

2014

ANNUAL REPORT



Heart
Research
Australia

Life is the **heart** of everything we do.

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ABOUT US

Heart Research Australia is dedicated to funding first-stage, innovative research into the prevention, diagnosis and treatment of heart disease.

Depending entirely on the financial support of the community, individuals, trusts and foundations, and corporate organisations, we raise funds through fundraising campaigns such as *REDFEB* and *I Love Life*. These promote a positive approach to asking Australians to join our fight against heart disease and reduce the devastating impact it has on families and communities.

Heart Research Australia's funding enables researchers to test novel ideas often derived from their experience as cardiologists, thereby contributing to pioneering advances in the management of heart disease. By funding a wide range of heart research projects, Heart Research Australia is playing a crucial role in the fight against heart disease and protecting future generations from this disease.

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Heart disease is Australia's leading single cause of death



MESSAGE FROM THE CHAIRMAN

As we bid farewell to another year of funding innovative first-stage research into the prevention, diagnosis and treatment of heart disease, it is a good opportunity to reflect on the successes and challenges Heart Research Australia experienced in 2014.

This past year has been one of achieving greater clarity about the 'heart' of our business. A new computer database system used for the first time for the 2013 Christmas Appeal highlighted the fact that, of the 30,000 supporters we have accumulated since the Foundation's inception, only 8% were still actively supporting our cause. This new system presented us with the opportunity to convert data into knowledge, emphasising the need to acquire new donors while at the same time expanding our reach into other states. We therefore commenced an ambitious acquisition campaign through our raffles program, resulting in an increase of over 8,700 new donors not only from NSW, but across Australia.

Even though it was a challenging year financially, the Foundation still invested \$2.3 million into heart research, and we will continue to focus on our mission to reduce the devastating impact heart disease has on families and communities through the funding of innovative heart research.

This Annual Report reflects how your support, commitment and passion enabled our charity to continue investing in ground-breaking research, launch a new fundraising signature campaign, drive community awareness, and establish mutually beneficial corporate partnerships.

I would like to acknowledge the remarkable vision and leadership of our CEO Floyd Larsen, who in her nearly three years in this role has not only re-branded and nationalised the Foundation, but has also made significant strides towards securing our future sustainable growth and predictable revenue. Floyd and her dedicated team are testament to the passion that

“
Your support,
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”

drives Heart Research Australia to continue funding life-saving heart research.

Having been established for 28 years, there comes a time when one must bid farewell to those who have been with us throughout our exciting journey. We extend our deepest gratitude to Directors of the Board who have greatly contributed to the continued growth and success of the Foundation. On behalf of the Foundation we would like to thank them for their dedication and the enormous contribution they have made over the past years. I would especially like to thank those who retired from the Board during the year: Gregory Brown, Dr Peter Caspari, Dr Cedric Deal, Peter Gunning, Anna McPhee, Sue Shilbury, Dr Jonny Taitz and Dr Colin Sutton.

The future of our health lies heavily on the shoulders of medical researchers, who all have one common goal – to reduce the incidence and devastating impact current diseases have on our society as well as securing the future generation from being impacted. Heart Research Australia appreciates the wonderful work our researchers do and is very proud to contribute to their innovative research into heart disease.

At Heart Research Australia, we are passionate about investing in research that will protect future generations of Australians from heart disease. We would like to thank you for supporting and sharing our passion. Being 100% community funded, we could not invest in the future heart health of Australians without your vital support.

Thank you for keeping hearts beating. Together we are making a difference.

Tony Crawford

Mr Tony Crawford
Chairman

“

*We thank you
for joining our
journey in the
fight against
heart disease*

”



MESSAGE FROM THE CEO

Getting to the heart of 2014

It is my great pleasure to present Heart Research Australia's 2014 Annual Report.

February 2014 saw the second year of our industry initiative, Heart Research Month during which we also celebrated Valentine's Day as Heart Research Day – the day of hearts. *REDFEB* is Heart Research Australia's signature fundraising campaign during Heart Research Month. This year, we launched a virtual *REDFEB Relay* – promoting the heart healthy benefits of regular exercise and asking our supporters to participate by virtually 'lapping the map' of Australia – a total of 27,650 kilometres.

We had an overwhelming response and exceeded all of our expectations by successfully lapping the map of Australia not once but 2.6 times! We had people from across Australia participating by exercising in their chosen activity, completing 71,360 kilometres and raising nearly \$80,000 towards life-saving research, with the added bonus of improving their own heart health. These *REDFEB Relay* results showed proof of concept and provided much needed donations.

During this past year we commenced a successful partnership with Procter & Gamble's cholesterol lowering product Metamucil, with a joint campaign aimed at reconnecting Australians with the 'beat of their hearts' and promoting the importance of maintaining low cholesterol levels. The social media campaign reached millions of Australians with over 29 million 'views'. The campaign included a strong heart health message and stressed the importance of investing in heart research to protect future generations.

An important contributor to any successful organisation is operational excellence and to ensure the Foundation can achieve this, we invested in a new state-of-the-art computer system. This will enable us to serve our loyal donors better. This new system has helped us convert legacy data into knowledge, highlighting that the number of traditional supporters has been diminishing. This has put focus on the importance of acquiring new donors to ensure we not only maintain our level of research investment and support, but that we are well placed to increase the support for our talented researchers.

Heart Research Australia relies heavily on the generosity and support of the community, which often involves collecting personal information through various channels. We greatly value and respect this information and accordingly, along with Australian Privacy Policy Law updates in March, we enhanced our processes under the new guidelines to ensure that all the information you provide remains confidential and protected at all times. For further information please refer to our website.

I would like to acknowledge our Chairman, Mr Tony Crawford, who has greatly contributed to cementing the Foundation's future success and has been an invaluable source of wisdom and guidance towards achieving our goals.

We thank you for joining our journey in this important fight against heart disease and protecting our future generations.

Mrs Floyd Larsen

Chief Executive Officer

**Heart
disease
kills
one
Australian
every
24 minutes**

WE ♥ FUNDRAISING

Heart Research Australia is 100% community funded, and solely reliant on the goodwill and generosity from the Australian private and corporate sectors for support of our vital fundraising campaigns to continue funding first-stage heart research.

This past financial year we proudly invested \$2.3 million into research to prevent, diagnose and treat heart disease, giving our talented researchers the means to continue their life-saving work.

This was the second year of our signature fundraising campaign *REDFEB* in February – Heart Research Month, and together with our community *I Love Life* program, we received an overwhelming level of support and participation from people throughout Australia.

As a result we have some inspirational and heartfelt stories to share with our supporters this year.

REDFEB

February is Heart Research Month, an entire month dedicated to raising awareness about the importance of heart research, and the time of the year in which we focus on our signature fundraising campaign *REDFEB*.

Following on from the success of *REDFEB* in its first year, we launched a virtual *REDFEB Relay*, promoting the heart healthy benefits of physical activity and asking our supporters to virtually lap the map of Australia – a total of 27,650 kilometres.

We had a tremendous response from people across Australia, who converted their healthy exercise activities into virtual kilometres, lapping the map of Australia 2.6 times and raising nearly \$80,000. This was an

incredible achievement in the *REDFEB Relay*'s first year and we would like to thank everyone who was involved.

These results reflect the support we had from community sporting clubs, families and corporate partners such as AMP Bank and Russell Investments. Russell Investments CEO, Pete Gunning says "At the end of the *REDFEB Relay* challenge we raised almost \$13,000 for Heart Research Australia as a group, which included matching funds from Russell Investments for every dollar raised by our staff. We are all very proud of our efforts and look forward to participating again in 2015."

This was also the first time we partnered with national gym chain Anytime Fitness Australia, along with their Media and Partnership company, Anytime Vision, who contributed a generous in-kind amount of digital advertising

throughout their over 370 clubs across Australia. Partnerships such as these are invaluable to securing the success of the campaign.

"Anytime Fitness Australia is a proud partner of Heart Research Australia. Our aim is to support and assist Heart Research Australia in raising awareness of heart disease in Australia and we'll do this by promoting Heart Research Month in February to our 380,000 members."
– Andrew Sneddon, Anytime Vision's General Manager.

Heart Research Australia is passionate about raising awareness of heart disease and research, and through the *REDFEB* campaign during Heart Research Month, we hope Australians will start to identify the colour red with heart disease awareness and support our fundraising initiatives.

Australian Bureau of Statistics, Australian Health Survey 2011/2012.

Heart disease affects 1 in 6 Australians





♥ LIFE

Our community fundraising *I Love Life* program radiates positivity into all Australian communities. No matter how an individual, community or group chooses to fundraise for Heart Research Australia, they are provided with an *I Love Life* fundraising kit to assist them with their fundraising.

Throughout the year we had a number of key events that we took great pride in supporting.

