Norman Beischer Medical Research Foundation ™

2022 Annual Review

The Norman Beischer Medical Research Foundation

The Norman Beischer Medical Research Foundation supports clinical research by medical practitioners, nurses, midwives, and scientists engaged in the investigation of diseases and conditions which affect women and babies.

The Foundation actively supports research into obstetrics and the prevention, control and treatment of gynaecological diseases and related problems.

A key component of our support is to fund clinical and scientific research by leading and emerging researchers and to use research to educate and inform medical practice in Australia and overseas.

Our values include: respect, integrity, diversity, equity, inclusion, dignity, accountability and transparency. We strive to operate according to the highest ethical standards.

History

The Foundation was established by Professor Norman Beischer in 1981 as the Mercy Maternity Hospital Research Foundation.

Its focus was to enable the funding of clinically based medical research, principally conducted by individuals associated with The University of Melbourne's Department of Obstetrics and Gynaecology.

The Foundation's name was changed to the Medical Research Foundation for Women and Babies in 1997. This was done to reflect its broader aim to support clinically based medical research conducted in Victoria into women's and babies' health issues, with particular focus on obstetric, gynaecological, and neonatal conditions.

In 2015, after the death of Professor Beischer, the name of the Foundation was changed to the Norman Beischer Medical Research Foundation in recognition of Professor Beischer's lifelong contribution to, and participation in, medical research.

(Cover image) Professor Natalie Hannan.

Acknowledgements

Thank you to the patients, staff and researchers of the Mercy Hospital for Women for agreeing to participate in the photography for inclusion in the annual review.

Norman Beischer Medical Research Foundation
ABN 26 005 864 282

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Chair's Report

Mr John C Fast
Non – Executive Chair

I am very pleased to provide this report for inclusion in this Annual Review.

I assumed the role of Chair in March 2022. I am the longest serving member of the Board and was formerly its Deputy Chair. My association with the Foundation goes back to the early 1980s. Indeed, when I was then a practising lawyer, I incorporated the Foundation and worked closely with the late Professor Beischer to help implement his vision and strategy for the Foundation.

Our aim is to ensure that the Foundation can become the most prestigious and internationally recognised Foundation of its kind and a byword for helping to lead research into obstetrics and gynaecology and related problems that affect the health of women, babies, and infants. To my mind, there is no better way to continue to honour and preserve the legacy left by Professor Beischer.

As a Foundation, we hope to be able to fund more research grants in the future and to place the results of the research before the medical profession, thereby leading to improved outcomes for mothers and babies. To do this we need to grow our capital base because it is the latter that generates the income required to fund the current and future grants and Fellowships made by the Foundation. In an environment of high inflation, the Foundation will need to spend more in order to maintain the real value of the current level of its grants even before allowing for an increase in the scope and size of its future activities.

The Foundation has been fortunate to find itself in a very sound financial position today due in no small measure to the contribution made by our Investment Committee, chaired by Will Baylis. The Investment Committee's members have ensured that the Foundation has at all times acted in a fiscally responsible manner, and within defined parameters designed to ensure that it can continue to fund its current grant making agenda, while preserving and enhancing its core capital, even after allowing for inflationary pressures. We owe the Investment Committee a huge debt of gratitude for their careful and wise counsel.

I also want to acknowledge the work of the Research Committee, chaired by Associate Professor David Allen. It is this committee that undertakes the core activity of the Foundation – that of evaluating and awarding grants. Very pleasingly, we have witnessed significant growth in the range and source of applicants. This confirms that the Foundation has become better known among a broader cohort of institutions and that its enhanced funding capability has attracted interest from a broader group of potential applicants.

We are fortunate to have an eminent Fellowship Panel, chaired by Emeritus Professor Richard Larkins AC and with members including Professor Jock Findlay AO, Professor Gab Kovacs AM, and Dr Bernadette White as well as Foundation directors David Allen, and I. This Panel interviews and recommends to the Board of the Foundation a candidate to be awarded the Foundation's sought after and prestigious Norman Beischer Clinical Research Fellowship.

This Fellowship is awarded to a mid-career obstetrician or gynaecologist and amounts to support of $600,000 over the three-year period of the Fellowship. The purpose of the Fellowship is to provide major support for clinicians at a time in their research career when it is otherwise very difficult to attract adequate funding.

The Foundation's support should result in those awardees being able to undertake longer-term research careers and, hopefully, further funding from other bodies.

During the year the Foundation undertook an externally facilitated strategic governance review of the Board to identify how it performs as a Board, including any skill gaps, and to generally consider how it undertakes succession and renewal. The review identified some gaps and made several recommendations, including with respect to Board renewal.

The Board has considered those recommendations and has resolved to implement most of them.

In conclusion, I want to thank and acknowledge the selfless dedication of all my fellow directors who are so committed to the Foundation and to its work.

In particular, I want to acknowledge the important work of our Executive Director Andrew Brookes, who has brought a new level of efficiency and professionalism to the Foundation, not to mention a lifetime of experience and of invaluable insights and contacts.

He has really facilitated the Board's work and simplified many of its tasks. In that work he is also ably assisted by the Foundation's Executive Assistant, Heena Hilbert.

I look forward to the next few years with optimism and enthusiasm.

The Foundation will hopefully continue to go from strength to strength.

Executive Director's Report

Mr Andrew D Brookes
Executive Director

2022 saw the Foundation award its second Norman Beischer Clinical Research Fellowship. This prestigious three-year Fellowship from 2022-2024 was awarded to Associate Professor Lisa Hui from The University of Melbourne and The Mercy Hospital for Women and Northern Hospital. Lisa's research project under the Fellowship will address congenital cytomegalovirus (CMV), which is Australia's leading infectious – and preventable – cause of disabilities such as deafness, intellectual disability, and cerebral palsy.

CMV is a common virus that usually causes mild or no symptoms. However, if a woman becomes infected with CMV for the first-time during pregnancy, she has a high chance of passing this infection to her baby before birth. While most infected babies will be completely well, about one quarter of those infected during first trimester will have lifelong consequences. Despite this, less than one in six pregnant Australian women have heard of CMV. Lisa is aiming to move the field forward and integrate CMV prevention strategies into routine antenatal care in Australia. Further detail about Lisa's project is given later in this report.

After the end of the year, the Foundation awarded its third Fellowship, and this went to Dr Clare Whitehead of the Royal Women's Hospital. At the meeting where the Fellowship Panel interviewed applicants, it also interviewed the previous Fellows. When commenting on the high calibre of the two existing Fellows, the Panel advised the Directors that the Fellowship program appeared to be meeting its objectives.

This year, we received 38 applications for the Innovation Grants. Of these, some 13 Innovation Grants were awarded across a variety of institutions in Victoria. The grants totalled $670,402, with the average grant funding being $51,500.

The Foundation also supported the Epworth Women's Obstetrics and Gynaecology symposium, so allowing information about the latest care for women and babies to be promoted. Likewise, the Foundation supported the Royal Australian and New Zealand College of Obstetricians and Gynaecologists for its Annual Scientific Meeting.

We were pleased to provide bursaries at La Trobe University for nurses and midwives and to Deakin University for six scholarships, each at $10,000 per annum, to support the training of indigenous nurses and midwives. Total grants made in 2022 amounted to $1.27 million.

Investment markets were particularly challenging during the year. Factors such as steeply rising inflation, the War in Ukraine and COVID lockdowns in China all contributed to volatile markets. The Foundation's investments in very diverse asset classes provided some protection from the turbulent markets.

Equity finished the year at approximately $62 million. We appreciate the wisdom of our investment advisers, Drew, Walk & Co., our product managers, Willis Towers Watson, and the considered guidance of our Investment Subcommittee chaired by Will Baylis.

I thank our Members, Committee members and Directors for their support during the year. I especially thank former Chair and Director Dr Andrew Beischer for his wisdom and counsel to me over the last four years – it was greatly appreciated.

The Foundation is well positioned to continue to grow its work to achieve healthy pregnancies and healthy babies.

