Heart Research Australia

Keeping Families Together For Longer

Annual Report 2019

Heart Research Australia

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Message From Our Chairman

It has been a busy and eventful year for Heart Research Australia helping support our vision of making breakthroughs in heart disease happen. It is with thanks to our donors, staff and volunteers that our researchers are now one step closer to creating medical breakthroughs. The generosity of our donors in supporting Heart Research Australia and our events helps our researchers make those life-saving discoveries to change the face of heart disease for future generations.

The past year has been a busy one. You may have seen us on Channel 10 news featuring the medical breakthrough from Professor Helge Rasmussen discussing his work protecting the hearts of breast cancer patients.

Prof. Rasmussen has found that by taking away the protective layer around breast cancer cells, the effectiveness of the cancer treatment can be magnified nearly tenfold thereby reducing the amount of treatment required. This leads to less damage to the heart caused by the cancer treatment, likely resulting in better outcomes for patients who survive their cancer diagnosis. This treatment also holds promise for pancreatic, prostate and bowel cancers which respond in similar ways. This is an incredible project and we are so thankful to our donors who have enabled us to fund further development of this research that had previously been put on hold due to lack of funding. This work has the potential to benefit many patients. You can read our patient story with Veronica Robertson on page 8, who suffered serious heart damage undergoing radiation treatment for breast cancer.

Our fundraising events this year were a terrific highlight. Seeing the community support for Wear Red Day this year was wonderful. Take a look at page 22 for pictures from all around Australia of workplaces, friends and teams getting together to raise awareness about heart disease and vital funds for life-saving research.

Unfortunately heart disease is still the largest cause of death for all Australians killing one of us every 29 minutes*. There is still so much we don't know about heart disease and our researchers are constantly searching for missing pieces of the puzzle in terms of our understanding of heart disease. We are so grateful to our generous donors to support us in this quest for medical breakthroughs.

I hope you enjoy reading the work of our researchers. It is thanks to the generosity of people leaving gifts in their Wills, our regular donors, and one-off donors that these projects are able to be funded. We are so grateful for your support.

**3303.0 - Causes of Death, Australia, 2018. Australian Bureau of Statistics.*

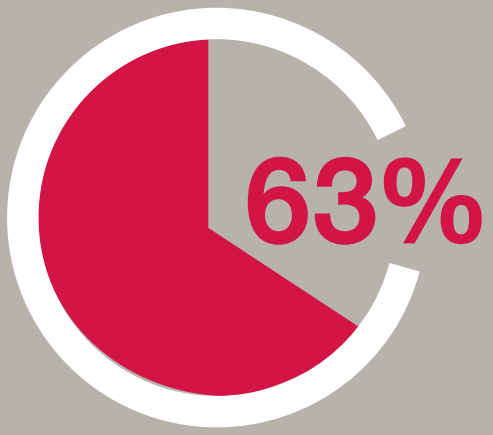
As Heart Research Australia receives no funding from the government, we rely solely on the community to get these projects off the ground and to a stage where the researcher can apply for a grant from the government and other funders for the next phase of their research.

Thank you to everyone who has participated and joined us in our fundraising efforts for the year. We are incredibly grateful and appreciative of your help in funding life-saving developments for heart disease. Thank you to our inspiring researchers, our staff, board of directors, volunteers and community for joining our fight against heart disease and helping us keep families together for longer.

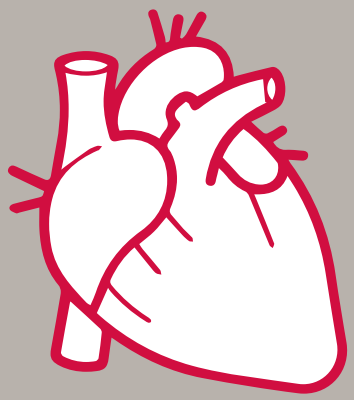
Tony Crawford
Chairman

Heart Disease Kills 50

Australians every day*.



of Australian adults are overweight or obese†.



Heart disease is the SINGLE BIGGEST CAUSE OF DEATH in Australia*.

† *4364.0.55.001 - National Health Survey: First Results, 2017-18. Australian Bureau of Statistics.*

Message From Our CEO

What a year it has been for heart health. Not only has the support from the community for Heart Research Australia been fantastic, it has been wonderful seeing the Government also get on board acknowledging the importance of research and investment for the future of Australia's heart health.

Earlier this year the Minister for Health, the Hon. Greg Hunt, announced a $220M federal investment towards research for Cardiovascular disease. With heart disease killing 50 Australian's every day[1] research into how to prevent this is key. Whilst death rates have declined, heart disease is still not sufficiently understood. If it were, disability and death rates from cardiovascular disease wouldn't be so high.

Heart Research Australia's support of 'seed' funding for researchers helps them achieve early results for innovative, 'out of the notebook' ideas. This greatly increases their likely success in gaining government funding grants. With the increase in government funding, this early backing of research is now more vital than ever. Cardiovascular research has delivered the highest returns on investment for chronic conditions, with a benefit to cost ratio of up to $9.80 for every dollar invested[2]. The support from our donors is so important in helping us fund these early stage ideas and we are profoundly grateful. Your support is helping us fund world-class researchers now and, in the future, changing the face of heart disease for future generations. Heart disease is the single biggest cause of Australian deaths killing one Australian every 29 minutes[1], with 1.2 million Australians currently affected by heart disease and many more suffering from core risk factors such as high blood pressure and obesity. At some point, heart disease is likely to affect us all; whether it's ourselves, our friends or our family who are impacted.