Annual Golf Charity Challenge

Our Annual Golf Charity Challenge saw a number of industry friends and corporate sponsors enjoy a day out on the green to raise funds for Heart Research Australia. Our enthusiastic Board Member and founder of this event, Paul Allison, together with Gary Dawson from Bullant Sports, brings this day to life annually. With Paul and Gary's support, drive and motivation, this Charity Challenge continues to raise much needed funds and awareness for heart research.

Hosted at Long Reef Golf Course, the event raised \$16,000 through registrations, raffles and auctions. Players' generosity on the day is

always overwhelming and leaves everyone signing up to play year after year.

"I have been involved with the Heart Research Australia golf day as a way to build a network of supporters for our Foundation. The golfers are attracted from a variety of backgrounds, and perhaps dominated by my associates from the insurance profession: underwriters, brokers, lawyers, reinsurers and loss adjusters, all getting together to support this worthy cause. Gary Dawson, Matthew Laverty and the Charity Challenge team have been great organisers of the golf day since we started the initiative. Hopefully it will remain on the fundraising calendar for years to come." – Paul Allison

Annual Heart Health Lunch

The Annual Heart Health Lunch is organised and supported by the wonderful ladies from the Red and White Committee. After ten successful years of raising awareness and funds, the committee raised nearly \$30,000 for Heart Research Australia. Under the leadership of Mrs Lori Farrar, the Committee's dedication and results continue to grow year on year.

"The Red and White Committee is a group of proud volunteers who have held the Annual Heart Health Lunch for over a decade. Lynne Ravenhall, Fiona Taylor, Jenny Carr, Lynn Varvel and I proudly support the extraordinary research carried out by the medical team at Heart Research Australia. We appreciate the support of the cardiologists who share their expertise with the guests at the lunch and look forward to continuing this tradition." – Lori Farrar

Annual Red Heart Rugby Day

Heart Research Australia has a long standing relationship with Norths Rugby Club, with their President Mr Tony Crawford, also being Heart Research Australia's Chairman. Norths Rugby hold the annual Red Heart Rugby Day, with players wearing specially designed jerseys featuring Heart Research Australia's logo.

"The success is on both fronts, and our community partnership with Heart Research Australia continues to grow year by year. This year was certainly one of our strongest to date. The annual event always marks a special day for Norths Rugby and the players certainly feel a sense of pride and passion when they run out in the specially designed Heart Research Australia jersey. The partnership is something Norths Rugby certainly values a great deal." – Adam Fulepp, Norths Rugby General Manager.

The Annual Red Heart Rugby Day raised \$9,000 for Heart Research Australia. This relationship demonstrates the importance of heart health within our sporting communities and the value of our local sporting clubs in engaging community support.



WE ♥ OUR COMMUNITY CHAMPIONS

KYLIE HAWKINS

In 2013, Brett Hawkins kissed his wife, Kylie goodbye as he left for work. It was the last time she saw him alive. Brett, an apparently healthy 37 year old, was taken from Kylie and her two young children, Simon and Constance, when he had a heart attack and died while at work.

Kylie is determined to keep Brett's memory alive and to ensure that something positive will come out of her sudden loss. Only months after Brett's passing, Kylie entered the charity run *Bridge to Brisbane* in Queensland to raise money for Heart Research Australia. Raising \$1,600, Kylie and her two young children continue to join Heart Research Australia's fight against heart disease in loving memory of their husband and father, Brett.

DENNIS DEL CASTILLO

At the age of 44, Dennis Del Castillo suffered a heart attack after completing a cycle race. As far as he was concerned, he had never felt healthier or fitter than in the two years prior to his heart attack. He followed a healthy diet, did regular exercise, had regular medical checks, including passing a heart stress test, following which he was given the 'all clear'.

To give meaning and purpose to his new lease of life, Dennis has vowed to raise awareness about heart disease and the importance of supporting life-saving heart research.

Since his heart attack, Dennis has taken part in the 2013 Sydney City2Surf and two months later

went on to tackle his first half marathon, in the Blackmores Half Marathon, Sydney.

Dennis says, "Staying active reminds me that I'm alive. I still run, I still bike, I still swim because it reminds me that I'm alive. I love being alive and I am passionate about supporting Heart Research Australia to prevent heart disease from affecting others."



WE ♥ OUR AMBASSADORS

ALESSANDRO PAVONI

Chef Alessandro Pavoni, owner of hatted restaurant Ormeggio and Ambassador of Heart Research Australia, survived two heart attacks at the young age of 38 and is determined to spread the word that heart research matters.

Alessandro says he owes his life to the Heart Research Australia funded SALAMI Program which led to stents rather than clot-busting drugs being used as the treatment of choice for heart attack patients at Royal North Shore Hospital. The new protocol saw mortality rates for heart attack victims drop from 30% to 8% and is best practice at hospitals around the country.

"After my first heart attack, I kept hearing the doctors using jargon that later I learned were the names of cardiac procedures and methodologies that the Foundation had funded. That was when I first understood that I owed them my life."

We are very proud to have Alessandro as an Ambassador for Heart Research Australia and would like to extend our heartfelt thanks to him and his lovely wife Anna, for their support.

CON DEDES

Owner and Managing Director of Dedes Group, Con Dedes has been in the food business for more than 25 years.

Having had his first open heart surgery at the young age of six and again at 29, Con is all too familiar with the devastating impact heart disease can have on families, which makes him passionate about supporting research to reduce Australia's biggest killer – heart disease.

It is this passion that has driven Con to support Heart Research Australia. "It is with thanks to the research of the Foundation that I am where I am today." – Con Dedes

Con is a highly valued Ambassador for Heart Research Australia and we thank him for his contribution.

CHRIS RUSSELL

Chris is a respected agricultural scientist, successful businessman and was a judge on the long running ABC TV series 'The New Inventors', who touched his own mortality, suffering a major heart attack when he fell into a cold river in 2004. He's been one of Heart Research Australia's most supportive and involved Ambassadors since then!

Chris proclaims, "If it hadn't been for Heart Research Australia's ambulance based, early triage program (ETAMI), I wouldn't be here today. My close call brought it home to me that we should treat every day as a gift...That's why they call it 'the present'."

Chris and his wife Gillian attended a performance of 'Grease' at Her Majesty's Theatre in Melbourne on Heart Research Day – appropriately, also Valentine's Day. At his request, Todd McKenney and the cast dedicated their performance to raising awareness for Heart Research Australia.

Says Chris, "Valentine's Day is a celebration of affairs of the heart – and this Valentine's Day we also saw Todd McKenney supporting heart research during the performance of 'Grease'.

During the final curtain call, Todd told the audience that every 10 minutes someone in Australia has a heart attack and that he has witnessed four such incidents during performances in his theatre career."

Through the wonderful support from Chris, Todd and the Her Majesty's Theatre patrons, the evening raised \$2,300 to support the continuation of Heart Research Australia's research projects.

Every
10
minutes
someone
has a
heart
attack
in Australia

Australian Bureau of Statistics
Australian Health Survey 2011/2012.



“
I wish to thank Heart Research Australia for your amazing gift. News of winning the July raffle was a huge surprise! It took days to comprehend my luck! I never anticipated a win!
 ”

Julian, Bondi NSW

WE ♥ OUR SUPPORTERS

CELEBRATING YOU

Heart Research Australia funds first-stage, exploratory, innovative heart research which does not qualify for government funding. We are entirely reliant on the support and generosity from the private sector to continue funding our talented researchers.

Heart Research Australia's mission is to keep more hearts beating, and you are the lifeblood that keeps us going.

With every dollar donated, every sponsored kilometre travelled and every raffle ticket purchased, you are joining our fight for every heartbeat with life-saving heart research.

WHY DONATE?

Sadly, cardiovascular disease remains the leading cause of death amongst men and women in Australia. Heart attacks claim the lives of almost 10,000 a year. That is on average, 25 each day.*
 *(Australia Bureau of Statistics, Causes of Death 2012).

Your donations empower our researchers – including cardiologists, other medical specialists and scientists – to investigate innovative ideas and, to help develop life-saving treatments which will protect future generations from heart disease and reduce the alarming mortality and morbidity statistics related to cardiovascular disease.

Whatever your motivation, and no matter how big or small your contribution may be, we truly appreciate your support and thank you for sustaining and enhancing our work towards a world less affected by heart disease.

YOUR SUPPORT MAKES THINGS HAPPEN

2014 highlights we could not have accomplished without you

Thanks to you, we were able to fund new life-saving research projects and continue our commitment to existing projects, despite challenges to our revenue growth.

We committed an unprecedented \$2.3m to fund new projects in 2014. This initiative makes a proud statement that we are committed to supporting the best first-stage research possible.

Funded two PhD scholarships to nurture the next generation of researchers. Through our continued support of career progression, we can ensure our successes will continue well into the future by backing the researchers of tomorrow.