Clinical Research Fellowships

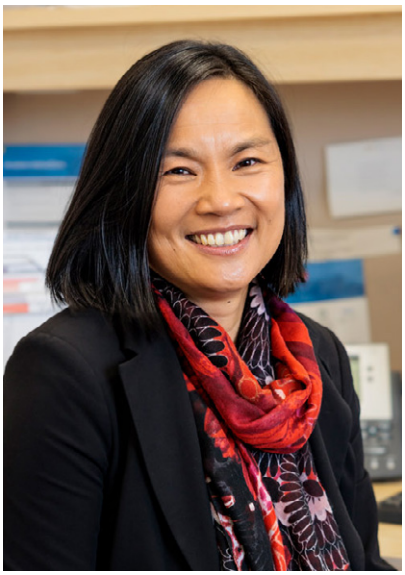
The Norman Beischer Research Fellowships provide an opportunity for an outstanding clinician researcher to be recognised with an esteemed and competitive fellowship and an award of $600,000 over a three-year period for each recipient.

The Fellowships are aimed at those who have completed a PhD and are early-to-mid-career researchers.

Applicants should have obtained their PhD less than seven years prior to the submission of an application, and researchers must be working in areas of interest to the Foundation.

Further information on the Foundation's Research Fellowships covering the periods from 2021-2023 (awarded to Associate Professor Fiona Brownfoot) and 2022-2024 (awarded to Associate Professor Lisa Hui) are detailed over the following pages.

2022 – 2024 Clinical Fellowship Awarded to Associate Professor Lisa Hui



Associate Professor Lisa Hui

Tackling a common and preventable pregnancy virus

Congenital cytomegalovirus (CMV) is Australia's leading infectious – and preventable – cause of disabilities such as deafness, intellectual disability, and cerebral palsy.

The Foundation awarded funding of $600,000 under the Norman Beischer Clinical Research Fellowship to Associate Professor Lisa Hui to implement a three-year medical research and education program focused on preventing pregnancy complications and childhood disability due to CMV infection.

Associate Professor Hui has partnered with the Cerebral Palsy Alliance, Mercy Health, Austin Health, CMV Australia, and others, to create a multifaceted program for this complex condition. The program, the ESE-CMV study will use "Education", "Serology" and "Evaluation" to address the knowledge gaps in this field and help guide future recommendations for care.

Few women have heard of CMV

CMV is a common virus that usually causes mild or no symptoms. It is transmitted through contact with infectious body fluids such as saliva, nasal secretions and urine. If a woman becomes infected with CMV for the first-time during pregnancy, she has a high chance of passing this infection to her baby before birth.

Although most infected babies will be born completely well, about one quarter of those babies infected during the first trimester of pregnancy will have lifelong consequences.

Despite CMV being relatively common, less than one in six pregnant Australian women have heard of the virus. It's the most common infectious cause of hearing loss and is often not diagnosed until a child is several years old. By then it might never be attributed to the CMV infection during pregnancy.

Young children are common sources of CMV infection as they excrete high amounts of the virus for prolonged periods. Women with a child under the age of three years, and day care centre workers, are particularly at risk of infection. Fortunately, there are simple hygiene precautions that can reduce a pregnant woman's risk of infection.

Providing hygiene information to avoid pregnancy infections

The Australian Department of Health and the Royal Australian and New Zealand College of Obstetricians and Gynaecologists have recommended that all women be provided advice on how to avoid CMV infection during pregnancy, however less than 10% of maternity clinicians routinely provide such advice.

Associate Professor Hui and her team have developed an eLearning education module on CMV for general practitioners, which will be integrated into a woman's first antenatal visit.

"Among general practitioners, obstetricians and midwives, their knowledge has been shown to be less than we would have hoped, and most practitioners don't talk to their pregnant patients about how to avoid catching CMV," says Associate Professor Hui.

"If we pay attention to washing our hands and not sharing saliva with young children, through eating utensils used by toddlers, that go a long way to minimising the risk of being infected with this virus."

Associate Professor Hui is also using the Foundation's funding to begin Australia's first voluntary program of serological screening for CMV infection in the first trimester of pregnancy at the Mercy Hospital for Women.

Pilot study on the use of antiviral therapy

Until recently, there was no proven therapy to prevent the virus passing across the placenta to the unborn baby if a pregnant woman became infected with CMV. In 2021, a well-designed clinical trial showed that the antiviral medication valaciclovir reduced the risk of fetal infection after first trimester maternal infection from 48% to 11%.

This pilot serological screening program will incorporate the option of valaciclovir therapy for women with confirmed infection.

"It is critical to engage the public and health professionals in the design and implementation of any proposed screening program," Associate Professor Hui says. "We will partner with consumer organisations and professional societies to survey pregnant women and health professionals about universal CMV screening."

Her team has already performed a systematic review of clinical practice guidelines and policies on serological screening for CMV during pregnancy and has conducted an audit of GPs' current practices in serological screening in pregnancy at the Mercy Hospital for Women.

"We're wanting to assess whether it's feasible and acceptable to introduce a routine blood test at the end of first trimester to pick up early infection so that women can have the opportunity to have this new therapy," she says.

"We want to combine that with education programs for GPs so that they can help with the primary prevention messages about hand hygiene and other ways to avoid infection.

Understanding and learning from women's experiences

"The third component of the study is to actually understand women's experience of going through a pregnancy with suspected CMV infection presence.

"It's a very stressful experience, and if we're going to be doing more blood-based screening we need to understand what it's like for women who have been detected at high risk of congenital CMV and make sure we have the right supports and resources for them and their doctors to see them through the pregnancy safely."

Associate Professor Hui and her team have started recruiting women who want to share their experiences of having a pregnancy with a suspected infection by CMV.

"The funding from the Foundation has been essential to all of this. It has allowed us to bring together a multidisciplinary team and engage all stakeholders, including our 'consumers'.

"We're really heartened by the fact women are prepared to share their personal stories so that other women can avoid this preventable infection."

Creating an evidence base to guide national recommendations

The CMV project has the potential to be nationally scalable and progress to a large prospective cohort study. The overarching vision is to create the required body of evidence to drive future national health policy on CMV prevention.

"We're wanting to assess whether it's feasible and acceptable to introduce a routine blood test at the end of first trimester to pick up early infection so that women can have the opportunity to have this new therapy."

2021 – 2023 Clinical Fellowship Awarded to Associate Professor Fiona Brownfoot

Associate Professor Fiona Brownfoot

A device to continuously monitor fetal heart rates

It started from a general desire to improve fetal heart monitoring to improve obstetric outcomes.

Yet, in a relatively short period of time, breakthrough device technology developed by Australian researchers is on the verge of going global.

The Foundation awarded funding of $600,000 under the Norman Beischer Clinical Research Fellowship to Associate Professor Fiona Brownfoot to head a Fetal Biomedical Engineering Laboratory to develop a device to reduce stillbirth and cerebral palsy.

In receiving this funding, Associate Professor Brownfoot – a clinician academic, a specialist obstetrician at the Mercy Hospital for Women, and a senior lecturer at The University of Melbourne – became the first recipient of the Norman Beischer Research Fellowship.

Due to COVID-19 restrictions it was necessary for this Fellowship to be deferred by one year from 2020 – 2022 to 2021 – 2023.

Detecting fetal distress to reduce stillbirth

Over a five-year period, Associate Professor Brownfoot and her team will translate two devices set to revolutionise fetal monitoring.

The first is a device to improve the detection of fetal distress in labour to reduce cerebral palsy and stillbirth. The second is a device aimed at non-invasively detecting fetal distress during pregnancy to reduce stillbirth.

"Currently we monitor a baby's heartbeat with an ultrasound-based device, which is very cumbersome," she says.

"It needs to be moved whenever the baby moves, so it's quite a clinician intensive device that can only be used intermittently.

"The mission was to hopefully build a device that would be less clinician intensive, far easier for the woman, as well as a device that has the potential for long-term monitoring of women at high risk of stillbirth."

Stillbirth is a devastating complication affecting one in 130 pregnancies. Disappointingly the staggering rates of stillbirth in Australia have remained unchanged for decades.

Currently, all technologies that can detect fetal distress, just before stillbirth, are intermittent. Therefore, the critical moment of fetal distress when a life-saving delivery could be performed is often missed.