As part of our strategic plan, we are concentrating on growing income for research by increasing the number of regular giving donors. Regular giving donors (Heart Heroes) are vital to Heart Research Australia as they provide stable and reliable funding for this crucial first-stage research. We are also continuing to focus on building reserves, enabling us to fund multi-year research projects over coming years helping to protect future generations from the devastating impact of heart disease.

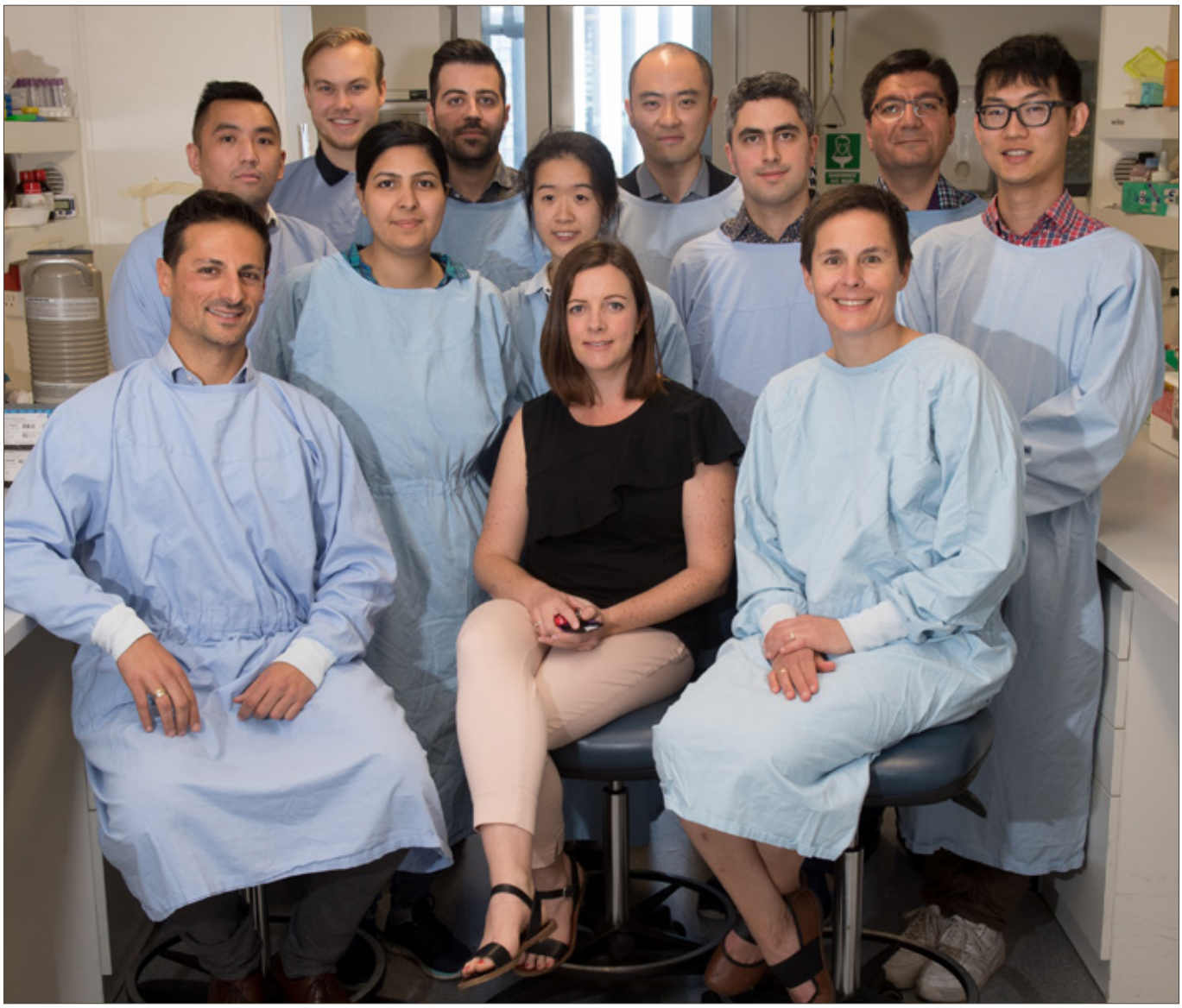
Being situated at Royal North Shore Hospital and working directly with practicing cardiologists sets us apart from other heart organisations as it

[1] *3303.0 - Causes of Death, Australia, 2018. Australian Bureau of Statistics.* [2] *Deloitte Access Economics. Australia's health and medical research work-force: Expert people providing exceptional returns. Canberra: Australian Society for Medical Research; 2016, https://www2.deloitte.com/au/en/ pages/economics/articles/australias-health-and-medical-research- workforce.html.*

brings us and our researchers into regular contact with patients & their families. This contact drives our researchers to question trend changes and search for understanding and solutions to these challenges. To learn about the different projects our researchers are working on visit the 'Our Researchers' section of our website.

It is with thanks to the collective contributions from many of our donors that we can tackle this significant worldwide issue by funding and supporting initial stages of the best research projects. From myself, the team at Heart Research Australia and all our researchers, I want to thank you so much for your generous donations towards research this year. Thank you for helping our researchers provide understanding and insight into Australia's biggest killer, heart disease. Together, we will make breakthroughs happen.

Nicci Dent
Chief Executive Officer



A survival story against the odds

20 years CANCER FREE! The breast cancer treatment that enabled Veronica to reach her 20-year cancer free anniversary left her with crippling heart disease, causing one heart attack after another. New medical breakthroughs are paving the way to change this side effect to protect the hearts of future breast cancer survivors.

On her 20-year anniversary of surviving breast cancer, Veronica Robertson celebrates an extra 20 years with her beautiful family. The journey has been a tough one with the long-term effects from the treatment that saved her life continuously jeopardising it. Veronica is now thankful for the research that could mean other women may not have to suffer the way she has.