Supported nearly 3,000 people on track to recovery. Through our support of the North Shore Cardiovascular Education Centre (NSCEC) in 2014 we assisted 2,800 people who experienced a cardiac event recover faster by increasing their physical fitness, reducing cardiac symptoms, improving health and reducing the risk of future heart problems.

Built on our reputation as an internationally recognised centre of cardiac research excellence by continued funding of two Chairs of Cardiology.



CELEBRATING VISIONARIES

Heart Research Australia is indebted to the many Trusts and Foundations which have been our stalwart allies in the fight against heart disease.

These outstanding philanthropic bodies have provided visionary support to our cardiologists and researchers by funding vital new equipment, research projects and support staff.

HOW YOU CAN SUPPORT US

Here are some ways you can support our innovative research and join the fight against heart disease.

- ♥ **Become a regular donor:** it not only provides us with a reliable income stream but also helps to reduce our costs.
- ♥ **Give a Gift in Celebration:** instead of receiving gifts for your birthday or wedding, ask friends and family to make a donation. It's a gift of heart health to all Australians.
- ♥ **Join our Champions Club:** go in the draw for regular raffle prizes while supporting heart research.
- ♥ **Leave a Gift in your Will:** be part of tomorrow's heart research discoveries so your legacy can live on.

CELEBRATING INSPIRING LEGACIES

We have been very fortunate to be able to expand our research programs and funding capabilities in the last 12 months, thanks to the thoughtful generosity of the many men and women who have entrusted us with gifts, both large and small, in their Wills.

Heart Research Australia wishes to pay special tribute to these inspiring individuals.

- ♥ **Get active to support heart research:** enter a marathon, swim, bike, run or walk and raise sponsorship dollars.
- ♥ Connect your company to our mission: **become a corporate partner**, make us a charity of choice at your workplace or support us with in-kind gifts.
- ♥ **Start community fundraising through / Love Life:** hold a cake sale, run a trivia night or have a *Wear Red Day* and help get the community involved in the fight against heart disease.
- ♥ **Make a donation from your pre-tax dollars** by signing up to a workplace giving scheme and nominating Heart Research Australia as your charity of choice.

- ♥ **Attend Heart Research Australia events** such as the Annual Heart Health Lunch. Purchase tickets with your friends and enjoy a fun day out for a good cause.
- ♥ **Participate in REDFEB during February:** participate in the *REDFEB Relay* and help us lap a virtual map of Australia. It's a great way to get fit and raise money.
- ♥ **Follow us on Facebook, Instagram and Twitter:** share our posts with your friends and help spread the word about the importance of heart research.

To everyone who has supported us in 2014 we offer you our heartfelt thanks for your commitment and generosity.

For more information on how you can join the fight against heart disease, speak to our Fundraising Manager on:

P 02 9436 0056
E enquiries@heartresearch.com.au
W heartresearch.com.au

or mail us at

Heart Research Australia
Reply Paid 543
St Leonards NSW 1590

“

I think I must have been one of your early patients as I had a stent inserted at Christmas 1997 while on holiday. Since that time I played tennis twice a week until I was 89 (I am 92) and now play carpet bowls and table tennis. I am deeply grateful to you and your team.

”

M. Jackson, WA



WE ♥ RESEARCH



A/Prof Ravinay Bhindi



Dr Paul Bonnitcha



Dr Yu Suk Choi



A/Prof Gordon Doig



Prof Gemma Figtree



Prof Stephen Hunyor



A/Prof Martin Kluckow



Dr Chia Chi Liu



A/Prof Christopher Ward



Professor Helge Rasmussen

Heart Research Australia
Chair of Cardiology since 1997.



Professor Geoffrey Tofler

Heart Research Australia
Chair of Preventative Cardiology
since 1998.

CHAIRS OF CARDIOLOGY

Heart Research Australia funds researchers at all stages in their careers, and at the very pinnacle are our Heart Research Australia Chairs of Cardiology.

Through the visionary help of the Lady Proud Foundation, together with the generous support of our donors, Heart Research Australia is proud to fund two academic Chairs of Cardiology Research at the Royal North Shore Hospital.

WHY DO WE INVEST DONOR DOLLARS IN FUNDING CHAIRS?

As Heart Research Australia is a Foundation and accountable to our donors, we take great care in deciding to whom the funds are allocated, ensuring we make the best decisions on behalf of our donors, who have entrusted us with their generous support.

This kind of guaranteed, long term financial commitment, together with equipment and support staff, provides our Chairs with the infrastructure they need to conduct ambitious, collaborative research: the kind of research that is aimed at pushing the frontiers of cardiovascular research, but may take decades of dedicated work to achieve results.

By virtue of their position here at the Royal North Shore Hospital, one of Sydney's foremost teaching hospitals, our Chairs touch hundreds of lives through the courses they teach and the students they mentor – building a mighty base of faculty talent which enriches the hospital and in turn attracts the brightest of the bright.

The co-location of hospital and research facilities also provides clinicians and researchers with an ideal environment for 'bench-to-bedside' research.

“ *Both Professor Rasmussen and I are most appreciative of the support from Heart Research Australia and its donors. This support is key to enable our wide-ranging collaborative research programs to proceed and flourish, for the betterment of all.* ”

Prof Geoffrey Tofler

HEART RESEARCH AUSTRALIA'S RESEARCH PROJECTS

Heart Research Australia funds pioneering first-stage research that aims to identify innovative ways to prevent, diagnose and treat heart disease – Australia's biggest killer. In the past year, Heart Research Australia has funded 37 innovative research initiatives, which also includes one PhD scholarship.

We are also proud to fund the two Heart Research Australia Cardiology Chairs at Royal North Shore Hospital: those of Professor Helge Rasmussen, Chair of Cardiology and

Professor Geoffrey Tofler, Chair of Preventative Cardiology.

Funding the research component of these Chairs creates the means by which their clinical practice is able to be driven by their research ability. This has led to the uptake of grass-roots research from the laboratory into current practice in a number of instances over recent years.

An outstanding example of this is the ground-breaking work by Professor Rasmussen on the action of the sodium pump in

heart failure. This key work has generated a number of new research projects highlighted in the following pages.

These reports from our researchers show the outstanding work being undertaken with the support of Heart Research Australia. We have included a short glossary of cardiology terms at the end of this report for those with the enthusiasm to learn more!

ON-GOING PROJECTS

Can more be better when choosing medications for heart failure?

Project Title:

Beta 3 receptor activation for heart failure therapy

Principal Investigator:

Dr Chia Chi Liu

Co-Investigators:

Prof Helge Rasmussen
Dr Elisha Hamilton
Natasha Fry

Funded since: 2013

Amount: \$49,994 over 1 year

Sodium levels inside heart cells are high in heart failure. The stimulation of the sodium pump in the heart cell membrane is known to reduce sodium levels.

Traditionally beta blocker medications are used to manage this aspect of heart failure. We have been able to report that a group of drugs known as beta 3 adrenergic receptor agonists can be successfully combined with traditional beta blockers to stimulate the membrane sodium pump and yield better outcomes in heart failure treatment in an animal model.

Based on these results one of the beta 3 adrenergic receptor agonists is now being studied in a trial in humans with heart failure in Denmark.

Heart disease kills 55 Australians each day

Australian Bureau of Statistics.
Causes of death 2012 (3303.0). March 2014.

New therapies for preventing blood clotting in older patients

Project Title:

New-generation Anticoagulants

Principal Investigator:

A/Prof Christopher Ward

Co-Investigators:

A/Prof Robert Andrews
Dr Jennifer Curnow
Dr Marie-Christine Morel-Kopp

Funded since: 2012

Amount: \$138,279 over 3 years

Novel, oral anticoagulants (NOACs) have dramatically changed the treatment and prevention of cardiovascular disease as alternatives to long term warfarin therapy.

In this project, we are studying the impact of these new therapies on individual's clotting system, including the blood platelets which are vital in preventing bleeding.

We propose that there are differences between three of these new agents which may guide the choice of therapy in future. In particular, we are focusing on older and frail patients where the risk of bleeding and clotting events is highest. In these patients, warfarin has often

been avoided, and the safety of the new drugs needs to be analysed in real-life populations.

Our novel assays and the quantitative assays of NOAC drug levels that are now available through our pathology service have the potential to guide clinicians in choosing the safest and most effective therapy for each patient with cardiovascular disease.

Can we limit injury following a heart attack by producing resistance to the loss of blood supply?

