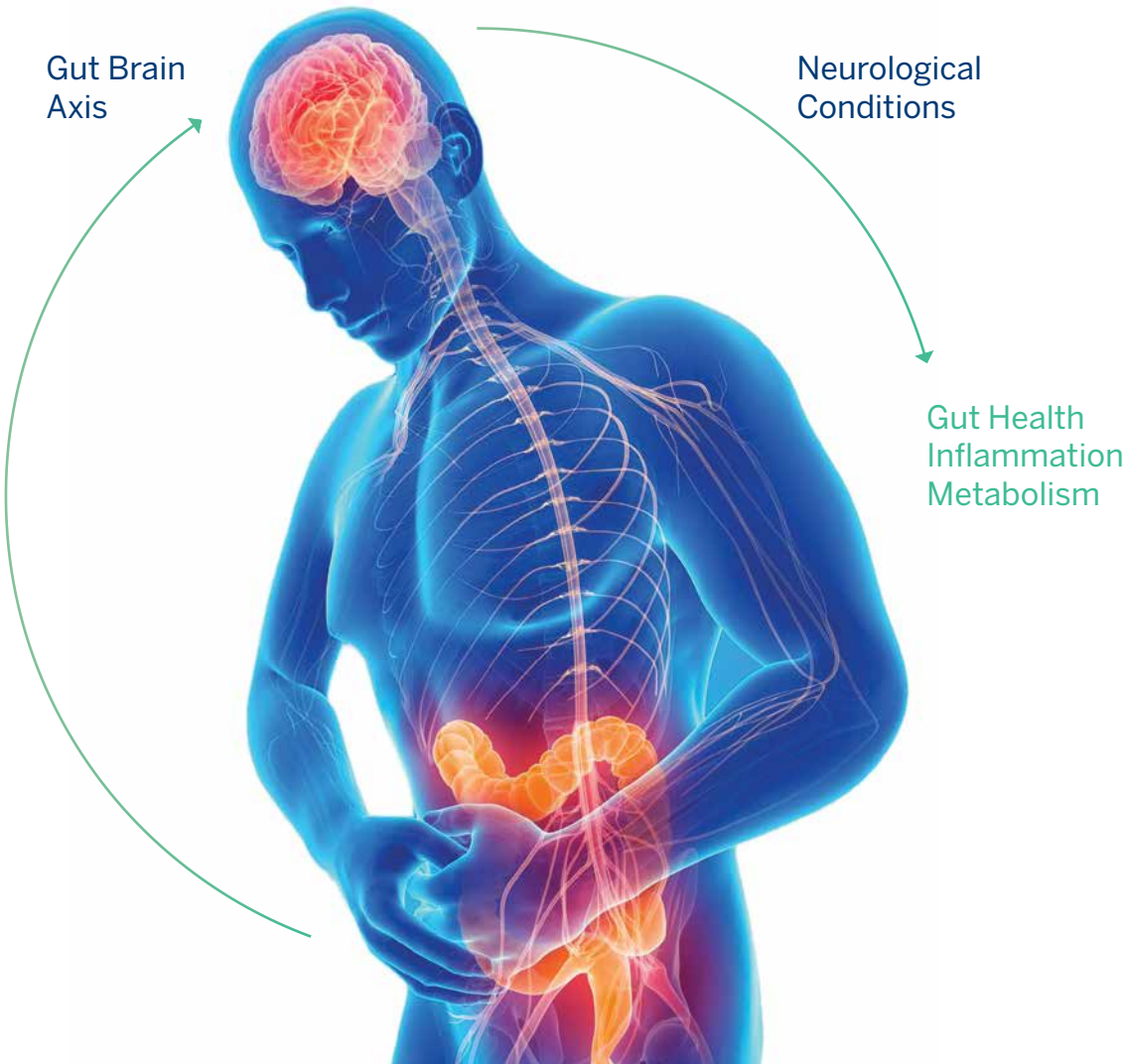
Our Impact on Neurological Conditions

Worldwide, one billion people suffer from neurological disorders — making these a high priority for research.