Veronica was overseas when the fateful results from her mammogram came back saying she had breast cancer. Her children had thankfully been persisting for her to have a mammogram and she finally went just before going overseas thinking everything would be fine. Her husband received the call from the doctor and had to call Veronica whilst on holidays to deliver the news that the results weren't good, and she had to come home immediately and see her doctor.

A week after coming home and discussing her results with her doctor, Veronica had surgery. Along with a time of emotional anguish, what followed was 6 weeks of intense radiation and costly treatment as it was found to be a grade 3 aggressive cancer. Thankfully for Veronica and her family the radiation did what it was supposed to, leaving her now 20 years cancer free and able to enjoy many more years with her beautiful family and granddaughter.

With earlier diagnosis through screening and improved treatments, breast cancer-specific deaths have declined over the last few years[1]. This is a fantastic result and one that will hopefully continue. Unfortunately, with people increasingly surviving breast cancer, around a third are now experiencing long-term side effects, mostly cardiovascular, from their treatments.

As the heart lies directly under the breast, when treating breast cancer, the heart can also receive doses of radiotherapy and chemotherapy increasing the risk of heart failure in the future.

Veronica was unfortunately one of these patients. She experienced her first heart attack in 2013 and 2 stents were put in. A few years later she experienced another heart attack and on admission to Royal North Shore Hospital Veronica was put under the care of Professor

Helge Rasmussen. He treated the blockages medically as the previous two had closed off and as a result of the radiation treatment they had a high risk of closing off again. In 2018, Veronica experienced yet another heart attack and eight months later experienced two in a single-week period. In total Veronica has suffered from five heart attacks.

Heart muscle damage and heart failure can be serious side effects of cancer treatments. It is not uncommon that the life expectancy of cancer patients is reduced due to heart disease brought on by the cancer treatment, rather than the cancer itself. The radiation from the breast cancer treatment Veronica had undergone caused her coronary artery disease and has made it difficult to manage with the arteries closing time and time again. Radiation exposure to the heart increases the risk of the arteries closing off again making the disease hard to manage.

Veronica's story is one that highlights how fast research and technology in the medical space is evolving and how important it is to maintain the momentum. Cancer research has been incredible in being able to treat breast cancer with many women now surviving the cancer. With more survivors, we are now seeing the impact the long-term effects are having.

Thankfully with the work of Professor Helge Rasmussen, this research has the potential to save lives. Professor Rasmussen has found that by taking away the protective layer around breast cancer cells, the effectiveness of the cancer treatment can be magnified nearly tenfold thereby reducing the amount of treatment required - resulting in less damage to the heart. Whilst there is a long way to go before this research is an available treatment, it's a breakthrough for people affected by breast cancer, and the research holds further possibilities for prostate, pancreatic and bowel cancers.

To read more about Professor Rasmussen's work visit page 34.

Women are almost three times as likely to die from heart disease than breast cancer.

SOURCE:
3303.0 - Causes of Death, Australia, 2018. Australian Bureau of Statistics.

Heart Research Australia's Chair of Cardiology Professor Helge Rasmussen, along with fellow researcher Dr Elisha Hamilton, discovered a technique to silence a specific protein that a subset of breast cancer tumours possess. When this has been done, test tube studies have found that the effectiveness of chemotherapy was increased nearly ten-fold and the sensitivity of the cancer cells to the drug is also greatly increased. This innovative research partly funded by Heart Research Australia is great news for the increasing number of breast cancer survivors helping to keep them with their families for longer.

To learn more about Professor Rasmussen's ground-breaking research projects, go to page 34.

Our Work

About Us

Heart Research Australia was established in 1986 by concerned cardiologists at Sydney's Royal North Shore Hospital who recognised the pressing need to find new ways to reduce the high death rate and devastating impact heart disease has on families and the community.

The Heart Research AustraliaTeam.

Our Vision

Making breakthroughs in heart disease happen.

Our Mission

We support world class and emerging researchers to conduct ground-breaking research into the prevention, diagnosis and treatment of heart disease.

Heart Research Australia supports:

Seed funding

First-stage or 'seed' funding allows researchers to turn their innovative, 'out of the notebook' ideas into reality. First-stage research often does not qualify for government funding; therefore, it is with thanks to wonderful supporters like you who make the investigation of such ideas possible.

Your generosity gives researchers the opportunity to progress their ideas into research that could result in lifesaving medical breakthroughs. Your support also helps them progress their research to a point where they become eligible for larger, competitive grants from government funding bodies such as the National Health and Medical Research Council.

PhD students

Heart Research Australia provides scholarships for PhD students whose research work is supervised by our leading cardiac researchers. These scholarships play an integral role in nurturing and developing some of Australia's most promising heart health scientists.

'Bench to Bedside'

Most of our senior researchers are also practising clinical cardiologists, which puts them in the best position to identify research opportunities and translate their discoveries 'on the bench' into benefits for patients 'at the bedside'. The breakthroughs they make contribute to and inspire the international body of knowledge on cardiac research.

Chairs of Cardiology

Heart Research Australia funds two academic chairs of cardiology in association with the University of Sydney and Royal North Shore Hospital, as well as specialist support staff for these positions: The Chair of Cardiology is held by Professor Helge Rasmussen and the Chair of Preventative Cardiology is held by Professor Geoffrey Tofler. They are not only highly acclaimed scientists but also offer invaluable mentorship to some of our most promising postgraduate students and early career researchers. They are building a base of faculty talent which enriches Royal North Shore Hospital and attracts a world-class team of high-quality investigators all focused on one thing: fighting heart disease.