Partnering medical science with technology

Associate Professor Brownfoot's pioneering work has led to the development of a fetal electrocardiogram device in partnership with the Department of Electrical and Electronic Engineering at The University of Melbourne.

"In partnering with the Department of Electrical and Electronic Engineering at The University of Melbourne, who also have an interest in fetal monitoring, we've developed a multi-disciplinary team of clinicians and engineers focused on developing this portable, wearable device for fetal monitoring," Associate Professor Brownfoot says.

"It's a device that can be worn for short periods or long periods of time and it reliably detects the fetal heartbeat, meaning that it can replace the existing ultrasound technology as well as the potential for long-term fetal monitoring."

"We've managed to build the device so that it only contains a few sensors in a strip as thick as Glad® Wrap that can just be easily placed on the mum's tummy that automatically detects a baby's heartbeat."

It can wirelessly connect to an app on a mother's smartphone and alert them if their unborn baby is distressed and at risk of stillbirth.

"It's a device that can be worn for short periods or long periods of time and it reliably detects the fetal heartbeat, meaning that it can replace the existing ultrasound technology as well as the potential for long-term fetal monitoring."

The Foundation's funding has been used towards a fellowship, the initial development of the research grade device, and also for a midwife's salary for a trial.

Moving to the global stage

The fetal monitoring device is currently being tested on patients in Australia and is being developed for use in high-risk pregnancies, including in twins and pre-term pregnancies.

"Given we can accurately extract the data it is time to commercialise the technology. So, we're looking at building a commercial grade device and we've been successful in securing two grants, one of them from Neo-Bionica and the other with the Medical Device Partnering Program."

Associate Professor Brownfoot says this new technology has the potential to revolutionise fetal monitoring and reduce the risk of stillbirth for millions worldwide every year.

"We're currently going through the regulatory process and our timeline for that is, by the beginning of 2024, we're hoping to have it through U.S. Food and Drug Administration and Therapeutic Goods Administration approval."

Research Innovation Grants

Innovation Grants from the Foundation provide seed funding to support highly innovative research projects with the potential for significant clinical impact.

These projects may lead to major grant applications with such institutions as the National Health and Medical Research Council and the Medical Research Future Fund.

Applicants need to define their objectives and test hypotheses in any area of obstetric, gynaecological or neonatological conditions.

Generally, Innovation Grants are for one-year research projects for amounts of up to $65,000.

"The Norman Beischer Medical Research Foundation grants have been an invaluable support for my team's research. They contribute funding to projects and ideas that have led to important publications.

Although the impacts might be indirect, these funds also have significant impact for the awardees in regard to the growth of their CVs – being able to list this competitive funding and produce published works is hugely important for researchers in the field of obstetrics and gynaecology. It allows scientists and clinician scientists to build their track record and apply for larger funding such as those available via fellowships in the National Health and Medical Research Council scheme. These outcomes are also essential as applicants apply for promotion within the university system.

Thus, I personally am very grateful and thank the Foundation for the funds we have been awarded to date. We have been highly productive and have been able to use the funds, often in combination with funds from other sources, to produce scientific outputs that have been accepted into some of the leading international journals for our field."

Professor Tu'uhevaha Kaitu'u-Lino

Head – Biomarker Discovery and Reverse Translation in Pregnancy
Translational Obstetrics Group
Mercy Hospital for Women, Department of Obstetrics and Gynaecology,
The University of Melbourne

2022 Funded Innovation Grants

In 2022 there were a total of 38 Innovation Grant applications made to the Foundation. Of these, 13 applications were approved for funding by the Research Committee, totalling $670,402.

Topic

The effect of perinatal events and interventions on childhood school outcomes

Choices that women are asked to make in pregnancy are often informed by very short-term outcomes.

But most parents want to know long-term implications for their child's health, development, function, and quality of life. The problem is that this information is often not known.

Using whole-of-population Victorian data, the researchers will conduct an exciting series of studies that will explore the effects of various pregnancy complications and perinatal interventions on the developmental and educational outcomes of children across their schooling life.

In particular, the research team will explore the effect of elective medical interventions, early birth, method of birth, pre-eclampsia with medical comorbidities, fetal growth restriction, and hypertensive disorders during pregnancy, on childhood school outcomes.

Multiple facets of child development, including physical health, social competence, and emotional maturity, and child education, including spelling, numeracy, and reading, will be explored.

This will provide robust information on whether perinatal interventions are beneficial or harmful to the future neurodevelopmental integrity of children.

The purpose is to help guide clinical decisions during the perinatal period and to support women in making more informed decisions for themselves and their offspring.

Institution

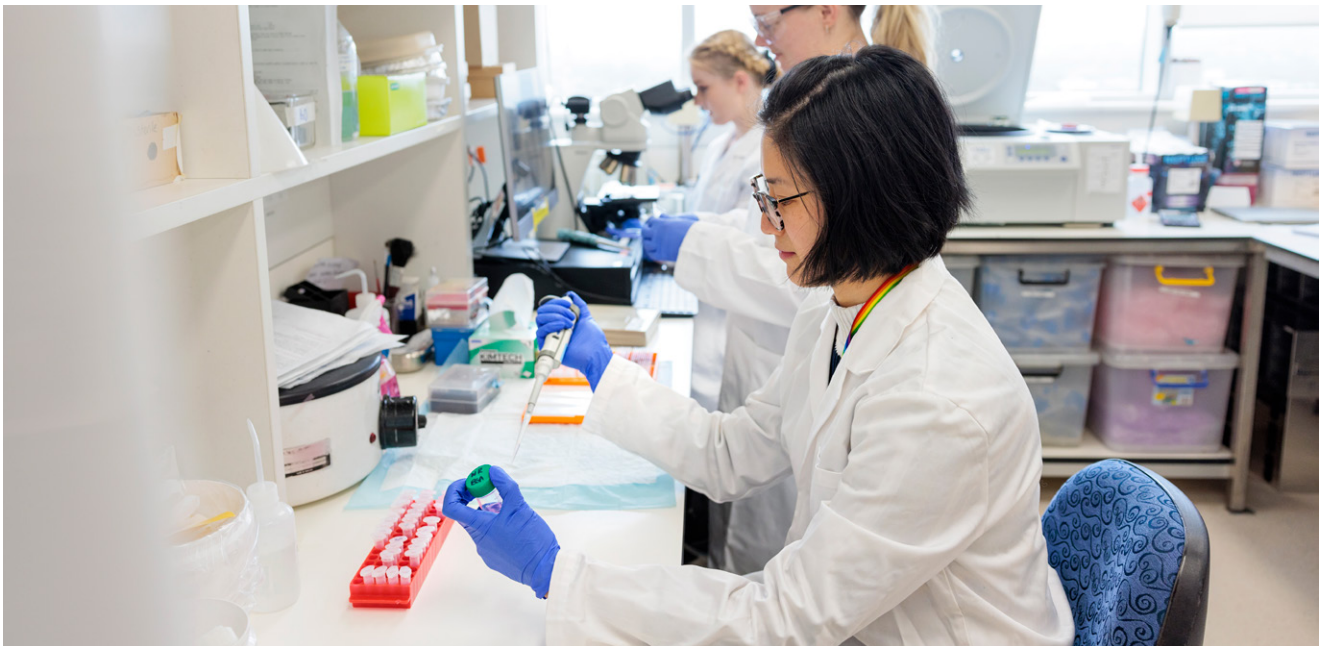
The Ritchie Centre

Amount funded

$26,852

Researchers

Dr Roshan Selvaratnam
Professor Euan Wallace
Dr Mary-Ann Davey



Institution

The University of Melbourne
Monash University

Amount funded

$50,000

Researchers

Associate Professor Lisa Hui
Melvin Barrientos Marzan
Dr Daniel Rolnik
Stephanie Potenza
Dr Natasha Pritchard
Associate Professor Joanne Said
Dr Kirsten Palmer
Dr Clare Whitehead
Dr Penelope Sheehan
Dr Jolyon Ford
Professor Ben Mol
Professor Sue Walker

Topic

A Collaborative Maternity and Newborn Dashboard (CoMaND) for the COVID-19 pandemic: Real-time monitoring of perinatal services performance indicators and health outcomes in Victoria

Globally, the COVID-19 pandemic has worsened health outcomes for pregnant women and their babies.