Neurodegenerative diseases and immunological diseases, such as Alzheimer's disease, Parkinson's disease, motor neurone disease, Huntington's disease, Ataxia-Telangiectasia, Tourette Syndrome and multiple sclerosis, are diseases with an urgent need for better understanding and better therapies, since these cause muscle weakness, loss of sensation, imbalance, and involuntary movements for which there is no cure. Understanding the fundamental cause of these diseases is required for a rational approach to therapy. Possible causes include lifestyle-related causes, infections, genetics, nutrition, environmental influences, and physical injuries.

Our research indicates that gut health, inflammation and metabolic disturbances are likely to contribute to the development of neurodegenerative conditions.

These novel results pave the way for further studies leading to possible new therapies. We are discovering new and better treatment options for symptoms associated with neurological conditions.



Dr Shyuan Ngo

Understanding the Gut Microbiome in Motor Neurone Disease

SCIENTIFIC TITLE

Assessment of Metabolic Health in Neurodegeneration: Studies in Motor Neurone Disease

LEAD RESEARCHER

Dr Shyuan Ngo, Neuroscientist

The brain and the gut are connected via the gut-brain axis with bidirectional interactions between the central nervous system, the enteric nervous system (the nervous system of the gastrointestinal tract), and the gastrointestinal tract. These bidirectional interactions enable the brain to influence gastrointestinal functions as well as immune functions. Each individual has a unique gut microbiota profile (the microscopic organisms living in the gut) that plays many specific functions in the individual's nutrient metabolism, maintenance of structural integrity of the gut barrier, immune system regulation, and protection against pathogens. Researchers have found that the balance of microorganisms in the gut can affect metabolic and immune functions and lead to disease.

Dr Ngo is the first to comprehensively examine the gut microbiome and its impact on motor neurone disease (MND) patient outcomes.

Using stringent quality control methods, the study analysed stool samples to contrastthe composition and diversity of the microbiome across 100 individuals with extensive medical histories and measurements of whole body energy metabolism. The research found that the composition of the faecal microbiome in people with MND was not significantly different from that of people without MND. However, a greater risk of earlier death was observed in patients with MND that have increased richness and diversity of the microbiome and in those patients that have a greater Firmicutes and Bacteroidetes bacteria ratio in their gut. The study has found that the gut microbiome is just as complex as MND and it appears to be linked to patient outcomes. Given the complexity and variability of MND, and its relationship with good and bad bacteria, large studies are necessary to determine the detailed role of the gut microbiome and its impact on patient outcomes.

In addition to studying gut bacteria, the research has also looked at dietary intake and energy use in people with MND when compared to people without MND. Overall, the research shows that dietary intake is different in MND, and that some MND patients use more energy at rest than others. Those that use more energy have a more rapidly progressing disease and increased risk of earlier death.

IMPACT

Maintaining healthy energy balance is important in MND. Through this research, new insights have been generated to better understand the different roles of energy use, the gut, diet and activity in MND. This knowledge is now being used in the laboratory where compounds are being tested to improve energy use in MND with a view to improve quality of life and survival. This study has sparked a global conversation with collaborators in the UK and the Netherlands.

> New insights have been generated to better understand the different roles of energy use.

Professor Pamela McCombe

> A way to improve the gut microbiome could lead to significant improvements in patient outcomes.

Toxins in the Gut play a role in Motor Neurone Disease Patients

SCIENTIFIC TITLE

Use of Mass Spectrometry to Identify Circulating Toxins in People with Amyotrophic Lateral Sclerosis

LEAD RESEARCHER

Professor Pamela McCombe, Neurologist

The most common type of MND accounting for 66% of all MND patients is amyotrophic lateral sclerosis (ALS).