How are we different from other heart organisations?

Heart Research Australia raises funds for innovative research into the prevention, diagnosis and treatment of heart disease.

Our **goal** is to reduce the devastating impact heart disease has on families and the community. The **focus** is seed-funding for cardiac researchers to investigate new areas. The **aim** is to make their work competitive for grants from national bodies such as the National Health and Medical Research Council.

As most of our researchers are practising cardiologists based at Royal North Shore Hospital, this places them in the best position to translate knowledge from the 'bench' to patients 'at the bedside'. This patient interaction assists them not only in the progress of their research, but also triggers and identifies new areas of heart disease requiring further investigation.

A good example of this bedside to bench research trigger is the discovery of an increasing number of patients who are experiencing a heart attack despite having no traditional risk factors, such as high blood cholesterol, diabetes, hypertension or a family history of heart disease. This finding is now being investigated by Heart Research Australia's researchers to identify new ways of diagnosing heart disease and enable early identification and treatment of these patients to better protect them.

Help us fight heart disease and help keep families together for longer!

Our researchers are on the threshold of life-saving breakthroughs, and your support has the power to accelerate the impact of their research.

Your donations and the funds you raise, contribute to reducing the devastating impact heart disease has on families and communities, as well as helping to protect future generations.

Here are just some of the ways you can show your support:

- *Make a donation, or better still, become a 'Heart Hero' regular donor*
- *Make a gift in memory or celebration*
- *Host a fundraising event*
- *Participate in our annual 'Wear Red Day' event*
- *Purchase a ticket in 'Play for Purpose' (link on our website)*
- *Leave a gift in your Will – even small gifts can make a significant difference to Heart Research*

Every bit helps. Together, we can change the future of heart disease.

For further information visit our website heartresearch.com.au/support-us or call us on 02 9436 0056.

Matt's back 'off the beaten track'.

Nothing can hold him down! From a heart attack to cycling 433km across New Zealand, heart research, technology and sheer determination helps Matt scale new heights.

From experiencing a "massive" heart attack and being told he will never be able to exercise again, Matt ended up competing in the Pioneer Mountain Bike Race in New Zealand, a race that travels 433km, climbing 12,540m . The 6-Day Pioneer Mountain Bike Race that travels through New Zealand's Southern Alps, is a true pioneering feat and not for the faint hearted. Definitely not for someone who has experienced a major heart attack... Right?

For someone who loves to live life to the extreme, having a heart attack was a devastating blow for Matt Shields. Training for the World Rogaining Championships, Matt was running his usual 15km run to work one morning when a sudden "shot-gun" pain in the chest halted his dreams in one fell swoop, leaving him collapsed at the side of the Pacific Highway mid-run.

"My chest just exploded – 100% blockage, the pain was off the Richter scale."

In an ambulance, zooming down the Pacific Highway to Royal North Shore Hospital, the paramedics used technology pioneered by Heart Research Australia to take Matt's ECG in the ambulance and transmit the result immediately to the hospital. Surprisingly his ECG results were fine yet a few minutes later things changed quickly. Matt says, "my chest just exploded – 100% blockage, the pain was off the Richter scale." Thankfully with the technology speaking directly to the hospital a team of doctors were waiting for him when the ambulance arrived. "The team was ready and geared up and I was sent straight to the operating theatre."

In the operating theatre, Matt watched his heart on the screen being injected with a contrasting agent through the radial artery. "It was supposed to be like a big beautiful piece of coral, but it was all black. The defibrillator was attached, adrenaline in my arm, people frantically moving around the room then I saw them insert the guide wire and stent into the LAD [left anterior descending artery]. As soon as the balloon was in and expanded the pain went immediately away, it was the most incredible thing and made me realise then it was probably going to be ok."

The stent used to open the blockage in Matt's LAD and allow blood to reach the heart is a treatment pioneered by Heart Research Australia at Royal North Shore Hospital. It is used for heart attacks as an alternative to slow-acting, clot-busting drugs, which used to take time to work, and could cause serious complications. The stent procedure can give immediate relief to patients and is a proven much safer and more effective treatment and is now everyday practice.

The stent procedure in conjunction

with the ECG in the ambulance transmitting results directly to the hospital are treatments that were available to Matt due to research breakthroughs funded by Heart Research Australia thanks to the generosity of our donors. The combination of these treatments used together reduced death rates from heart attacks at Royal North Shore Hospital from 30% to a staggering 2% and is now standard practice. Without the generous support of our donors, the ideas behind these lifesaving treatments, may have stayed in someone's notebook.

The pain, the procedures, and the shock was according to Matt, the easy bit. The hard bit was "the talk" the next day. When the doctors sat down with Matt to discuss what happened, he was told he would need to be on medication for the rest of his life and that his life was going to be very different. When Matt asked about flying out a few days later for the Rogaining Championships which involved 24hours of running, the doctors said no, no more running. Ever. For someone performing at elite athlete level and so focused on training and living an active lifestyle this was a serious shock leaving Matt's head spinning. At this stage Matt had not learnt the skills and techniques around meditation and didn't know much about psychology.

"Without exercise and the framework I normally use to clear my mind and not think about it all, it was a very hard place to be."

Working with his Cardiologist, they found out Matt's heart attack had been caused by a 'plumbing' not 'electrical' issue. The cause of his heart attack was very specifically around lipoprotein-little-a and calcification on the left anterior descending (LAD) artery. Lipoprotein-little-a is a type of lipoprotein/cholesterol and high levels increase your risk for atherosclerosis (build up of fatty deposits in the wall of the artery). With this knowledge, a background in research and data, and the help and support of his Cardiologist, Matt developed his own framework to measure and track everything to get back into exercise. He experimented and tested, finding what worked for his body and what didn't, allowing him to safely push further and further.