In 2020, Melbourne experienced the most restrictive lockdown measures in the country, resulting in widespread concerns about the impacts of disruptions to maternity care.

Associate Professor Lisa Hui and the local maternal fetal medicine community conceived of the Collaborative Maternity and Newborn Dashboard (CoMaND) for the COVID-19 pandemic in April 2020 to monitor the impacts of lockdown on maternal and perinatal outcomes.

With the generous support of the Foundation, the CoMaND project has grown into a collaboration involving all 12 metropolitan Melbourne public maternity services, capturing 75% of all births in the metropolitan area.

The research team accumulated a large and valuable dataset that enabled it to examine specific questions as they emerged, thus providing an agile and granular surveillance system to "take the pulse" of the maternity sector during the COVID-19 public health emergency.

Associate Professor Hui's team received a second year of funding to continue its clinical quality monitoring and to obtain the best research value out of the dataset that has been established through its multicentre collaboration.

Topic

Improving the evidence base underlying tranexamic acid for preventing postpartum haemorrhage

Postpartum haemorrhage is heavy bleeding after the birth of a baby. It causes serious medical conditions, sometimes requires a blood transfusion, and can even lead to the death of the mother if bleeding is severe and uncontrollable.

About half of the cases of severe maternal medical conditions and a quarter of maternal deaths are attributable to postpartum haemorrhage.

As treatment of postpartum haemorrhage is often too late for many women, prevention is important.

Both uterotonics and tranexamic acid are inexpensive and widely available drugs that have been used to prevent postpartum haemorrhage. However, existing evidence regarding their roles in preventing postpartum haemorrhage predominantly comes from many small trials.

Unfortunately, major concerns in many of these trials have been identified. These concerns are not limited to biases arising from methodological weaknesses, but also problems related to potential data manipulation and other forms of research misconduct.

Therefore, there is an urgent need for innovation in future evidence synthesis, with tightened scrutiny and up-to-date methods, to provide more reliable evidence for women and practitioners.

In recent years, this research team has established an innovative framework to assess the trustworthiness of randomised trials and successfully applied this framework to several important topics in women's health.

Its framework consists of a screening checklist that identifies studies at risk for trustworthiness concerns.

In this project, the team is combining the assessment of trials' trustworthiness and is subsequently performing an individual participant data meta-analysis of trials that evaluates tranexamic acid for preventing postpartum haemorrhage. More than 30 trials with data of over 13,000 women will be scrutinised in terms of trustworthiness before it is used to synthesise evidence.

This pilot project will be an important prior step for the research team to apply the same method to assess the evidence base for another high-priority topic – prophylactic use of uterotonics, which involves more than 200 trials including over 140,000 women.

Institution

Monash Medical Centre
Monash University

Amount funded

$49,366

Researchers

Dr Wentao Li
Professor Ben Mol
Dr Rui Wang
Associate Professor Ryan Hodges
Dr Matthew Page
Professor Zarko Alfirevic
Professor Arri Coomarasamy

Institution

Austin Hospital
The University of Melbourne

Amount funded

$56,104

Researchers

Associate Professor Piero Perucca
Professor Frank Vajda
Professor Sue Walker
Professor Torbjörn Tomson
Dr Dina Battino
Professor Emilio Perucca

Topic

Antiepileptic drug use in pregnancy and the risk of poor fetal growth

Every year one-in-50 pregnancies is exposed to antiepileptic drugs (AEDs), which are used to treat epilepsy and other conditions, including psychiatric disorders, pain, and migraine.

These medications typically need to be continued throughout pregnancy to reduce the health risks to the mother and baby, such as those resulting from uncontrolled seizures.

While taking AEDs during pregnancy has long been known to carry increased risks of having a baby with a birth defect, less is known about the other consequences of exposing pregnancies to these medications.

The research team's work and that of other researchers has recently suggested that AEDs increase the risk of having a baby that is 'small-for-gestational age' (SGA). SGA babies are vulnerable to varied health complications, including premature death.

There is almost no other information on the relationship between AEDs and SGA. This explains why clinicians do not generally discuss the risks of AED-associated SGA with women taking AEDs and who may become pregnant one day.

This lack of information is a missed opportunity to improve clinical care, and thus urgent research in this area is needed.

In this project, the research team is addressing the 'unknowns' surrounding the relationship between AEDs and SGA. By combining for the first time two of the largest pregnancy registers of AEDs in the world, the team is comparing the risk of SGA in pregnancies exposed to a single AED (monotherapy) and those exposed to two or more AEDs (polytherapy).

The research team will then determine the risk of SGA associated with specific AED monotherapies as well as their doses. It expects that the results of this project will change the way clinicians manage and counsel women of childbearing age who are taking AEDs, ultimately leading to a reduction in the number of pregnancies exposed to AEDs that result in SGA babies.

Innovation Grant

In 2017 the Foundation provided a grant of $102,000 to Professor Della Forster of La Trobe University. The grant was for a research project on developing and testing a moderated online peer support intervention to prevent perinatal depression and anxiety and to improve perinatal emotional health and wellbeing in 'at risk' expectant and new mothers.

The original concept of a moderated online peer support app was tested by developing the IVY app.

Based on the findings from the Foundation's funded research, the researchers applied and received funding for a large National Health and Medical Research Council grant to explore the impact of telephone peer support to prevent postnatal depression.

The project is in partnership with the PANDA organisation, where peer volunteer mothers provide regular telephone support to new mothers who are at higher risk of developing postnatal depression and anxiety up to six months after birth.

Topic

NONA (Newborn Obstetric Network Australia): A clinical quality registry for women with the most complex pregnancies

Around 10% of Australian pregnancies are complicated by problems with the baby such as fetal abnormalities, growth restriction, or complications of twin pregnancies.

There can also be problems with the mother, such as Type 1 diabetes or severe illness requiring admission to an Intensive Care Unit.

Within Victoria, women diagnosed with these problems are usually managed in one of the four Maternal Fetal Medicine (MFM) Units [Monash Health, The Royal Women's Hospital, Joan Kirner Women's & Children's at Sunshine Hospital, (Western Health) and Mercy Health].

These women often receive frequent antenatal care visits during their pregnancies and are more likely to have many more investigations such as blood tests or ultrasounds or receive treatments that may be uncommon or relatively new.

Despite this intensive investment in the antenatal care, there is often little to no follow up of the women and the babies from these complex pregnancies.

The NONA (Newborn Obstetric Network Australasia) registry is a collaborative that benefits mothers of these high-risk pregnancies, and their babies, for future decades.

NONA collects data regarding five specific high-risk maternal and fetal conditions, with the aim of identifying optimal strategies that improve outcomes and providing regular site benchmarking and feedback. NONA was established in 2020 in conjunction with Monash Clinical Registries at Monash University and the four major Victorian MFM units.

The registry takes advantage of the state-wide Generation Victoria (GenV) cohort study which aims to recruit all babies born in Victoria over a two-year period from late 2021 and follow the children, and their families, into the future.

The NONA registry provides a coordinated, collaborative approach to prospectively identifying high-risk newborns before birth. There is currently no similar registry specific for high-risk pregnancy care in Australia that allows granular data from fetal ultrasound and other obstetric care to be linked with newborn and childhood outcomes.

A Victoria-wide, clinician-led, collaborative approach provides significantly greater power to advance discovery. Once fully established, NONA would be well positioned to progress to an Australia-wide initiative, ensuring that future generations of all Australian children, and their families, will benefit.