This research study aimed to determine whether toxins are present in the blood and gut of ALS patients. Specialised scientific methodology demonstrated that ALS patients have 2-3 times higher levels of the formaldehyde neurotoxin in their bloodstream compared to healthy individuals and that this toxin could lead to cell damage. In addition, methylated serines - which are known neurotoxic agents - are also present in ALS patients with 13% of patients showing notable levels of L-Serine and 46% of patients displaying 2-4 times higher levels of D-Serine compared to healthy individuals. Our research therefore found that toxins, and particularly gut-produced neurotoxins, are present in ALS patients and investigating a way to improve the gut microbiome could lead to significant improvements in patient outcomes.

A focus on diet changes and administering prebiotics, probiotics or antibiotics to prevent the formation or effects of these toxic agents in patients, are some of the ways the gut microbiome could be improved

IMPACT

Toxins in the gut and blood of MND patients could contribute to their symptoms. Eliminating the effects of these toxins is crucial for better patient outcomes.

Eliminating Toxins in Motor Neurone Disease patients with Squalamine

SCIENTIFIC TITLE

A Randomised, Controlled Phase 1 Study to Investigate the Safety and Efficacy of Orally Administered Squalamine in Subjects with Motor Neurone Disease (MND)

LEAD RESEARCHER

Professor Pamela McCombe, Neurologist

Having demonstrated that toxins, in the form of methylated serines, are produced in the gut of MND patients, it is believed that eliminating these toxins could provide a potential treatment, which will slow down disease progression.

The treatment uses squalamine to target the bacteria in the gut that produces toxins such as methylated serines. Squalamine is a rare, naturally-occurring antibacterial agent that was first discovered in dogfish shark. It is one of the few non-toxic anti-bacterials widely available as a dietary supplement that is active against specific gut microbes believed to cause the build-up of neurotoxins.

This initial clinical trial aimed to determine whether squalamine is safe in MND patients. Indeed results determined that a daily dose of 1.2 mg squalamine in patients with MND is well-tolerated. This exciting Phase I study is now complete and the next steps are to determine whether squalamine is effective in reducing MND symptoms in a Phase II trial.

IMPACT

Squalamine has been identified as a potential treatment to eliminate toxins in the gut of MND patients and improve patient outcomes.

Dr Richard Gordon

Dr Frederik Steyn

Inflammation contributes to PD progression and Nilvapidine may block this

SCIENTIFIC TITLE

Targeting Peripheral Inflammatory Pathology in PD Using Repurposed Drugs

LEAD RESEARCHER

Dr Richard Gordon, Neuroscientist

The most common type of MND accounting for 66% of all MND patients is amyotrophic lateral sclerosis (ALS).

This study builds on our previous discovery of a key inflammatory pathway (called the inflammasome) that is strongly activated in PD patients and contributes to progression of the disease. This ground-breaking work was published in one of the top journals in the world, Science Translational Medicine, and was also featured in the scientific journal Nature Biotechnology in 2019.

The study led to the inflammasome becoming one of the most promising disease-modifying targets for PD. Our subsequent work found that a currently approved drug known as Nilvapidine in very low doses was effective in blocking inflammasome activation in isolated human immune cells. This could mean that a once-daily oral dose of Nilvapidine could be effective in blocking the inflammatory response in PD patients.

This result is also consistent with data from neuroprotection studies using the same drug in animal models of the disease.

IMPACT

Nilvapidine has become one of the four drugs that will be evaluated in a world-first Linked Clinical Trial for PD in 2020.

Reduced Appetite in Motor Neurone Disease Patients is linked to Impaired Brain Processes

SCIENTIFIC TITLE

Endocrine and Appetite Targets and Therapies for MND: Investigating Mechanisms of Impaired Appetite Regulation and Weight Loss in MND

LEAD RESEARCHER

Dr Frederik Steyn, Biomedical scientist

As MND patients' muscles deteriorate, they have trouble swallowing, lose their appetite, and lose weight. Weight loss and reduced BMI are related to shorter survival for MND patients, whereas maintenance of body weight can extend survival. Since it is not known why patients lose their appetite, the overarching goal of this research is to determine the brain processes that impair appetite regulation in people with MND. Much of our brains is wired to control how we behave towards food, and so this is also a clever way to start exploring how MND might impact areas of the brain that are not directly involved in the control of movement.