Project Title:

The role of Egr-1 in the protective effect of ischaemic preconditioning in myocardial ischemia reperfusion injury

Principal Investigator:

A/Prof Ravinay Bhindi

Co-Investigator:

Dr Benjamin Rayner

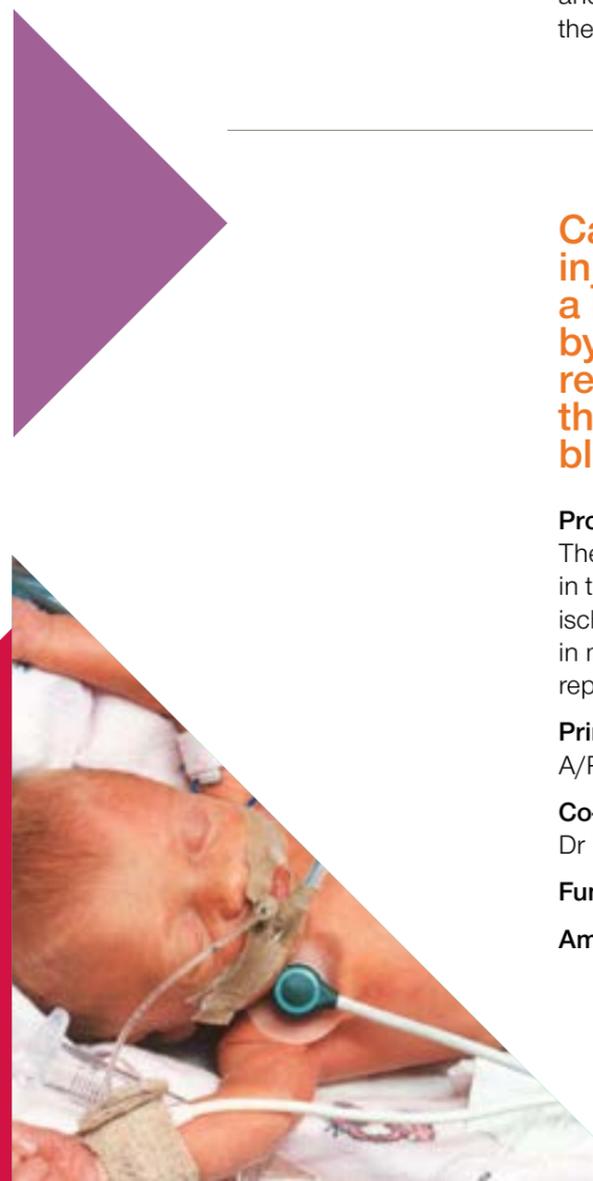
Funded since: 2013

Amount: \$145,800 over 3 years

Once the blood supply is restored after heart attack by opening up the coronary artery, the heart is further damaged by ischemia-reperfusion (I/R) injury.

In this study A/Prof Ravinay Bhindi is looking at the phenomenon of myocardial preconditioning, where repeated short episodes of non-lethal heart attacks are able to protect against subsequent ischemic damage. He is particularly looking at the role of one transcription factor (Egr-1) that acts as a 'master switch' in the injury response in a variety of pathological settings.

The aim of this project is to ascertain the effect on Egr-1 regulation of direct cardiac preconditioning and direct post conditioning.



Can we use anti-oxidants to prevent heart disease?

Project Title:

Inhibition of protein hydroperoxides formation by FXYP proteins

Principal Investigator:

Dr Chia Chi Liu

Co-Investigators:

Prof Gemma Figtree
Prof Helge Rasmussen

Funded since: 2012

Amount: \$60,000 over 2 years

Numerous studies have shown that cardiovascular diseases exert oxidative stress on the heart.

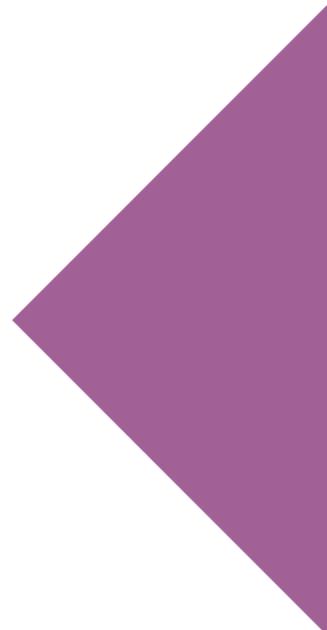
We have recently found that FXYP proteins (abundantly expressed in the heart cells) have antioxidative potential.

In this project, we are examining the ability of FXYP proteins to inhibit the formation of protein hydroperoxides (oxidative damage of proteins) in heart failure.

While traditional 'antioxidants' are not useful in treatment, the significance of this project is highlighted by the potential ability of FXYP proteins to reduce oxidative stress.

This research is likely to lead to a range of clinically relevant

therapeutic benefits in patients with heart diseases, such as the prevention and cure of complications associated with cardiovascular diseases.



Strategies to prevent graft failure following surgery for blocked coronary arteries

Project Title:

New insights on mechanism of vascular smooth muscle cell function and intimal hyperplasia

Principal Investigator:

A/Prof Ravinay Bhindi

Co-Investigators:

Dr Alex Huang

Funded since: 2013

Amount: \$144,900 over 3 years

This project's start has been delayed.

One third of Australians will develop acute kidney injury during their hospital stay for cardiac surgery

Project Title:

Preventing kidney injury after cardiac surgery – A pilot project.

Principal Investigator:

A/Prof Gordon Doig

Co-Investigators:

Prof Carol Pollack
Dr John Bereton
Doug Chesher
Elizabeth Sweetmann
Fiona Simpson
Philippa Heighes

Funded since: 2012

Amount: \$144,168 over 3 years

More than 7,000 Australians undergo cardiac surgery each year with up to one third of these patients developing new onset Acute Kidney Injury during their hospital stay.

The development of Acute Kidney Injury leads to longer recovery times, may require lifelong dialysis, and is associated with increased risk of death.

The purpose of this clinical trial is to determine if a simple and cheap amino acid infusion can reduce the onset of Acute Kidney Injury resulting from cardiac surgery.

So far we have achieved the successful and safe enrolment of 21 patients into this pilot study.

Ridding the heart muscle of excess sodium

Project Title:

Oxidative modification sites of the Na⁺-K⁺ pump

Principal Investigator:

Dr Chia Chi Liu

Co-Investigators:

Prof Gemma Figtree
Prof Helge Rasmussen

Funded since: 2013

Amount: \$100,000 over 2 years

It has been well known for some years that raised sodium levels in heart cells and increased oxidative stress are important factors in heart failure and heart attack.

This project aims to detect and identify the structural changes that the accumulation of oxidative stress molecules make on the sodium pump, the route by which excess sodium is removed from heart muscle cells.

We aim to further current knowledge on the molecules of the pump prone to oxidative stress and to study key details of pump regulation. Results will also have implications for the Grx1, an enzyme which can reverse the oxidative modification of the pump.

Understanding this molecular modification of the sodium pump may provide novel therapeutic solutions useful in heart failure and heart attack.

Does watching yourself star in your own heart attack video help you stop smoking?

Project Title:

Smoking Cessation through Personal Identification (SCUPI 3)

Principal Investigator:

Prof Geoffrey Tofler

Co-Investigators:

A/Prof Roger Bartrop
Robin May

Funded since: 2012

Amount: \$150,000 over 3 years

Smoking remains a major preventable risk factor for cardiovascular disease.

This research proposal builds on 2 observations; firstly, experiencing a heart attack is a teachable moment that enables up to 60% of smokers to abruptly quit once they have experienced a heart attack; and secondly, we have demonstrated in a pilot study that it is feasible to induce smoking cessation through subjects watching a DVD containing images of him/herself, his/her partner and family digitally superimposed into a scenario depicting the person having a heart attack as a result of smoking, and the potential consequences to the partner and family.

In the current proposal, we will compare smoking cessation rates using the personalised DVD with the same video using actors. If this study demonstrates an improved effect of the personalised simulated DVD in smoking cessation, its use would have major health benefits in our society for prevention of heart disease and the other harmful effects of cigarette smoking.

Is heart failure despite the heart's apparently normal pumping possible?

Project Title:

Novel Model for Heart Failure with Preserved Ejection Fraction (HFPEF): Mechanisms with Enhanced Arterial Stiffness

Principal Investigator:

Prof Stephen Hunyor

Co-Investigators:

Prof Alberto Avolio
Dr Hugh Paterson
Dr Mark Butlin
Dr Tharani Sabaretnam
Dr Vikram Puttaswamy

Funded since: 2012

Amount: \$98,102 over 3 years

Heart Failure (HF) is still the major cause of admissions to hospitals and results in major costs, mortality and diminished quality of life.

50% of such patients fall into the category of 'Heart Failure with Preserved Ejection Fraction'. Despite the heart's apparent normal pumping, it is compromised by past damage from heart attack, high blood pressure, stiffening of the large arteries and degenerative changes with ageing.

Due to such strains, the heart muscle loses its resilience and operates like a motor car where only on 2 of its 4 cylinders are operational. In essence, the heart is 'Energetically Inefficient' and

such patients have the same dismal prognosis as those with reduced heart pumping capacity.

This project has established a novel model of large artery stiffness that allows study of its effect on blood pressure, pulse wave transmission in the body, large artery stiffness, impairment of coronary blood flow and the response of the heart.