Institution

Joan Kirner Women's and Children's Hospital
The University of Melbourne
Monash University

Amount funded

$55,000

Researchers

Associate Professor Joanne Said
Professor Susannah Ahern
Professor Sue Walker
Associate Professor Lisa Hui
Dr Stefan Kane
Dr Clare Whitehead
Dr Kirsten Palmer
Professor Melissa Wake

Institution

Mercy Hospital for Women
Royal Women's Hospital

Amount funded

$49,105

Researchers

Dr Samantha Mooney
Dr Vanessa Ross
Professor Kate Stern
Dr Keryn Harlow
Dr Uri Dior
Dr Anthea Lindquist
Dr Amber Kennedy
Professor Peter Rogers
Associate Professor Martin Healey

Topic

Obstetric outcomes in women with moderate or severe endometriosis: Does pre-pregnancy surgery alter risk of adverse maternal or perinatal outcome? A Feasibility Study

Endometriosis is a condition where tissue similar to the lining of the uterus (endometrium) is found developing in other areas of the pelvis.

Several authors have published reports indicating that there is an association between endometriosis and poor outcomes for pregnant mothers and their babies. The accuracy of this association has not been confirmed.

This feasibility study aims to assess the study protocol, and the ability to access and use data from a large pregnancy outcomes database. Should the pilot be successful, a larger study incorporating interstate and international collaborators will hopefully follow.

This study aims to prospectively assess feasibility of a data collection and data linkage protocol to explore the association between surgery for moderate or severe endometriosis and risk of adverse maternal or perinatal outcomes.

The impact of surgical treatment of moderate to severe endometriosis on pregnancy outcomes for women conceiving spontaneously and through IVF is unknown.

Due to this significant lack of evidence, gynaecologists are limited in their counselling of patients regarding pre-emptive surgical treatment of endometriosis to alter future obstetric outcomes for mother or baby.

In the Australian population at least 10% of women of reproductive age have endometriosis; approximately one-third of these will have endometriomas or extensive deep endometriosis.

Clarifying the role of endometriosis surgery in potentially altering obstetric outcomes will assist to improve outcomes for patients with endometriosis.

Innovation Grant

In 2018 the Foundation provided a grant totalling $35,710 to Dr Sarah Holdsworth-Carson of The University of Melbourne for the localised and systemic dysfunction of lipid metabolism in women with endometriosis.

The lipidomics data derived from this project was used as pilot data for a successful NHMRC 2019 Medical Research Future Fund (MRFF) Emerging Priorities and Consumer-Driven Research (EPCDR) Endometriosis 2020 application, which received funding of $3.9 million. The sample size was increased and included longitudinal follow-up of patients for up to three years post-surgery.

The funding provided was essential in generating pilot data that allowed for successful long-term funding.

Topic

Testing the feasibility of conducting a randomised controlled trial (RCT) comparing standard (face-to-face) antenatal care with a combination of video health and face-to-face visits: A pilot RCT to inform a larger adequately powered study

Most maternity providers in Victoria provided a proportion of pregnancy care as telephone or video health during the COVID-19 pandemic, with 52% planning to continue post-pandemic.

Even within Victoria, there is great variation in what constitutes telehealth, and at what points in pregnancy women should have face-to-face visits.

Current evidence raises concerns about clinical outcomes when women receive combined telehealth and face-to-face care in pregnancy compared with the standard face-to-face schedule.

One large single site study in Melbourne found no evidence of harm when providing up to 50% of pregnancy care by telehealth, while another including births from all 12 Melbourne public maternity services found evidence of more babies stillborn before 37 weeks compared with pre-pandemic.

Women report high levels of stress and anxiety related to telehealth, that care is of poorer quality, and have concerns about the lack of routine screening during telehealth visits. Doctors and midwives are similarly concerned about the quality of care, and the potential mental health impacts on women. They are also concerned telehealth is here to stay.

There are many other unknowns too, for example providers' ability to screen for family violence, whether women present less often with their concerns, and whether they express their concerns in a telehealth context. We also need to understand whether outcomes such as the increase in stillborn babies are related to changes in the delivery of pregnancy care.

A randomised controlled trial (RCT) is needed to test the effect of the combination of video-based telehealth and face-to-face care compared with standard face-to-face pregnancy care. But, before beginning an RCT, this research team commenced a pilot study.

The pilot RCT at two tertiary Melbourne maternity services is assessing the feasibility of undertaking a larger study with many more women. This research team is developing and implementing a pregnancy care schedule combining video-based telehealth care with face-to-face visits. It is pilot testing the schedule against the standard schedule of face-to-face visits with 200 women.

This will help refine the model and work out the best outcomes to measure how many women are needed for a larger study, and the best costing model.

The pilot is the crucial first step to developing a robust evidence base around wholesale changes to models of pregnancy care.

Institution

Judith Lumley Centre

Amount funded

$59,927

Researchers

Professor Della Forster
Dr Touran Shafiei
Dr Stefan Kane
Professor Sue Walker
Professor Helen McLachlan
Associate Professor Lisa Hui
Professor Jeanie Cheong
Professor Christine East
Associate Professor Emily Callander
Ms Rebecca Hyde
Ms Robyn Matthews
Ms Andrea Dodd

Topic

Validating the cerebral-placental-uterine ratio (CPUR) in high-risk cohorts to better detect fetal growth restriction

Institution

Mercy Hospital for Women

Amount funded

$42,100

Researchers

Dr Teresa MacDonald
Professor Sue Walker
Ms Allison Thomas

Babies that are small – those in the bottom 10% for the number of weeks of pregnancy – are at four times higher risk of stillbirth than babies that grow normally.

In particular, the smallest 3% of babies are at the greatest risk. If doctors and midwives managing pregnancies suspect that if a baby is small, they can arrange close monitoring, and then deliver the baby slightly earlier, before it is too late. This approach has been proven to reduce stillbirth risk.

Yet, the majority of small babies remain undetected and unsuspected by doctors and midwives in the clinic. For these babies, the risk of stillbirth is much higher.

Most stillbirths occur late in pregnancy, around or after, the due date. This is a time where, if a small baby was detected and simply delivered, stillbirth could be safely avoided.

Most people are unaware that the current clinical practice of measuring the mothers' uterine size in the clinic, and arranging an ultrasound scan if it seems small, only picks up about 20% of babies destined to be born small.

The research team recently reported a new ultrasound test called the "cerebral-placental-uterine ratio" (CPUR). This new test, which measures and then combines the resistance to blood flow in the mother's blood vessels supplying the uterus at 36 weeks, in the umbilical cord and in the baby's brain, detected more small babies than other tests in clinical use

Even more importantly, this new ultrasound test picked up 89% of the babies in the lowest 3% for size – those at the highest risk of stillbirth. Potentially, the CPUR could detect more babies in the lowest 3% and transform clinical care.

If confirmed, the CPUR could be used in the clinic to enable doctors and midwives to identify small babies, allowing them to plan monitoring and well-timed delivery to prevent stillbirth.

The research team plans to measure the CPUR in 1,050 more women, at or after 34 weeks of pregnancy, who present to the Mercy Fetal Monitoring Unit, and who are at increased risk of having a small baby.

This includes women presenting with reduced movements, those with a small uterine height measurement, and those whose pregnancies have gone overdue. The team will measure the CPUR among these three groups, and then see how big their babies are once born, to investigate if the CPUR does indeed detect the smallest, most at-risk, babies.

Topic

Placental mitochondria as a therapeutic target in pregnancy complications

As the bridge between mother and baby, the placenta provides oxygen, nutrients, and hormones essential for the baby's growth and development.

Both the formation of the placenta and its ongoing role supporting the developing baby requires energy; energy which is primarily provided by mitochondria (the energy powerhouses of cells).

Emerging data suggests maternal obesity, or pregnancy complications including pre-eclampsia (high blood pressure) or fetal growth restriction (FGR), alter the shape and number of mitochondria within the placenta and their ability to provide energy to support normal fetal development.

The purpose of this study is to better understand how mitochondria within the placenta are impaired in response to pregnancy complications or poor environmental conditions, and the extent to which these changes are related to the growth and health of babies at birth. An improved understanding of placental mitochondria is critical as we work towards better predictive and/or diagnostic tests for at-risk pregnancies, and to assist with the development of new treatments.

We will collect blood samples during the last trimester of pregnancy, and the placenta at birth, from women who are obese or who have experienced pregnancy complications, such as pre-eclampsia or FGR, and from uncomplicated pregnancies.