So far, this study has identified that loss of appetite is indeed a key factor that contributes to weight loss in people with MND. It is likely that loss of appetite in people with MND occurs as a consequence of changes in brain processes that regulate the pleasure and reward feeling when we eat, but also structures in the brain that control our energy balance — although we are not directly aware of these processes, they also predispose us to being thin or fat. To understand these brain processes, comprehensive brain imaging techniques are used.

The study is ongoing, and it is too early to report on final imaging outcomes. Early analysis would suggest that structural areas of the brain that is involved in controlling appetite are present in patients with MND.

IMPACT

This study has attracted considerable international interest and as a result of this study, loss of appetite in MND has now become a recognised phenomenon. Since our study was the first to collect brain function data from MND patients, we are ideally positioned to provide the first mechanistic data worldwide, to explain the role of the brain in the context of appetite control in MND.

Managing our resources

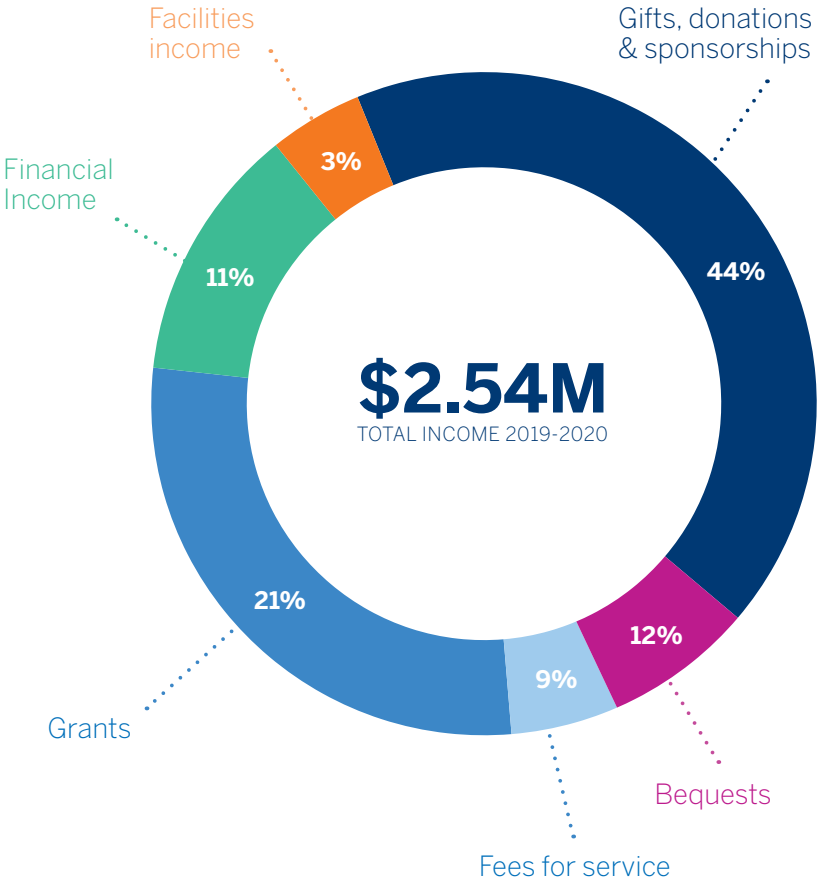
The organisation maintains a strong and robust system of corporate governance.

Led by the Board, the establishment of sub-Committees provides the focus and expertise to deliver appropriate direction. The committees offer guidance in key areas of research, audit & risk, investments and strategy & development.

The Committees offer the Board, management and stakeholders a high level of oversight, guidance and assurance over both operational and strategic matters. The maintenance of a healthy balance sheet, sustainable revenue streams and efficiency of operations underpin a strong organisation for the years ahead.