Matt knew where he wanted to be. "The problem was where I was in my head wasn't where I needed to be". With help from a psychologist in terms of building the tools he needed, using apps such as headspace and working with his framework and cardiologist to get back into exercise, Matt ended up being able to reach a fitness and mindset level to safely compete in the 6-day Pioneer Mountain Bike Race in New Zealand. An incredible achievement for any individual, let alone one who's heart attack had been so severe he was told he would never be able to exercise again.

Matt is now continuing his love of bike riding and high-performance sports and is working to connect people affected by heart disease, either themselves or their family or friends, and helping them start a dialogue, connect, get healthy physically and mentally and maximise their sporting ability.

We are so grateful to Matt and all the patients who share their heart stories with us. Everyone's journey with heart disease is different and being able to share these experiences are so helpful in processing and managing people's experience with heart disease.

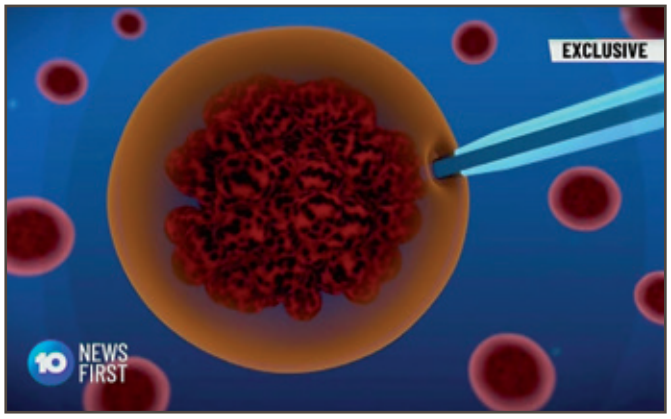
To read more stories like Matt's visit https://www.heartresearch.com.au/personal-stories/

In the News

Protecting the hearts of breast cancer survivors

Heart Research Australia was recently featured on Channel 10 news for the breakthrough work of Professor Helge Rasmussen in protecting the hearts of breast cancer survivors, funded by Heart Research Australia.

Our CEO Nicci Dent, along with Heart Research Australia Researcher, Professor Rasmussen were interviewed by Amanda Hart from Channel 10, sharing this wonderful news with Australia.



Whilst cancer treatments are effective against many cancers, heart muscle damage and heart failure can be a serious side effect for around 30% of people. It is not uncommon that the life expectancy of breast cancer patients is reduced due to heart disease brought on by the cancer treatment, rather than the cancer itself.

Breast cancer is the third most commonly diagnosed cancer in Australia[1]. Earlier diagnosis through screening and improved treatments has seen breast cancer-specific deaths significantly decline over the last few years[2], a fantastic result and one that hopefully will continue. Unfortunately, with the improved survival rate, many breast cancer survivors are suffering long-term side effects, mostly cardiovascular, from their treatments. As the heart lies directly under the breast, when treating breast cancer, despite the extreme care taken in treatment, the heart can also receive doses of radiotherapy and chemotherapy increasing the risk of heart failure in the future.

Professor Helge Rasmussen and his team have been working on a technique to silence a specific protein that a subset of breast cancer tumours possess. When this has been done, test tube studies have found that the effectiveness of chemotherapy was increased nearly ten-fold and the sensitivity of the cancer cells to the drug is also greatly increased.

As a result, the effects on the heart cells is much less pronounced, which reduces the risk of heart muscle damage. Early discoveries from this project are showing that less cancer drugs and radiation treatment are needed to treat breast cancer cells, which means less risk of damage to the heart muscle. The next stage of this project is now underway, and researchers are now examining if the compound made tumours of human breast cancer cells grown in mice more sensitive to X-ray radiation. If effective, this would enable a reduced radiation dose and reduce the risk of coronary artery disease.

[1] *4364.0.55.001 - National Health Survey: First Results, 2017-18, Australian Bureau of Statistics*

[2] *https://breast-cancer.canceraustralia.gov.au/statistics*

Although this new research is encouraging it is still in early phases and doctors are encouraging patients not to be stopping their treatments.

Due to lack of funding this incredible research had to be put on hold. Thanks to the generosity of an anonymous benefactor, combined with Heart Research Australia donors, we have been able to fund further development of this work.

The work done by Professor Rasmussen and his team provides a way to not only make cancer treatments more effective but reduces the risk of damage to the heart muscle, reducing the risk of treatment related heart failure. This is such an important project which has the potential to also help prostate, bowel and pancreatic cancer treatments and we are so grateful to all our donors to help us fund this incredible work.

To learn more about Professor Rasmussen's work go to page 34 of this annual report or view the 'Our Researchers' section of our website.

To see the footage of our CEO Nicci Dent and Professor Rasmussen on Channel 10 visit **www.heartresearch.com.au/research/breast-cancer-treatment/**

HEART DISEASE

Kills one Australian every

29 MINUTES*

1 in 5

Australian adults have ***high blood pressure -***

one of the risk factors for heart disease†.

** 3303.0 - Causes of Death, Australia, 2018. Australian Bureau of Statistics. † 4364.0.55.001 - National Health Survey: First Results, 2017-18. Australian Bureau of Statistics.*

Our Heartfelt Thanks

Thank you for helping us make breakthroughs happen. Your help enables us to keep families together for longer.

Giving heart to future generations

Heart Research Australia is so thankful to the men and women who help make our research possible through a gift in their Will.