Early studies have established 'Proof of Principle' that our model closely resembles the human condition. With new sophisticated equipment we expect to complete studies in the next year that should provide insights into mechanisms of this costly heart disease, with possibilities for its treatment and prevention.

Women comprise 49% of all heart attack deaths in Australia

Australian Bureau of Statistics.
Causes of death data. Canberra 2012.

NEW RESEARCH PROJECTS

How oxidative stress reduces the heart's ability to function

Project Title:

ROS-inhibition of the Na⁺ pump and vascular function in vivo

Principal Investigator:

Prof Gemma Figtree

Funded since: 2014

Amount: \$150,000 over 3 years

Abnormal vascular function and tone is a key feature in high blood pressure, hardening of the arteries and diabetes. A common factor driving these conditions is excess formation of free radicals, known as oxidative stress.

This project investigates the mechanisms by which oxidative stress impairs the function of an important cell membrane protein, the sodium pump. It then examines the contribution this oxidative inhibition of the sodium pump makes to the regulation of vascular function and tone in an animal model.

If our hypothesis is proven, this pathway may become a novel

therapeutic target, improving blood pressure and regulation of blood vessel tone in response to cardiovascular disease.

Can we train stem cells to help heal damaged heart muscle?

Project Title:

ECM stiffness driven cardiac induction of stem cells

Principal Investigator:

Dr Yu Suk Choi

Co-Investigators:

Prof Justin Cooper-White
Prof Stephen Hunyor
A/Prof Adam Engler

Funded since: 2014

Amount: \$147,707 over 3 years

After a myocardial infarction, commonly known as a 'heart attack', the area of the heart muscle and surrounding tissue that was damaged becomes stiffer. This stiffened tissue may misguide stem cells into unwanted cells rather than heart cells. If this happens, they may no longer all be able to form effective new heart muscle cells from delivered stem cells.

In this project we will mimic both healthy and stiff heart tissue to study how stem cells and stiffened tissue interact and form new heart muscle cells. With this knowledge, we hope that stem cells will be able to be 'trained' to form the correct heart muscle cells

despite being in the harsh stiff environment following a heart attack.

This may also be useful in understanding other cardiovascular related diseases, hopefully leading to better treatments for our patients.

Using Magnetic Resonance Imaging (MRI) to identify arteries at risk of blockage

Project Title:

Novel hypoxia selective MRI contrast agents

Principal Investigator:

Dr Paul Bonnitcha

Co-Investigators:

Prof Gemma Figtree
A/Prof Stuart Grieve
Dr Elizabeth News

Funded since: 2014

Amount: \$ 126,750 over 3 years

Hardening of the arteries and the formation of fatty plaques lining them are major contributors to strokes, heart attacks and peripheral vascular disease.

Currently we have no way of knowing which plaques are most likely to rupture and cause problems.

Recent findings indicate that plaque instability may be related to low oxygen levels within them, so a key aim of ours is to develop ways to detect these vulnerable plaques.

Over the past 6 months we have been able to develop a number of new agents which show potential for this, and our work over the next year will be based around

fine-tuning these agents and progressing towards testing those most promising in clinical models.

It is important to note that low oxygen levels are also involved in many non-cardiovascular diseases including cancer, rheumatoid arthritis and diabetes, and this research therefore has significant implications in many areas of medicine both inside and outside cardiology.

Combining medications to reduce excess sodium in heart cells (I)

Project Title:

A novel drug combination therapy for heart failure

Principal Investigator:

Dr Chia Chi Liu

Co-Investigators:

Prof Helge Rasmussen
Dr Elisha Hamilton

Funded since: 2014

Amount: \$150,000 over 3 years

Contributors to heart failure include raised oxidative stress within the heart cells, impairment of the way that provides the cell with energy and raised levels of sodium in cells. These three mechanisms interact in a vicious cycle. Raised sodium levels interfere with the provision energy, this increases oxidative stress and increased oxidative stress impairs the transport of sodium out of the cells.

In a previous study on isolated heart muscle cells we were able to report that a group of drugs known as beta 3 adrenergic receptor agonists inhibit the modifications brought on by oxidative stress and its effect on the sodium pump. However, in the human body cells are influenced by a variety of stimuli.

This project will examine if some of these can diminish the expected beneficial effect. Such information is important for fine-tuning the overall treatment regimens.

Combining medications to reduce excess sodium in heart cells (II)

Project Title:

PDE5 inhibitor/beta 3 agonist combination therapy in heart failure

Principal Investigator:

Prof Helge Rasmussen

Co-Investigators:

Dr Chia Chi Liu
Dr Elisha Hamilton

Funded since: 2014

Amount: \$150,000 over 3 years

Sodium levels inside heart muscle cells are high in heart failure and treatments that work to stimulate the pumping out of sodium via the cell membrane sodium pump.

Drugs that stimulate the pump may be useful, and using them in combination may have additional beneficial effects. However, excessive stimulation can paradoxically be harmful because of the potential to activate cell signalling that actually causes pump inhibition and hence increase an already high level of sodium in the cells.

In the first 6 months of this project we reproduced a stimulation of the sodium pump and there was neither an additive stimulatory effect nor a conversion

to an inhibitory effect when heart cells were exposed to two drugs in combination.

Current work is now focused on the molecular changes that occur in the sodium pump molecule with the combined exposure to the drugs. This will independently verify the results of the functional studies briefly described previously.

Enzymes to help remove excess sodium from heart cells

Project Title:

Enzymatic Redox regulation of the Na⁺ pump

Principal Investigator:

Prof Helge Rasmussen

Co-Investigator:

Dr Chia Chi Liu

Funded since: 2014

Amount: \$149,770 over 3 years

The sodium pump moves sodium and potassium ions in opposite directions across a cell's plasma membrane and is critical for the function of all cells. It also functions as a regulator of Reactive Oxygen Species (ROS) which, if not functioning well, leads to oxidative stress.

The pump's activity is regulated by modifications that associate closely with the molecule named 'FX_{YD}'.

In the first 6 months of this project we have shown that directly exposing membrane fragments that have a high concentration of sodium pumps to GST π causes glutathionylation, supporting our hypothesis. This also down-regulated GST π which was unexpected but potentially very important.

Work is in progress to determine its implications.

Can you identify your own stress to lower your risk of heart attack?

Project Title:

The TARP study

Principal Investigator:

Prof Geoffrey Tofler

Co-Investigators:

Prof Andrew Tonkin
A/Prof Christopher Ward
Dr Elizabeth Shaw
Dr Thomas Buckley
Monica Spinaze

Funded since: 2014

Amount: \$146,000 over 3 years

The TARP Study (Triggered Acute Risk Prevention) represents a new approach to reducing risk of heart attack.

The aim of the study is to see whether people with risk factors for heart disease or known heart disease can identify stressful activities of daily life and take standard medication at this time to lower their risk of heart attack and improve their quality of life.

We will compare this approach to 'control subjects' who continue their normal lifestyle. Providing extra protection during these stressful events has not previously been attempted. Eventually this strategy could be a helpful addition to the usual daily medications that people take.

Our findings in our local population confirm that anger can acutely trigger heart attacks. Our study is proceeding well, with 16 subjects successfully enrolled in the study so far.

SPECIAL PROJECTS

The SOLACE-AU Clinical Trial

Project Title:

A study to assess the safety, performance, quality of life and cost effectiveness outcomes of a transcatheter valve replacement in the Australian population

Principal Investigator:

A/Prof Ravinay Bhindi

Funded since: 2013

Amount: \$300,000

The SOLACE study is a national study examining the outcomes of patients at intermediate surgical risk undergoing transcatheter aortic valve replacement.

To date four patients have been enrolled and treated successfully at the Royal North Shore Hospital campus.

Preliminary data presentation of the overall Australian data to date at the latest ANZET meeting showed good outcomes (formal data set unavailable at present) compared with other international registries.

Heart disease kills 29 Australian women each day

Australian Bureau of Statistics. Causes of death 2012 (3303.0). March 2014.

Can Panadol close an open duct in a premature baby's heart?

Project Title:

PDA trial: 'Paracetamol Duct Action'. A Randomised Placebo Control Trial.

Principal Investigator:

A/Prof Martin Kluckow

Co-Investigator: Michele Jeffery

Funded since: 2013

Amount: Funded by The Mill House Foundation

Dr Kluckow and his team use echocardiography to focus on extremely premature babies in this trial.

Very premature babies often have a normal structure in the heart called a 'duct' which should close within hours of birth in a term infant, but in preterm infants this duct commonly stays open.

This patent duct leads to flooding of the lungs with extra blood, contributing to breathing problems and increasing a baby's need for artificial ventilation and sometimes leading to the need to close the duct with an operation.

Current medicinal treatment with Indomethacin or Ibuprofen closes the duct in only 60-70% of cases and may have some concerning side effects.

Until now, surgery has been the only alternative treatment. Using paracetamol to close the duct would be a much simpler way to manage this cardiac problem of premature babies.