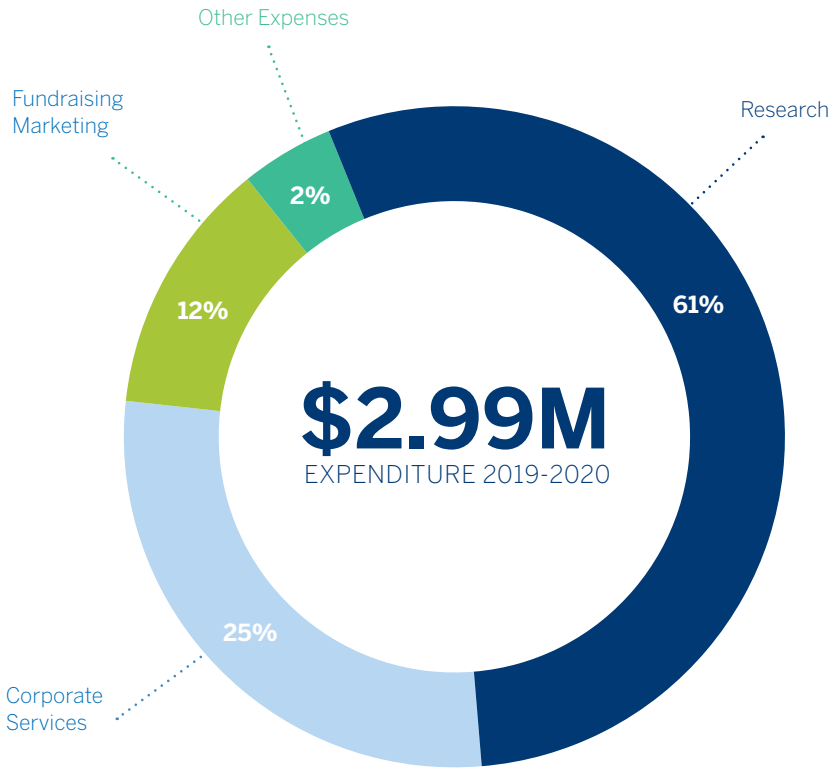
INCOME

Total revenue in 2019-20 was $2.54 million, of which 56% came from donations, sponsorships and gifts in wills. Reported income was in line with budget, and was comparable with 2018-19 income of $2.60 million. This is an excellent result in an economic climate affected by COVID-19, and demonstrates a strong case for support for medical research.