When we receive a gift in Will, it helps provide the vital initial funding for our researchers to produce new discoveries and more effective treatment for heart disease. A large portion of our research is funded in this very special way. Last financial year, Heart Research Australia was left over $916,141 by Australians who remembered us in their Will. Many people who have decided to leave a gift in their Will do so to say 'thank you' for the help they or a loved one has received in their lifetime and fund heart research as a way to protect those they leave behind.

Our 'Breakthrough Partners' are a very special group of people who have told us that they have left a gift in their Will. We love to know if someone has made this decision so we can thank them and keep them informed and inspired about the latest research. Medical research can take a decade before results are achieved and long-term investments are needed to produce new discoveries and more effective treatments for heart disease. That's exactly why gifts in Wills are so important, even a small percentage can make a huge difference!

Trusts & Foundations

We are particularly thankful to the following trusts and foundations supporting us in our mission to end heart disease:
Cromwell Property Group Foundation, Ernst & Young Foundation, Skipper Jacobs Charitable Trust, The Lady Proud Foundation, The Lin Huddleston Charitable Foundation, The Mill House Foundation, Vonwiller Foundation, Wiggs Foundation, Wood Family Foundation.

Regular Giving

We are so fortunate to have a generous group of supporters who choose to donate to us monthly. We call them our Heart Heroes. These monthly donations are really important to us as they provide a constant and reliable source of funds. Knowing what funds we have available not only helps with the financing of our existing ground breaking research, but also enables us to support any new and exciting projects which come up.

Thank you to our existing Heart Heroes, many of whom have been supporting us with monthly or quarterly gifts for many years. This year we also had 489 new monthly donors who have joined us in the fight against Heart Disease – so we are truly grateful. This growth in our Heart Hero programme helps to accelerate the funding of research which could lead to the next breakthrough in heart disease. So a big thank you to you all, as your on-going commitment brings us closer to a cure for heart disease.

If you or someone around you was suffering from a heart attack, would you know what it was? Would you know what to do?
Visit heartresearch.com.au/heart-attack to learn the symptoms of a heart attack as well as a heart attack action plan.

73%
of Australians aged
30 to 65 have
at least one
risk factor
for heart disease†.

1.2 million
Australians are
currently affected
by some form of
heart disease*.

† National Heart Foundation, 2017. HeartWatch Survey, customised data, April 2018.
**4364.0.55.001 - National Health Survey: First Results, 2017-18. Australian Bureau of Statistics.*

Volunteers

Meet our volunteers! The skills and time they have shared with us this year has been incredible and we are so grateful. Thank you so much to these wonderful individuals, for donating their time, sharing their skills and helping us keep families together for longer.

Nicci Dent (Heart Research Australia CEO) and Shirley (one of our Volunteers) celebrating National Volunteers Week.

Carsten

"With a family history of heart disease, I chose to volunteer for Heart Research Australia while having a break from work due to sickness. This role has given me immense satisfaction being able to use my skill set as well as contributing to a great cause."

Carsten comes to us with such fantastic IT experience and we are so fortunate to be able to have him working with us keeping our technological troubles at bay. If you've been to our website recently and noticed it is running faster for you, that is thanks to Carsten. Carsten helps keep the Heart Research Australia team sane throughout computer crashes, download issues, upload failures, you name it. We are incredibly grateful to Carsten and he adds so much to the team.

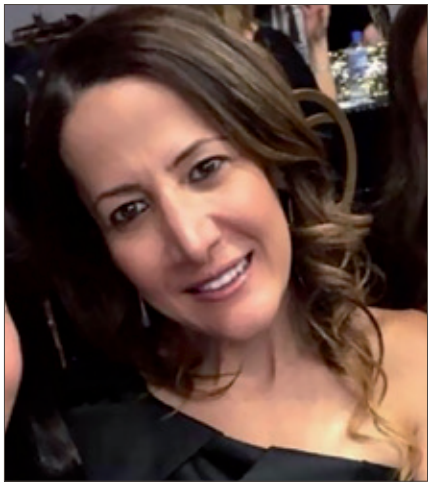
Manisha, Shirley and Neeta

Manisha, Shirley and Neeta come in regularly to help ease the workload of the team by supporting us in managing our database. We are so grateful for their help and love seeing their smiling faces around the office.

Manisha

It has been really wonderful to learn of the service that Heart Research Australia does for Australians and their devotion to heart health improvement. The fund-raising team with whom I am working is very committed to improving the heart health of Australians through research and awareness.

"I feel honoured and lucky to be part of such an amazing workplace."



Shirley

"After I gained my Diploma from TAFE in office skills I wanted to keep my skills current (for future work prospects) as well as learn new skills. Working with such a lovely team makes me want to keep coming in each week. I feel really appreciated and included in all the events. After working with Heart Research Australia for one year I have become really interested in this topic, particularly as my family has a history of heart problems."

"I love feeling like I contribute to protecting future generations from heart disease."

Neeta

I have been working as a volunteer for HROz for more than 6 months now. The work they are doing is great. I am happy that I am working with such a dedicated team who are working to raise funds for research into heart disease. Their efforts to improve the heart health of Australians are great."

"It's a pleasure to work with HROz and it brings satisfaction to me that while working with HROz team I can utilise my skills to contribute for a great cause."

Corporate Supporters

Heart Research Australia is so thankful to the following corporate supporters and their staff for their significant support in helping us fund life-saving research. Their support contributes greatly to enabling the recruitment of the next generation of Australia's senior heart researchers; educating the public on symptoms of heart attacks; driving early diagnosis and prognosis.

Bayer Australia

In 2018/19 Bayer Australia's support enabled us to establish and sustain a clinician research program helping aid in the development of biomarkers for early risk identification for a heart attack. Bayer Australia's partnership has helped support three talented clinician researchers as a part of the Heart Research Australia Clinician Research PhD program.