The PDA trial has been recently joined by two more hospitals, the Royal Prince Alfred and Canberra. We have currently recruited about one third of the required number of babies to this study.



Can we improve outcomes for premature babies by delaying cord clamping at birth by 60 seconds?

Project Title:

Australian Placental Transfusion Study (APTS). A Randomised Placebo Control Trial with Echocardiography sub-study

Principal Investigator:

A/Prof Martin Kluckow

Co-Investigator: Michele Jeffery

Funded since: 2013

Amount: Funded by The Mill House Foundation

The APTS (Australian Placental Transfusion Study) Echocardiography sub-study is looking at the physiology underlying low systemic blood flow in very preterm babies.

In this randomised, placebo-controlled trial, 50% of the premature babies enrolled receive a placental transfusion at birth. This is achieved by delaying cord clamping at birth by 60 seconds, allowing extra time for placental blood to flow into the baby before the cord is cut. A key part of this trial is measuring cardiovascular function, which relies on the ability to perform serial echocardiography on these infants in the first 24 hours of life, for which the new ultrasound machine donated by the Mill House Foundation was vital.

We completed recruitment of 100 babies in April this year and results are currently being analysed.

North Shore Cardiovascular Education

Project Title:

Salary support for North Shore Cardiovascular Education Centre Manager

The NSCEC provides seamless care to patients from heart event to recovery with the aim of nurturing ongoing self-management strategies.

Cardiac rehabilitation health professionals continue to play a role in shedding light on relevant health issues.

The current area of interest has involved looking at the incidence and risk factors of patients with Atrial Fibrillation and the potential for Cardiac Rehabilitation programs to play a more active role in supporting and educating this patient group.

Another project is 'Postoperative Atrial Fibrillation in Cardiac Surgery', whereby patients will be provided with an AliveCor heart monitor (iECG) to monitor their

heart rate at specific times each day during a four week period.

Our research projects are both exciting to be involved with and promise tangible benefits for both patients and clinicians.

“

Our team was informed of success in both a NHMRC project grant (\$488,816) and a Heart Foundation Vanguard project (\$75,000). Both proposed projects were built off discoveries supported by Heart Research Australia.

The NHMRC project grant will allow us to pursue a new treatment strategy to combat oxidative stress in vascular disease.

The Heart Foundation Vanguard project funding will allow us to apply novel cardiac MRI sequences and analysis programs to help diagnose and risk-stratify patients with pulmonary hypertension.

These two successes are fantastic examples of the importance of funding early phase research, and the leverage capacity of doing this.

Thanks to all of the donors of Heart Research Australia.

”

Prof Gemma Figtree



SALARY SUPPORT

The primary goal for Heart Research Australia is first-stage research, and as well as the support of clinical research, support of a salary for research assistants is also vital. A research assistant or laboratory technician can take care of the routine and administrative aspects of clinical research, freeing the principal investigator to continue the theoretical and academic aspects of research.

Salaries supported by Heart Research Australia this past year were:

Professor Helge Rasmussen, The Heart Research Australia Chair of Cardiology. Professor Rasmussen practices hospital-based general cardiology with a sub-speciality interest in acute myocardial infarction. Salary support enables his research to focus on regulation of the sodium pump in heart muscle cells, in particular regulation by hormones implicated in congestive heart failure.

Professor Geoffrey Tofler, The Heart Research Australia Chair of Preventative Cardiology. Salary support enables Professor Tofler to explore new approaches to prevention of heart disease, while also supporting the development of young investigators.

Dr Elisha Hamilton, Laboratory Manager for Professor Rasmussen. In her role Dr Hamilton has direct responsibilities for carrying out experiments involved in the various projects in the laboratory, as well as supervising experimental work students in the laboratory and guiding them in this work. Dr Hamilton has a major role in preparing safety reports, applications to ethics committees, preparing grant applications and in producing manuscripts for submission to scientific journals.

Dr Mohammad Irhimeh, Translational Research Laboratory Managers in the Cardiac Technology Centre.

At the beginning of FY14 we employed a new Translational Research Scientist in the Cardiac Technology Centre (CTC) – Dr Mohammad Irhimeh. He had substantial experience as a Haematologist with a good track record in clinical and research stem cell biology.

He provided anaesthesia skills and cardiothoracic surgery support, helped revise and upgrade existing Strategic Operating Procedures (SOPs), organised acquisition and set-up of state-of-the art biomedical equipment in the newly established Biomedical Engineering Lab in the CTC – with the generous support of the Millhouse and Heart Research Australia Foundations.

Unfortunately his tenure was cut short in early 2014 because of family health reasons, however the position was re-advertised and filled for commencement in early FY15.

Dr Sally Tandy (temporary), followed by **Dr Owen Tang** (permanent), Managers for Dr Figtree's Research Laboratory.

Dr Owen Tang is a post-doctoral researcher, who now acts in a senior role in our Laboratory. As well as acting as a central coordinator for the Laboratory, assisting PhD students and other medical researchers collaborating with our group, Dr Tang is leading a research project which has identified a new partnership between two important proteins on the membrane of cells lining blood vessels. One of these proteins has been found by Dr Tang and the team to protect the blood vessel from oxidative stress relevant to diabetes, hypertension, and atheromatous vascular disease. We are aiming to use this discovery to develop a novel therapy for vascular disease, reducing consequences such as heart attack and stroke.

Dr Rebecca Kozor, Cardiology Imaging and Research Fellow.

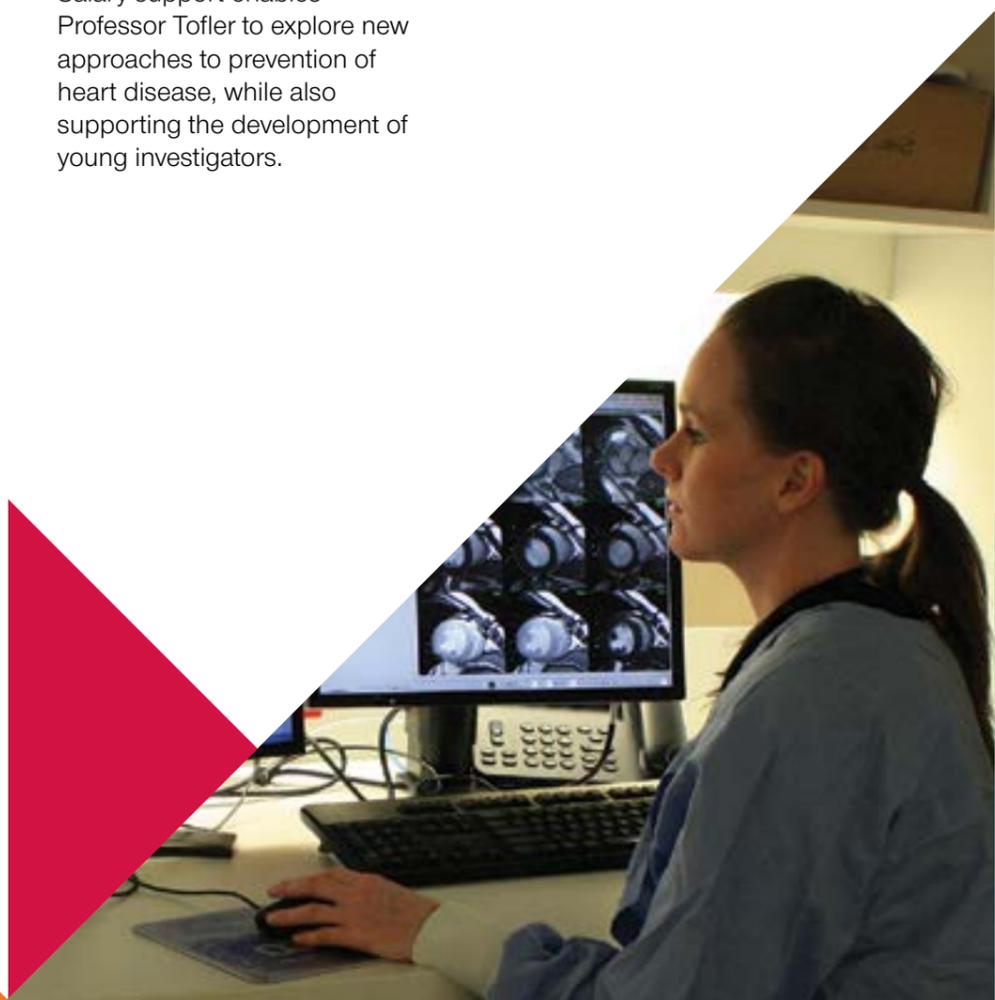
Cardiac MRI in general is a rapidly growing field and is arguably the future of non-invasive Cardiology – offering improved diagnosis, management guidance and better use of resources.