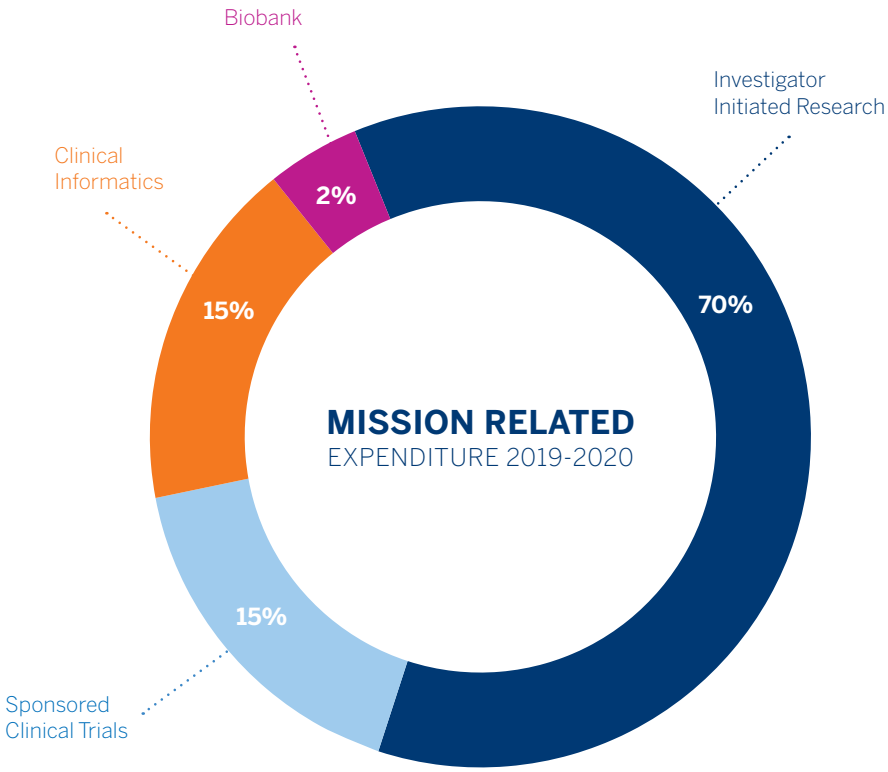


EXPENDITURE

Total expenditure for the 2019-20 financial year was $2.99 million, compared to $3.24 million in 2018-19. The following graph provides a breakdown of expenditure by function:

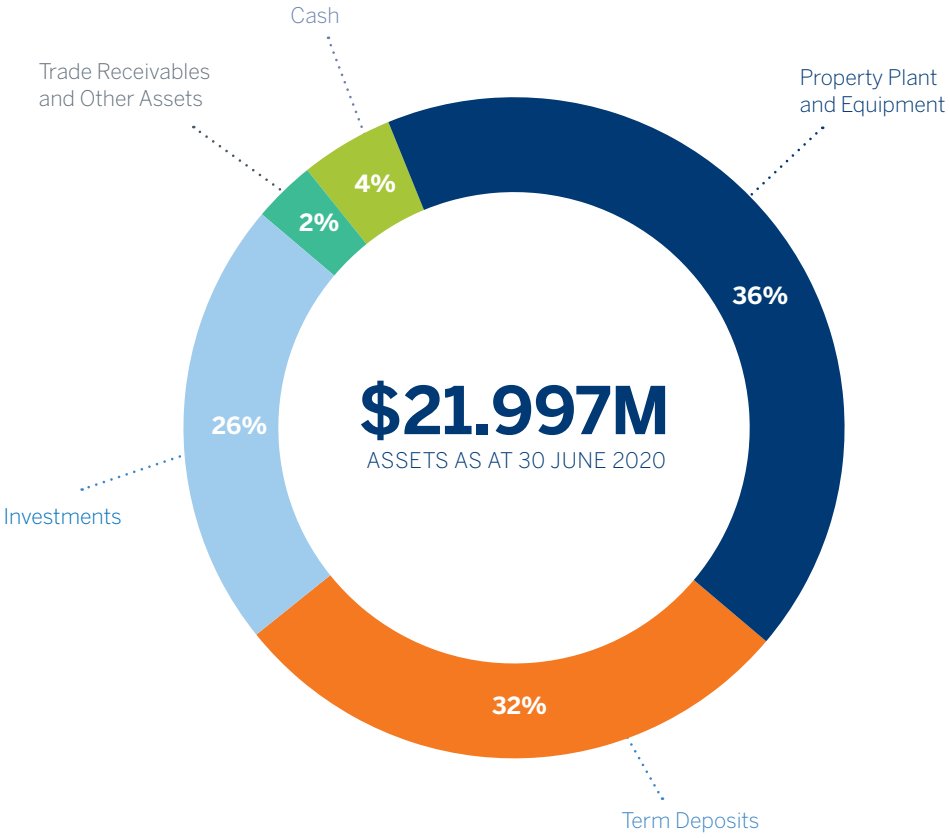


RESEARCH EXPENDITURE



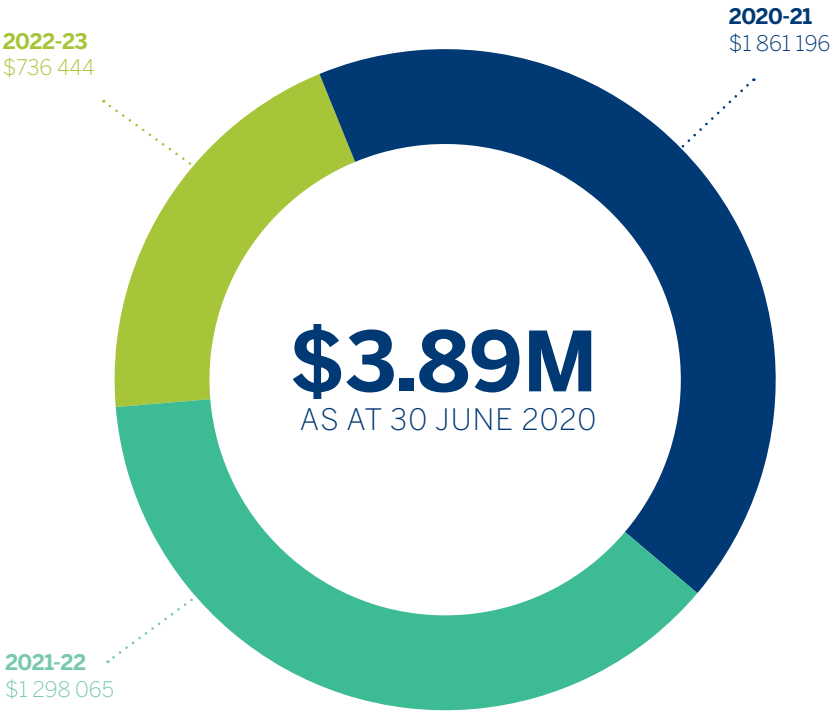
ASSETS

Total assets as of 30 June 2020 were $21.997 million, relative to $22.184 million in 2018-19. Total liabilities were $607 004 with Net assets totalling $21.39 million.



RESEARCH FUNDING COMMITMENTS

Total assets as of 30 June 2020 Wesley Medical Research has $3.896 million in research funding commitments to Board-approved research projects as follows:



Our Research Committee

PROFESSOR MARY LOUISE FLEMING, CHAIR

Prof. Mary Louise Fleming is a public health consultant, a Non-Executive Board Director and an Adjunct Professor in the School of Public Health and Social Work at Queensland University of Technology. She is a member of the Board of Wesley Medical Research and the Metro North Hospital and Health Service in Queensland.

ASSOCIATE PROFESSOR NELSON ALPHONSO

Associate Prof. Nelson Alphonso is an internationally recognised paediatric cardiac surgeon. He is Director of Cardiac Surgery at Queensland Children's Hospital and co-Director of the Queensland Paediatric Cardiac Research Group. He also leads a growing research team located at the Children's Centre for Health Research.

DR STEFAN BLUM

Dr Stefan Blum is a staff specialist in neurology at the Princess Alexandra Hospital and the Mater Centre for Neuroscience, as well as an honorary staff specialist in neurology at the Royal Brisbane and Women's Hospital. He runs dedicated multiple sclerosis and neuroimmunology clinics across these hospitals.

PROFESSOR SHARON MICKAN

Prof. Sharon Mickan is the inaugural Head of Healthcare Innovations at Bond University, an inter-disciplinary program run in conjunction with the Institute for Evidence-Based Healthcare and Bond Business School. In this role, Prof. Mickan facilitates mid-career professionals who are ready to be health leaders to navigate the research evidence, critically evaluate health systems and practices and implement clinical improvements.

PROFESSOR MAREE SMITH AC

Prof. Maree Smith is currently Director of the Centre for Integrated Preclinical Drug Development (CIPDD) at The University of Queensland, after leading a high-performing team for twelve years to establish the CIPDD and its commercial interface, TetraQ. CIPDD is recognised as a unique, GLP-accredited drug development centre.

ASSOCIATE PROFESSOR HAITHAM TUFFAHA

Associate Prof. Haitham Tuffaha is a National Health and Medical Research Council and Principal Research Fellow at the Centre for the Business and Economics of Health at The University of Queensland. He leads the Health Technology Assessment and his research involves the economic evaluation of health interventions. He also pioneers the application of Value of Information analysis in Australia as a novel approach.