1. **Dr Steve Vernon:** investigating advanced imaging features of coronary atherosclerosis in patients with minimal risk factors; and novel metabolomic, proteomic and genomic markers of disease to assist in early detection and prevention.
2. **Dr Kat Kott:** investigating the role of novel coagulation markers in unexplained susceptibility to coronary artery disease.
3. **Dr Tom Hansen:** investigating detailed immunophenotyping in patients with extreme atherosclerosis despite no traditional risk factors.

Postgraduate researchers contribute significantly to the day-to-day research conducted into heart disease. The hope is that research at this level will be an important source of new and unexpected discovery. The support from organisations such as Bayer Australia, enable us to recruit the most talented students, regardless of their financial circumstances, creating a critical mass of talent and expertise dedicated to defeating heart disease. In turn, these students reinvigorate and challenge their mentors and help to accelerate the pace of discovery, while also serving as role models for undergraduates.

The career path of the next generation of Australia's senior heart researchers may well begin with Heart Research Australia PhD scholarships and we thank Bayer Australia for their support towards this.

"For over 120 years, Bayer has been researching and developing innovative medicines and new therapeutic approaches that help make a difference to people's lives. Continuing this commitment, Bayer is proud to collaborate with Heart Research Australia to support a specialised training program and provide Fellowships for two PhD students - nurturing the next generation of cardiac researchers."

EDUARDO PIMENTA, MD, PhD, FAHA, FESC, Associate Medical Director, Bayer Australia/NZ

The dedes Group

Heart Research Australia is so grateful to Con and Kerrie Dedes and the dedes Group for their continuous support year after year in helping us fund life-saving research.

This year the dedes Group donated prizes for our Golf Charity Challenge day helping us raise significant additional funds for life-saving research. Thank you for helping support Heart Research Australia in so many ways.

Ormeggio, Chiosco & Via Alta

Alessandro and Anna Pavoni, owners of Ormeggio at the Spit, Chiosco and Via Alta donated generous prizes for our Golf Charity Challenge day as well as hosted events for Heart Research Australia. These donations significantly reduce the cost of Heart Research events as well as enabling us to raise more through the donation of prizes helping us fund more medical breakthroughs. In addition to their generous donations, Alessandro is also an Ambassador for Heart Research Australia.
We are incredibly grateful to both him and Anna for sharing their stories with us and consistently supporting Heart Research Australia in so many ways every year.

Giving the Gift of Life at Work

Heart Research Australia is indebted to the men and women who support our life-giving research by donating through their workplace giving programs. More Australians are embracing this tax-affective mode of regular giving by making a regular donation to Heart Research Australia through their payroll from their pre-tax pay - thereby reducing their taxable income. In some instances, this donation is matched by their employers, thereby doubling the impact of the donation.
Workplace or payroll giving is an easy and effective way to support pioneering heart research. It provides a reliable income stream that allows us to more effectively fund lifesaving heart research aimed at finding new and better ways to prevent, diagnose and treat heart disease – Australia's biggest killer.

Highlights From The Year

The support from the community for Heart Research Australia this year has been fantastic and we are so incredibly grateful for all their support.

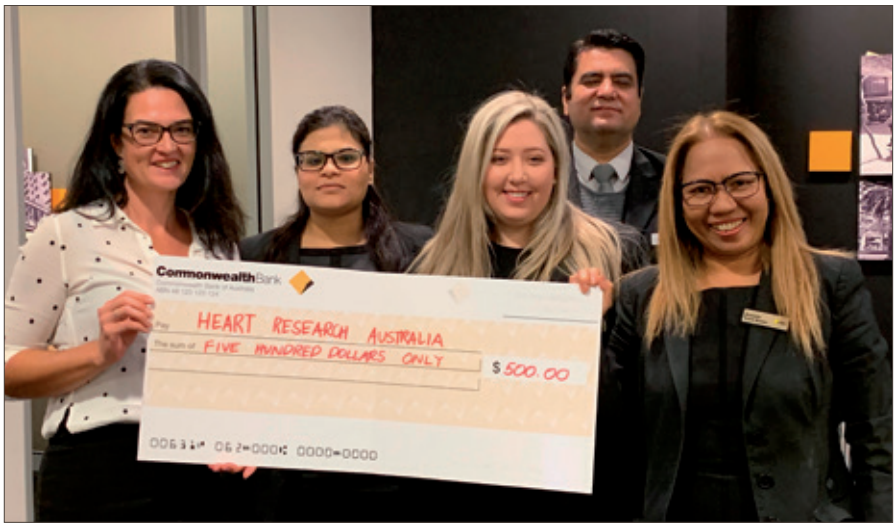
Having individuals and organisations passionate about our cause and the work we do and taking the initiative to organise their own fundraising events to support us is wonderful. We are so grateful to everyone for their time and work. The fundraising done by these passionate individuals helps us support our researchers and next generation young heart scientists create more medical breakthroughs.

Heart Research Australia provides seed funding for research into the prevention, diagnosis and treatment of heart disease. As Heart Research Australia receives no government funding, we are 100% reliant on the generosity and passion of the community to support our dedicated researchers' work. Having this seed funding is so important for our researchers as it allows them to have the solid results needed to enable their work to be more competitive for larger government grants.

The support of these events has raised a grand total of over $84,867 for Heart Research Australia. We are so thankful to all fundraisers and supporters for this amazing result.

Commonwealth Bank

It's great having the local community get involved and support Heart Research Australia. Commonwealth Bank St Leonards chose Heart Research Australia to support as a part of their community grant and donated $500 as well as organising a morning tea for Heart Research Australia staff. It was a lovely event and so wonderful getting to know one of the local businesses.