This fellowship contains two main components

- 1) Research, and
- 2) Experience in cardiac MRI service and education, as well as reciprocal collaboration with other centres to upkeep research, technical advance and cardiac MRI skills.

Dr Kozor has studied and published a world-leading study on the impact of social cocaine use on heart muscle function. This study showed that regular cocaine use in otherwise healthy young individuals is associated with increased systolic blood pressure, aortic stiffness and greater cardiac mass – all known risk factors for cardiovascular disease.

Funded by Biotronik Australia Pty Ltd and Medtronic Australasia Pty Ltd.



Dr Michael Ward,
Special Academic Cardiologist.

The following papers have been published:

- ♥ Left bundle branch block without concordant ST changes is rarely associated with acute coronary occlusion.
- ♥ Investigation of estrogen receptor alpha, beta adrenergic receptor and COMT as candidate genes for tako-tsubo cardiomyopathy.
- ♥ Use of optical coherence tomography to guide treatment of an undeployed stent trapped in the right coronary artery to cover a proximal stent outflow dissection. Cockburn J, Wilkes N, Figtree G, Ward M, Bhindi R, Hansen P. In J Cardiol 2013;167:e163-6.
- ♥ Utility of cardiac magnetic resonance in assessing right-sided heart failure in sarcoidosis. Lonborg J, Ward M, Gill A, Grieve SM, Figtree GA. BMC Med Imaging 2013;13:2.

The following projects are ongoing:

- ♥ Modern assessment of the effect of RV branch reperfusion on outcomes in AML.
- ♥ Effect of formal SYNTAX scoring on therapeutic strategies in stable multivessel CAD.
- ♥ Predictive value of first ECG and time to return of spontaneous circulation in predicting outcomes on out-of-hospital cardiac arrest.
- ♥ Effect of dual operators on outcomes in CTO-PCI.

Michele Jeffery,
Research Assistant for Associate Professor Martin Kluckow, supported through a tied gift of the Mill House Foundation.

The aims of the Neonatal research assistant position in 2013/4 have been primarily to provide research support for the Australian Placental Transfusion Study and the Paracetamol Duct Action study. Additionally, support for several other cardiovascular projects and general research support to medical and nursing staff in the Department of Neonatology has been provided, such as for the Low Systemic Blood Flow Study for NICU Fellow Himanshu Popat and the Doppler at Delivery study for NICU Fellow Amanda Dyson.

FUTURE GENERATIONS

Can we limit heart injury following a heart attack by producing resistance to the loss of blood supply?

Project Title:
Cardioprotective effect of remote ischemic preconditioning and the role of Egr-1 as a master switch regulator

Principal Investigator:
Muntasir Billah

Funded since: 2014

Amount: \$90,000 over 3 years

Once the blood supply is restored after heart attack by opening up the coronary artery, the heart is further damaged by ischemia-reperfusion (I/R) injury.

Direct ischemic preconditioning can protect the heart against this injury for a brief period of time, involving cycles of non-lethal occlusion and releasing of the coronary artery.

A new therapeutic technique, known as remote ischemic preconditioning (RIPC) is non-invasive and easy to apply compared to direct ischemic preconditioning.

So far, we have shown that RIPC reduces the damage area caused by a heart attack and prevents cellular death in the heart, however, we still do not know how it does this.

In our current research we are aiming to understand the role of Egr-1 in remote ischemic preconditioning. Once this relationship is well understood, the underlying mechanism may become apparent and better clinical treatment options can be achieved.

Molecular changes to the sodium pump during heart failure

Project Title:
Oxidative Regulation and Function of the Na⁺, K⁺ ATPase and Therapeutic Potential of a Beta3 Adrenergic Receptor Agonist in the Failing Heart

Principal Investigator:
Natasha Fry

Co-Investigator:
Prof Helge Rasmussen

Funded since: 2013

Amount: \$15,000 over 6 months

The North Shore Heart Research Group is internationally recognised for research into regulation of the sodium pump, and how it relates to cardiovascular disease.

Natasha Fry is looking at changes in the function of the sodium pump during heart failure and the therapeutic potential of beta 3 agonists for treatment.

Using a model of heart failure, she has shown a marked decrease in function of the sodium pump, and has shown this to be related to molecular changes caused by oxidative stress.

A potential new drug treatment, a beta 3 agonist, reversed oxidation induced molecular changes, stimulated the sodium pump and reduced clinically relevant indices of heart failure.

These results will improve the way we understand molecular changes during heart failure, and provide supportive evidence for a new drug target for heart failure.

CARDIOLOGY TERMINOLOGY AT A GLANCE

Heart Failure

When the heart is unable to pump enough blood flow to meet the needs of the body.

Cardiovascular Disease

Damage to the heart and blood vessels, primarily caused by hardening of the arteries and high blood pressure. It is the leading cause of deaths worldwide.

Heart Attack

Also known as a Myocardial Infarct, it occurs when a sudden blockage in the heart's own blood supply causes damage and death to the surrounding heart muscle.

Sodium Pump

One thing that all heart failure causes have in common is raised levels of sodium in the heart muscle cells. The sodium pump tries to get rid of this build-up of too much sodium in the cells.

Oxidative Stress

The human body produces large numbers of potentially dangerous and destructive 'free radical' oxygen molecules just by being alive. The build-up is known as oxidative stress and high levels can seriously raise the risk of heart disease.

Stem Cells

Stem cells are basic cells that can change into specialised cells and can divide to produce more stem cells. Their purpose is to maintain and repair the tissue in which they are found.



Heart disease affects 2 out of 3 Australian families

Australian Bureau of Statistics. Causes of death 2012 (3303.0). March 2014.



Heart disease kills 3 x more women than breast cancer

Australian Bureau of Statistics. Causes of death 2012 (3303.0). March 2014.

OUR GOVERNANCE

BOARD OF DIRECTORS

The Board of Directors is the governing body of Heart Research Australia. It includes clinicians, researchers and business leaders.

COMMITTEES OF THE BOARD

There are three Committees to advise on operational and strategic matters. All Directors serve on at least one of these Committees, while additional expertise may be co-opted as required.

FINANCE & AUDIT COMMITTEE

The Finance & Audit Committee monitors significant financial planning, management and reporting matters of Heart Research Australia, reviews and monitors the corporate governance and serves as the Board's audit committee. Members: John Pegg (Chairman), Paul Allison, Tony Crawford, Dr John Gunning and Michael Lawrence.

RESEARCH ADVISORY COMMITTEE

The Research Advisory Committee reviews and makes recommendations on applications for funding of project grants, scholarships and purchase of research equipment. Members are all highly qualified practitioners and researchers whose appointment is subject to approval by the Secretary of the Department of Health and Ageing. Members: Dr John Gunning (Chairman), Professor Stephen Hunyor, Professor Levon M Khachigian, Professor Geoffrey Tofler, Professor Carol Pollock and Dr Michael Ward.

SCIENTIFIC ADVISORY COUNCIL

The Scientific Advisory Council advises the Board on future directions in research and the resources required to support prioritised initiatives. Chaired by Dr Michael Ward; membership consists of senior researchers, cardiologists and others with appropriate qualifications and experience.

OUR CONSTITUTION

Heart Research Australia is a company limited by guarantee and operates under the jurisdiction of the Australian Securities & Investment Commission and Australian Charities & Not-for-profits Commission. We abide by the fundraising legislation of each Australian State and Territory. Heart Research Australia is an Australian Tax Office approved health promotion charity and an endorsed deductible gift recipient.

OUR STANDARDS

Heart Research Australia is an organisational member of the Fundraising Institute of Australia (FIA) and abides by the FIA's Principles and Standards of Fundraising Practice – the fundraisers' guide to ethical, accountable and transparent fundraising.