We will then compare mitochondrial function in placenta samples between these groups, in addition to measuring the expression and abundance of key genes, proteins, lipids, and metabolites that regulate mitochondrial structure and function. Data on mitochondrial function will also be linked with findings from ultrasound scans performed earlier in pregnancy, and the baby's body weight and body composition at birth to understand their impact on the baby's growth.

Combined, these methodologies are expected to identify signatures of poor placental or mitochondrial function. This is a critical proof of principle study to demonstrate that placental mitochondrial dysfunction is common in a range of pregnancy disorders and has important implications for maternal and fetal/neonatal health.

Knowledge gained from this work lays the foundation for the identification of key biomarkers associated with poor mitochondrial function in pregnancies that may better identify pregnancies 'at risk', or new treatments to minimise the risk of complications to developing babies.

Institution

The Ritchie Centre

Amount funded

$52,000

Researchers

Dr Emily Camm
Dr Kirsten Palmer
Dr Carole-Anne Whigham
Professor Suzie Miller

Topic

Shift work and changes to breast milk composition

Institution

La Trobe University

Amount funded

$50,000

Researchers

Dr Lauren Booker
Professor Timothy Skinner
Dr Jo Spong
Ms Melissa Deacon-Crouch
Dr Danielle Wilson

Research has shown that human breastmilk provides more than nutritional benefits to a baby.

It has been shown that breastmilk contains melatonin and cortisol, hormones associated with regulating the sleep-wake cycle.

Melatonin, which promotes sleep onset, can barely be detected in daytime milk but rises in the evening and peaks around 3am. Cortisol promotes alertness and can be more than double the concentration in morning breast milk compared to evening breast milk.

It is thought that these hormones may help provide sleep timing information to infants, thereby supporting/enabling the development of their own circadian cycle.

A person's circadian rhythm regulates a range of bodily functions, not just sleep, including feeding patterns, core body temperature, hormone production, regulation of glucose and insulin levels, cell regeneration, and many other biological activities.

It is theorised that giving infants mis-timed breastmilk could disrupt the development of their circadian rhythm. Mis-timed breastmilk can occur for a few different reasons: (1). When a mother expresses/pumps breastmilk at a certain time, then feds the infant this milk at a different time, or (2) from disturbances of the maternal circadian rhythm such as from shift work.

Mothers who express/pump milk tend to do so via a breast pump and then freeze or refrigerate it for later use. Infants are then given breast milk that has been expressed previously that day or night.

This can result in infants receiving breastmilk that contains hormones promoting either sleep or alertness, potentially impacting their circadian rhythm development.

In addition, mothers who undertake shift work are working during times that conflict with their sleep/wake cycles. Due to the disruption between a mother's natural circadian timing and their shift work schedules, it is feasible that mothers working shift work and breastfeeding might also have a change in the timing of melatonin and cortisol in their breastmilk.

The consequences of mis-timed breastmilk and the impact of an infant circadian development could potentially be substantial. Previous adult research found there could be significant physical and mental health consequences, including an increased risk of diabetes, hypertension, high cholesterol, cardiovascular disease, and obesity. These could potentially impact on infants as well.

Therefore, it is important to explore the issue of mis-timed breastmilk. The objective of this project is to investigate the impact of disturbances of maternal circadian rhythm on breastmilk by exploring whether breastmilk composition changes when mothers undertake shift work.

Topic

New horizons in the treatment of pre-eclampsia: Biologics to inhibit TNF-Alpha

Pre-eclampsia is a condition that causes significant illness to both mothers and their babies.

In pre-eclamptic pregnancies the placenta is in a state of stress caused by poor oxygenation, which results in the release of pro-inflammatory and toxic damaging factors into the maternal circulation.

These toxins spread throughout the body causing major damage to a mother's blood vessels and her major organs, especially the cardiovascular system. Currently no effective treatment exists, apart from the removal of the placenta. As a consequence, the baby is born prematurely to save the mother.

A therapeutic approach is urgently needed. In this project, the research team is aiming to demonstrate that neutralising the toxic factors in the mother's blood stream offers a very promising therapeutic approach.

Using an innovative biologic drug approach the team is testing two new drugs – etanercept and certolizumab – traditionally used to treat rheumatoid arthritis and inflammatory bowel disease.

They work by directly neutralising the toxic inflammatory factors tumour necrosis factor-alpha (TNF-a) and have been shown to effectively reduce the injury to tissue and in preventing tissue stress.

The research team is examining the benefit of these drugs in the pre-eclamptic placenta and maternal blood vessels. The team aims to demonstrate whether they can decrease injury to the placenta and maternal blood vessels, which would reduce a mother's clinical symptoms allowing the pregnancy to continue to a safer time to deliver.

If successful and advanced for use in the clinic, it would be a breakthrough in the management of pre-eclampsia, dramatically improving outcomes for both the mother and baby.

Institution

Mercy Hospital for Women

Amount funded

$59,948

Researchers

Associate Professor Natalie Hannan
Professor Sue Walker
Dr Alina Roman

Innovation Grant

In 2020 the Foundation provided a grant totalling $55,579 to Dr Anthea Lindquist of Mercy Hospital of Women for a project on pregnancy and childhood outcomes associated with unregulated, adjunct medication use in IVF pregnancy.

The grant was awarded an NHMRC Ideas Grant for more than $500,000 over three years to fully execute the planned project and employ the required research assistant, data manager and biostatistician support.

"The early/seed funding awarded by the Norman Beischer Medical Research Foundation was hugely helpful in allowing me to establish a research program early in my career and start the process of applying for larger grants to cover my salary as well. I remain very grateful for this early funding," Dr Lindquist says.

Institution

Walter and Eliza Hall Institute of Medical Research

Amount funded

$60,000

Researchers

Dr Samir Taoudi

Topic

Identifying how platelets prevent stroke in neonates

Dr Samir Taoudi's laboratory at the Walter and Eliza Hall Institute of Medical Research aims to improve the health and wellbeing of neonates by investigating how intra-cerebral haemorrhage (which causes stroke) can be prevented.

Dr Taoudi's research team aims to achieve this by understanding how platelets protect the newborn brain from significant bleeding events.

Platelets are small cells that prevent innocuous bleeds from becoming significant adverse events that can lead to neurological disease or death. Although we understand that platelets are required to form blood clots to stem bleeds when they occur, it is not clear if platelets are required to prevent stroke.

The specific goal of this research has been to understand if platelets are required to protect the blood vessels in the brain during development in the womb and during early neonatal life. This is a "hot button" topic in medical research because 1/1,000-5,000 newborns in the general community suffer from low platelet counts. Most concerning is that 30% of babies admitted to neonatal intensive care units also suffer from low platelet counts.

Dr Taoudi's research team recently discovered that platelets are required in the womb and in the neonate to prevent bleeding in the brain. The team also discovered that the location of brain bleed is dependent on the timing during development when platelet loss occurs.

Importantly, its studies demonstrated that fetal/neonatal stroke occurred within regions of the brain which, in humans, could lead to neurological damage.

Understanding why platelet loss causes such devastating bleeding in the brain is critical. Although it is self-evident that once bleeding is initiated the inability to produce blood clots would result in continued bleeding, it is completely unexpected that the loss of platelets alone would cause bleeding in the brain.

Building on its breakthrough discoveries, Dr Taoudi's team now aims to understand the underlying mechanisms that cause neonatal stroke in babies that lack platelets. By understanding this it can begin to develop strategies to treat or prevent neonatal stroke.

Topic

Guaranteeing the health of mothers and babies at risk of haemolytic disease of the newborn

Antibodies are naturally occurring molecules produced by the B-lymphocytes in our immune system to help protect against infection and disease. Rhesus D (RhD) is a type of blood group which is found on human red blood cells. Approximately 85% of people are RhD positive (RhD+) and 15% are RhD negative (RhD-). When an RhD- mother is carrying an RhD+ infant, fetal red blood cells (RBCs) enter the maternal circulation, sensitising the mother and provoking an antibody response to the RhD molecule. This 'anti-D response' increases with each pregnancy and can cause destruction of the baby's red blood cells, known as hemolytic disease of the newborn (HDN). HDN can lead to miscarriage or stillbirth. HDN has been a major cause of infant mortality throughout history, and it is still so in many parts of the world.