PROFESSOR JANET HARDY

Prof. Janet Hardy is a Senior Researcher, a co-lead of the Cancer Biology and Care Program and leads the Palliative Care Research Group at Mater Research. She is also Medical Director of the Mater Cancer Care Centre, the Director of Palliative Care and the Acting Medical Lead of the Cancer Care Stream at Mater Group.

Our Board

The Wesley Medical Research Board, chaired by Mr Peter Allen, consists of skilled and dedicated people who govern the organisation and seek to contribute to and assist with fundraising for medical research.

PETER ALLEN, CHAIRMAN

A Director since 2005, Peter Allen is a former partner and consultant to national law firm Allens Linklaters and is a Notary Public. Peter also serves as the Director of Ensham Workers Entitlement Fund Pty Ltd and the Director of Riverwijs Pty Ltd.

CHARLIE SARTAIN

Charlie Sartain joined the Board in 2009. Charlie has more than 30 years of international mining experience. He is also a Member of the UQ Senate and Chairman of the Advisory Board of the Sustainable Minerals Institute.

MICHAEL KRIEG

Michael Krieg has over 30 years experience, commencing his career as a nurse before becoming the General Manager of The Wesley Hospital in 2017. Michael is the Group Executive Hospitals, UnitingCare Queensland.

PETER CROWLEY

Peter is a highly experienced business leader and public company director with 15 years of experience leading public companies and 17 years of experience serving on public company boards both in Australia and overseas.

DR IAN DICKINSON

Dr Dickinson has been an orthopaedic surgeon at The Wesley Hospital for over 25 years. He has also served as Chairman of the Queensland Branch of the Australian Orthopaedic Association.

PROFESSOR MARY LOUISE FLEMING

Prof. Fleming is Head of the School of Public Health and Social Work at the Queensland University of Technology. She has over 25 years experience in public health and health promotion.

CHERYL CLAYTON

Cheryl Clayton is the Director of Clinical Services at The Wesley Hospital and Director of Mercy Super. She has worked in senior leadership roles within public and private health sectors.

DR JAMES AYLWARD

Dr Aylward is an innovative researcher and an active mentor for tech start-ups in health sciences. Dr Aylward was recently awarded the 2018 Clunies Ross Innovation Award for developing Picato, an anti-skin cancer drug.

DR JOHN LUMLEY

Dr Lumley is a colorectal surgeon practising at The Wesley Hospital. John has served on the executives of the Gastroenterological Society of Australia, and the Colorectal Society of Australia and New Zealand.

MAIRI MCNEILL

Mairi McNeill was General Manager of St Andrew's War Memorial Hospital in December 2018. Mairi is an experienced healthcare executive who has worked in the private industry for over 23 years.

DR JOHN RIVERS

Dr Rivers is a practising cardiologist and founding member of the Queensland Cardiovascular Group. John has extensive experience in business development and governance in the healthcare industry.

DAVID HAIRSINE

Mr David Hairsine is a highly experienced business leader with many years of driving growth strategy as General Manager, Finance and Treasury at mining company PanAust Limited and now works in a consultant role to the same.

DES OLLING
COMPANY SECRETARY

Des Olling has a long history as a Company Secretary in private and multi national companies. He joined WMR in May 2016 as a volunteer and was appointed Company Secretary in June 2018.

How you can be the change

Join our community and support our research that will enable discovery, improve diagnosis and ensure better treatment for patients. Get involved today!

DONATE TO FUND RESEARCH

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Thank you

Wesley Medical Research would like to thank all donors, volunteers and supporters as we continue giving hope and changing lives.

PATRONS

His Excellency, the Honourable Paul De Jersey AC, the Governor of Queensland

Emeritus Professor John Pearn AO

Mr Martin Albrecht AC

Associate Professor John Allan

BEQUESTS

Pamela Anne Hewston

Clarence Micahel Burke

Annette Betty Wilson

Dorothy Jean Strathdee

Anna Maria Bonanno

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Mitsubishi Development Pty Ltd

In Vitro Technologies

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