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Bhindi MBBS (USyd), MSc
(Oxon), PhD (USyd), FRACP,
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Gregory Brown
(resigned March 2014)

(alternate Director, Dominic May
MMGT, JP)

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FACC, FCSANZ, MMedHum
(resigned September 2013)

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(resigned June 2014)

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FCSANZ, FAHA

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BEc, MEc (Hons) ASIA, CFA
(resigned August 2014)

Professor Stephen N Hunyor
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FRACP, FACC, FAHA

Professor Levon M Khachigian
BSc (Hons), PhD DSc (UNSW)
(leave of absence)

Michael Lawrence
BEc, SF Fin

Dominic May
MMGT, JP
(appointed March 2014)

Anna McPhee
BA, MBA, GAICD
(resigned August 2013)

Associate Professor Gregory
Nelson MB, BS, FRACP, FCSANZ

Sue Shilbury
BappSc, MBA
(resigned September 2013)

(alternate Director, Dr Jonny Taitz
MBChB, FCP(SA), FRACP,
AFCHSE)

Dr Colin Sutton
DEng, BSc, PhD, FAICD
(resigned November 2013)

Anthony John Thirlwell OAM
FAICD, FAMI, BSc (Hons), MBA

Dr Michael Ward
MBBS (Hons), FRACP, PhD, DDU,
FCSANZ



OUR TEAM

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Floyd Larsen
HND Comp (UK), Grad Dip Bus
Tech, Grad Dip Mktg,
MAICD and MFIA

PA to Chief Executive Officer

Felecia Tappenden

Operations & Office Manager/ Company Secretary

Lauren Storr
BCom

Office & Database Administrator

Kulali Leslie

Fundraising & Donor Relations Manager

Rosemary Carrick
BA

Funds & Foundations Officer

Maria Garvey
MBA

Research Communications Officer

Michele Jeffrey
RN, BA (Hons) and M Hlth Sc

Communications Manager

Michelle Kearney
Grad Dip PR & Comms

Brand & Communications Officer

Lou Thomas
BA and BApp Des (Comms)

Corporate Business Development Manager

Lana Sturmer
Dip Mktg

Campaigns & Community Fundraising Manager

Carol Hanna
BA (Comms) and Dip Events & PR

Campaigns & Community Fundraising Officer

Hannah Ford
Dip Mktg

Accountants

Steven J Miller & Co

Honorary Solicitors

Holman Webb

Auditors

Ernst and Young

Bank

National Australia Bank Limited

“
*What we do
for ourselves
dies with us.
What we do for
others and the
world remains
and is immortal.*

”

Albert Pine



YOU CAN SAVE FUTURE GENERATIONS

By leaving Heart Research Australia a gift in your Will you greatly contribute to reducing the incidence and fatality of heart disease for your children, your grandchildren and for future generations of Australians.

Since our inception as the North Shore Heart Research Foundation in 1986, many visionary Australians have chosen to support our pioneering research in this way.

Through your Will you can help our researchers transform their ideas into life-saving treatments. You don't need to be wealthy or give a large sum to make a lasting difference to the future heart health of Australians.

To request a copy of our Bequest Booklet or to discuss your intentions in confidence, contact our Fundraising & Donor Relations Manager on 02 9436 0056 or email enquiries@heartresearch.com.au

You can download a copy of our Bequest Booklet by visiting heartresearch.com.au

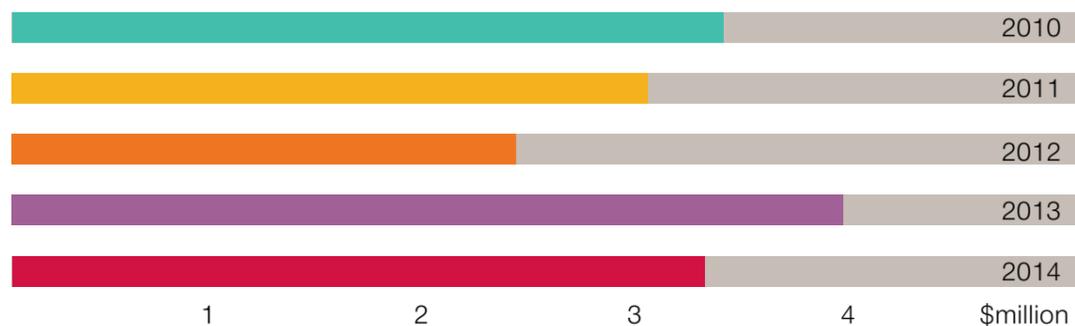


Heart
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Australia

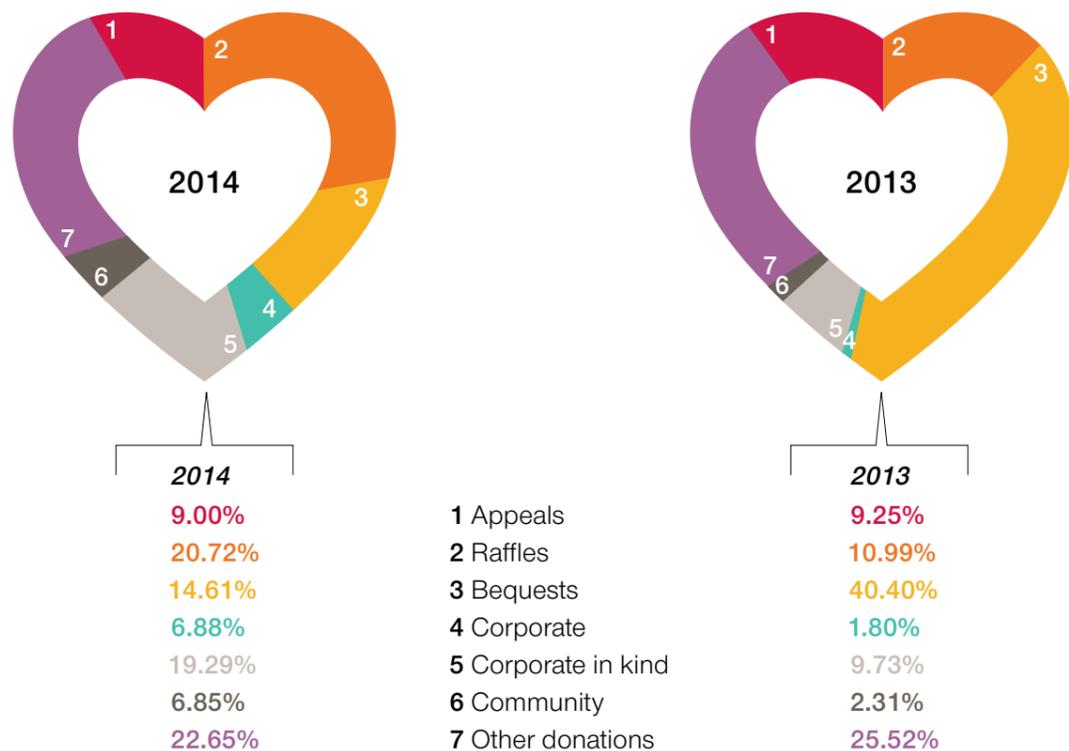


FINANCIALS

Our income over the past five years



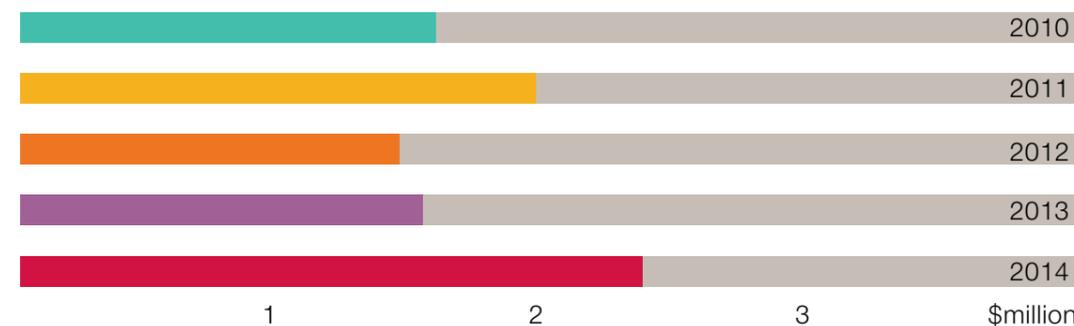
How you've helped us over the past two years



Your generosity has helped us raise \$3.26 million in 2014

INCOME	2014	2013
Fundraising activities	2,981,858	3,575,517
<i>Appeals</i>	268,476	330,809
<i>Raffles</i>	617,907	392,908
<i>Bequests</i>	435,534	1,444,443
<i>Corporate</i>	205,147	64,398
<i>Corporate in kind</i>	575,141	347,771
<i>Community</i>	204,197	82,644
<i>Other donations</i>	675,456	912,544
Non-operative activities	278,847	398,620
Total income	3,260,705	3,974,137

How you've helped fund research over the past five years



Your generosity has helped us commit an unprecedented \$2.3 million to fund research support in 2014

EXPENSES	2014	2013
Employee costs	749,484	754,153
Fundraising	715,847	589,675
Administration	244,128	159,777
Corporate in kind	575,141	347,771
Research support	2,306,028	1,608,836
Total expenses	4,590,628	3,460,212
Net surplus/(deficit)	(1,329,923)	513,925

ASSETS & LIABILITIES	2014	2013
Cash and cash equivalents	835,905	2,187,313
Trade and other receivables	65,292	74,409
Financial investments	1,141,275	996,481
Plant and equipment	29,875	53,315
Intangibles	70,121	103,189
Inventory for distribution	71,938	-
Total assets	2,214,406	3,414,707
Trade and other payables	300,737	166,312
Provisions	30,142	40,945
Total liabilities	330,879	201,257
Net assets	1,883,527	3,213,450

WE ♥ YOU

Heart Research Australia depends entirely on the support of the community. Our heartfelt appreciation goes to the following generous individuals and groups who support our effort to give Australians the precious gift of longer, healthier lives. We gratefully acknowledge their significant contributions (both financial and in-kind) between July 2013 and June 2014.

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