In the 1960s, Australian doctor Dr John Gorman suggested that anti-RhD serum (i.e. serum containing anti-RhD antibodies) might be given to RhD- women in order to rapidly remove the small population of RhD+ blood cells that enter the maternal circulation, and thereby avoid sensitisation of the mother's immune system. This proved to be remarkably successful and since then the standard of care clinically has been to treat RhD- women preventatively (at 28 and 34 weeks of pregnancy) with anti-RhD serum. As a result, HND is now rare in developed countries and Dr Gorman and his colleagues were awarded the Lasker prize in 1980 for this major clinical breakthrough in obstetric medicine.

Anti-RhD plasma is derived from a small pool of altruistic blood donors who have been screened for the presence of anti-RhD antibodies by the Red Cross Blood Bank. These donors are then periodically boosted with RhD+ RBCs to boost the immune system and maintain high levels of anti-D antibodies. In Australia, some donors (often referred to as 'super producers') have donated blood over 1,000 times for this purpose, but in many parts of the world, no such service exists.

In collaboration with Red Cross and their donors in the Australian anti-RhD program, Walter and Eliza Hall Institute of Medical Research will explore the B cells and antibody repertoire of 'super producers', with the ultimate aim of developing a standardised therapeutic antibody for use globally.

Institution

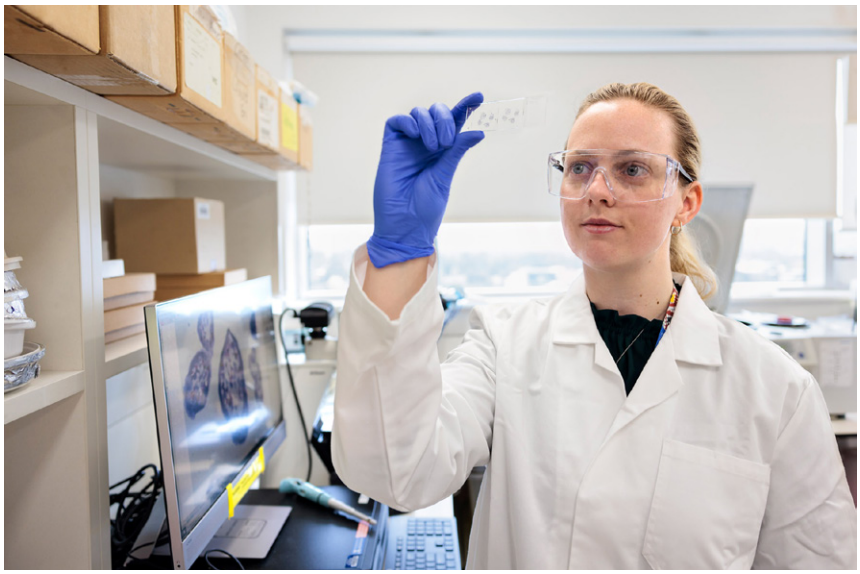
Walter and Eliza Hall Institute of Medical Research

Amount funded

$60,000

Researchers

Professor Ian Wicks
Dr Behnaz Heydarchi
Professor David Irving



Our Board

Mr John C Fast

BEc (Hons), LLB (Hons), F FIN, MAICD

Non – Executive Chair

John has been a Non-Executive Director since 1984 and is an economist and lawyer.

He is the Chair and Chief Executive Officer of Seawick Pty Ltd and until the end of 2022 was the Founding Chair of the National Indigenous Education Foundation.

Previously, John was a senior executive at BHP Billiton (BHPB). In this role John had central involvement in the development and implementation of the strategy resulting in the reconstruction and repositioning of BHPB as one of the world's leading resources companies, including major transactions that gave effect to that strategy. He was BHPB's Chief Legal Counsel and Head of External Affairs (with overall group responsibility for BHPB's worldwide political and country risk), a member of its most senior management committee and its Investment Review Committee.

Before BHPB, he was the Senior Commercial Partner specialising in mergers and acquisitions at a law firm.

John is a former member of the Australian Government's Takeovers Panel and consults to private and public companies on governance, succession, and strategy.

He is an Executive Director of ESL Support Pty Ltd, BT Assurance Systems (Aust) Pty Ltd, Learning Base Pty Ltd and The Development Studio Pty Ltd.

John was a Non-Executive Director of The Australian Brandenburg Orchestra, Investa Funds Management Limited and the Gandel Group Pty Ltd, and the former Chair of the Advisory Board of the Rotary Aboriginal and Torres Strait Islanders Tertiary Scholarship.

Associate Professor David Allen

MBChB, MMed(O&G), FCOG(SA), FRANZCOG, CGO, PHD

Non-Executive Director

David has been a Non-Executive Director since 2017 and Chair of the Research Committee. Prior to this he was company Secretary and a member of the Research Committee.

David has worked as a Gynaecological Oncologist at the Mercy Hospital for Women and the Peter MacCallum Cancer Centre since 1994. He was appointed Associate Professor, Department of Surgery, University of Melbourne in 2004, as well as Clinical Associate Professor in the Department of Obstetrics and Gynaecology, University of Melbourne in 2013.

David also worked as the Chief Medical Officer at Mercy Health from 2007 to 2020 and was previously the Director Medico Legal at Mercy. He remains a member of the Quality and Safety Monitoring Committee for the National Cervical Screening Program in Australia (Department of Health and Ageing), a member (and Past President) of the Australian Society for Colposcopy and Cervical Pathology and has been on the Board of the International Federation for Cervical Pathology and Colposcopy. David is also on the Board of the Australian Society for Gynaecological Oncologists.

Previously he was Chair of the Governance Committee of the North-East Metropolitan Integrated Cancer Service (2005-2010), and Chair of the VCOG Executive Committee, Centre for Clinical Research in Cancer at the Cancer Council of Victoria (2007-2009).

David is a member of journal editorial boards and a peer reviewer for a number of international journals. He is also an examiner for certification in Gynaecological Oncology (CGO) at the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG).

Dr Andrew D Beischer*

MBBS, MD, FRACS, FAOrthA, Dip. Anat,. Dip. Bus. (Governance), GAICD

Non-Executive Director

Andrew was appointed as a Director in 1999. He is an Orthopaedic Surgeon and was the founder of the Victorian Orthopaedic Foot and Ankle Clinic based at the Epworth Hospital.

He has been responsible for the training of Victorian and Tasmanian orthopaedic registrars and fellows in the area of foot and ankle surgery for nearly 20 years.

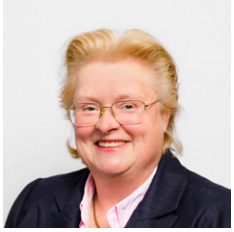
Andrew is actively involved in numerous research projects in the treatment of foot and ankle conditions and the use of information technologies to improve healthcare delivery. He has published his research findings in international journals and is an international reviewer for the Foot and Ankle International Journal.

Andrew is a former board member of the Australian Orthopaedic Association (AOA), past Chair of its Asia-Pacific Committee, and remains the Chair of its Patient Education Committee. He has also been a member of the AOA National Joint Replacement Registry since 2007.

In partnership with the Epworth Hospital and the AOA, Andrew established the Victorian Orthopaedic Observership Program in 2015. This program has sponsored more than 50 orthopaedic surgeons and nurses from Ho Chi Minh City in Vietnam to stay in Melbourne to update their clinical skills. In partnership with Orthopaedic Outreach, Andrew has led 12 surgical teams to teach the principles of contemporary orthopaedic surgery in Ho Chi Minh City.

In addition to his surgical schedule, Andrew serves on several other professional orthopaedic, research and hospital governance committees as an active contributor and policymaker.

** Andrew retired as a Director in November 2022.*



Ms Anne E Beischer

B.Bus, CPA, GAICD

Non-Executive Director

Anne has been a Director since 2017 and is a member of the Finance and Research Subcommittees.

Anne is an accountant working with family businesses and had previously worked for the Foundation as the Finance Manager from 2002 to 2014. She worked closely with the founder, Dr Norman Beischer, in managing the corpus and operations of the Foundation.

Anne took on the Chief Executive Officer role after Norman's death, stepping down from that position in February 2017. Anne's prior experience includes being a Senior Manager at Pricewaterhouse Coopers in internal audit and business advisory services, and a Corporate Auditor at Dun & Bradstreet Corporation.

Mrs Sandra Fairchild

BCom (Hons), CA, MAICD

Non-Executive Director

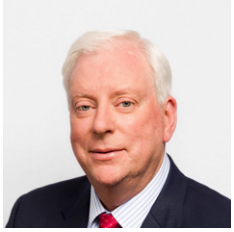
Sandra has been a Director since 2013. She is an accountant and an experienced commercial business builder. Sandra is Chief Executive Officer of Yang Kee Group Australia, a wholly owned subsidiary of the Singapore-based logistics company, Yang Kee Logistics Pte Ltd.

As CEO of Yang Kee Australia and New Zealand, she has operational and commercial oversight of the Australian operations of the Axima Pty Ltd group and the previously New Zealand Stock Exchange-listed Fliway Group. The company's trans-Tasman integrated logistics service provision comprises a footprint of 18 sites, seven warehouses and annual revenue of over $180 million.

Prior to joining Yang Kee, Sandra was CEO of Axima Pty Ltd. She championed and successfully implemented a mergers & acquisitions agenda that saw the business grow from a boutique local freight forwarder and customs agency to an international freight, transport, and third-party logistics fulfilment business. She steered the company through an aggressive global expansion program, delivering a network of wholly owned offices through China and most recently in the United States.

Sandra was also a Senior Manager at Arthur Andersen. Her experience there included audit services, corporate finance, strategic planning, activity-based costing as well as general operational consulting and business process improvement.

Sandra is a member of the Logistics Association of Australia and the Large Format Retail Association.



Mr Andrew D Brookes

BA MAICD

Executive Director

Andrew has been the Executive Director of the Foundation since 2021 and Chief Executive Officer since February 2018.

He is also a Trustee of Trust for Nature, a Director of GW Vowell Foundation, Holmesglen Foundation, The Melbourne Grammar School Foundation and McNally Family Foundation. He is a former Chair of Relationship Matters Counselling and Mediation Services.

Andrew is a Committee Member of the Royal Melbourne Hospital Foundation, a member of WEHI's Advocacy and Support Board Committee, and a Community Representative on the Australian and New Zealand College of Anaesthetists Research Committee. He is a Council Member of the Australian Youth Orchestra.

Previously Andrew held the positions of Chief Executive, Helen Macpherson Smith Trust, and the Colonial Foundation.

Prior to being in the philanthropic sector, Andrew spent 22 years in financial services at the Colonial Group in a variety of roles.

Committees of the Board

Directors

Mr John Fast (Chair)
Associate Professor David Allen
Dr Andrew Beischer (retired November 2022)
Ms Anne Beischer
Mrs Sandra Fairchild
Mr Andrew Brookes

Finance Risk and Audit Committee

Ms Anne Beischer (Chair)
Dr Andrew Beischer (retired November 2022)
Mrs Sandra Fairchild

The Finance, Risk and Audit Committee is a Committee of the Board and is responsible for oversight of, and advice and recommendations to the Board of Directors on financial management (including asset management), risk management (including compliance management), and external audit. The Committee is scheduled to meet twice in a financial year and as necessary.

Investment Subcommittee

Mr Will Baylis (Chair)
Ms Anne Beischer
Mrs Sandra Fairchild
Mr Hugh Murry

Investment Advisor: **Drew, Walk and Co.**

Investment Manager: **Willis Towers Watson**

The Investment Subcommittee is a Committee of the Board and is responsible for the oversight of the portfolio, directly held assets and equities and the management of external investment managers. The Committee makes recommendations to the Board which retains the ultimate responsibility for investment management. The Committee meets four times in a financial year.

Research Committee

Associate Professor David Allen (Chair)
Associate Professor Megan Di Quinzio
Professor Jock Findlay AO
Associate Professor Harry Georgiou
Dr Peter Grant OAM
Professor Gab Kovacs AM
Associate Professor Martha Lappas
Dr John Negri
Dr Peter Wein
Dr Bernadette White

The Research Committee is a committee of the Board and is responsible for reviewing grant applications submitted. The Committee makes recommendations to the Board of Directors for projects to be funded. The Committee meets twice in a financial year and as necessary.

Fellowship Panel

Emeritus Professor Richard Larkins AC (Chair)
Associate Professor David Allen
Mr John Fast
Professor Jock Findlay AO
Professor Gab Kovacs AM
Dr Bernadette White

The Fellowship Panel is responsible for reviewing Fellowship applications submitted and interviewing candidates. The Committee makes recommendations to the Board of Directors for the Fellowship to be awarded. The Committee meets once in a financial year.

Nomination and Remuneration Committee

Mr John Fast (Chair)
Dr Andrew Beischer (retired November 2022)
Mrs Sandra Fairchild

The purpose of the Nomination and Remuneration Committee is to assist the Board and its Committees in ensuring that they retain an appropriate structure, size, and balance of skills to support the strategic objectives and values of the Foundation. The Committee assists the Board by considering and recommending appointments to Committees of the Board (including itself) and admission to membership of the Foundation. The Committee also assists the Board by reviewing and making recommendations in respect of the remuneration policies and employment framework for staff. The Committee meets as necessary.

Financial Information 2022

COMPREHENSIVE INCOME

For the Year ended 30 June 2022

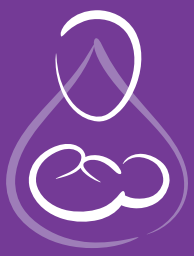
	30 Jun 2022	30 Jun 2021
INCOME		
Revenue	1,699,626	4,360,061
Other Income	3,851	22,814
LESS EXPENSES INCURRED		
Contracted Staff	200,273	214,173
Research Grants	1,265,402	882,566
Right-of-use Depreciation	25,014	25,702
Lease Interest	639	954
Other Expenses	110,688	73,031
TOTAL EXPENSES INCURRED	1,602,016	1,196,426
PROFIT FOR THE YEAR	101,461	3,186,449
OTHER COMPREHENSIVE INCOME (NET OF INCOME TAX)		
Movements for financial assets	(4,976,090)	3,017,301
Realised gain/(loss) on sale of investments	0	1,075,955
TOTAL OTHER COMPREHENSIVE INCOME (NET OF TAX)	(4,976,090)	4,093,256
COMPREHENSIVE INCOME FOR THE YEAR	(4,874,629)	7,279,705

NORMAN BEISCHER MEDICAL RESEARCH FOUNDATION IS A COMPANY LIMITED BY GUARANTEE AND IS REGULATED BY THE AUSTRALIAN CHARITIES AND NOT-FOR-PROFITS COMMISSION.

FINANCIAL POSITION

As at 30 June 2022

	30 Jun 2022	30 Jun 2021
CURRENT ASSETS		
Cash and Cash Equivalents	446,479	1,108,149
Trade and Other Receivables	1,665,592	3,612,123
TOTAL CURRENT ASSETS	2,112,071	4,720,272
NON-CURRENT ASSETS		
Security Deposit	2,789	2,789
Right-of-use Assets	39,392	17,136
Financial Assets	61,226,912	63,492,881
TOTAL NON-CURRENT ASSETS	61,269,093	63,512,806
TOTAL ASSETS	63,381,164	68,233,078
CURRENT LIABILITIES		
Trade and Other Payables	11,583	18,608
Lease Liabilities	23,513	18,916
Provision for annual leave	35,349	30,984
TOTAL CURRENT LIABILITIES	70,445	68,508
NON-CURRENT LIABILITIES		
Lease Liabilities	16,789	0
Provision for long service leave	7,664	3,675
TOTAL NON-CURRENT LIABILITIES	24,453	3,675
TOTAL LIABILITIES	94,898	72,183
NET ASSETS	63,286,266	68,160,895
Reserves	8,023,220	12,999,310
Retained Profits	55,263,046	55,161,585
TOTAL EQUITY	63,286,266	68,160,895



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