HBF Run for A Reason

Gav Healy is one of our dedicated and loyal supporters. Every year for the past few years Gav has run in the WA 'HBF Run for a Reason'. This year Gav ran a total of 12kms in the amazing time of 1hr and 6 mins and raised $584. Gav ran for his mum and wife who both suffer from heart disease with his mother unfortunately in hospital at the time of the run. Thankfully she is doing well now, and we are so grateful to Gav for his loyal support every year.

Woolworths

The Change team within Woolworths Head Office chose to support Heart Research Australia for the entire month of September as their chosen 'charity of the month'.

They had 108 team members run in the Blackmores Sydney Running Festival to raise money for Heart Research Australia. They ran the marathon, half marathon or 10km races with their supporters donating to us in encouragement of their efforts. The training this team did for the running festival was incredible with 1504km logged between them, with some staff members running 8km in their lunch breaks! In addition to the race, Woolworths ran lunch time events at their head office with several engaging fundraising initiatives including raffles and a prize wheel (for which employees queued for metres!). They ran a Heart Health Expo in their main lobby involving some of their suppliers with our CEO Nicci Dent speaking about Heart Research Australia, heart disease, and risk factors. Bronte Scheul an Exercise Physiologist from the Cardiac Rehabilitation centre also spoke to staff offering tips regarding optimum physical activity to maintain a healthy heart. In total, the support from Woolworths raised $33,435.92 for Heart Research Australia. The fundraising efforts on site for the month of September raised $16,751.07 with the runners raising $16,684.85.

An unbelievable effort and we are just so grateful to all the wonderful individuals who worked so hard to raise funds to support heart research. The funds raised were put towards supporting a PhD scholarship for an entire year.

We had the opportunity to have afternoon tea with the top fundraisers from the Woolworths team as well as researchers Professor Gemma Figtree and Dr Carmine Gentile. Professor Figtree and Dr Gentile spoke of the work they are currently doing and were able to take these team members on a tour of the lab. It was wonderful being able to spend some time with the team and thank them for their incredible fundraising efforts. Thank you so much to all involved for all your support.

Highlights From The Year

Wear Red Day

February 14th was not only Valentine's Day but the day of protecting hearts, Wear Red Day! Wear Red Day aims to raise awareness of heart disease as well as much needed funds into life-saving heart research.

The support we had from the community was amazing with our social media flooded with images from workplaces, gyms, sporting groups, schools and more getting behind the event.

staff creating heart friendly events and individuals organising events and fundraising for us.

With radio mentions, print articles and a whirlwind of digital media the event was such a great way to get to know some of our loyal followers and supporters and work together to create an event that was not only fun but also helping raise awareness and much needed funding.

With heart disease still being the single leading cause of death for all Australian's it was great to see workplaces supporting the heart health of their

We are so grateful to everyone who participated or contributed during this time and helping us make breakthroughs happen.

"Wear red on valentine's day for those close to your heart. Thursday 14th February is @heartresearchaustralia National Wear Red Day to honour those close to your heart.
Going red means so much to me personally through my role as a midwife. One project receiving funds from @heartresearchaustralia is focused on how some woman can be predisposed to life threatening complications during pregnancy like pre-eclampsia and growth restriction. So many babies I work with on a daily basis have been born prematurely due to these conditions. It would be amazing to see what this kind of research can do for these women and their babies. You can probably see why WEAR RED day is close to my heart. Let's raise awareness and start a conversation about what going red means for you. However you choose to shine in RED, take lots of photos and share them on your socials using the hashtags #wearredday #HROz#heartdiseaseawareness. Don't forget to tag me so I can also share your amazing stories and lovely red pics.
You can help by organising your office colleagues, exercise group, friends or school to WEAR RED and get together! I've put a link in my bio for anyone that wants more information around how they can help. Even simple things like sharing this post on your insta story can go a long way towards raising awareness."

CAT LAW
Digital influencer

"Show some love tomorrow on Valentine's Day for @heartresearchaustralia. I'll be wearing red to raise awareness for heart disease & for the people close to my ♥ #wearredday #HROz#heartdiseaseawareness"

TRACY VO
Channel 9 News - Perth


@tracy_vo

Highlights From The Year

Wear Red Day *continued*

"Happy Valentine's Day!
Yep, today is Valentine's Day but it's also Heart Research Australia's National Wear Red Day - when you wear red for someone close to your heart and also in memory of someone you know who has died from heart attack and heart disease.
Cardiovascular disease is one the biggest health problems in Australia, one of the biggest burdens on the health care system and the single leading cause of death for Australians.
@heartresearchaustralia is a not-for-profit organisation supporting research into the prevention, diagnosis and treatment of heart disease and the work they're doing is pretty important.

One of their researchers, Helge Rasmussen, is working on cancer treatment drugs that can reduce or eliminate the risk of heart failure often brought on by current cancer treatments.
Another one, Carmine Gentile, is working on using a patient's own cells to create 3D bio-printed heart tissue to create a personalised patch to replace damage done to the heart after a heart attack for which there is currently no cure.
This type of first stage research does not qualify for government funding so the organisation relies on donations and events like Wear Red Day to keep going. You can read more about their work here: https://www.heartresearch.com.au

So today, hug someone close to you, spread the love and wear red! ♥"

STEVE PENNELLS
Channel 7 'Sunday Night' Presenter

Red Feb

Heart Research Australia had a team participate in the Sydney Morning Herald Sun Run Cole Classic, including our Communications Manager, Jenny and Marketing and Fundraising Co-ordinator, Leanne on the 2nd of February in support of Red Feb. The team ran 7km from Dee Why to Manly and collected donations from friends and family in support of Heart Research Australia.

It had been a hot few days previously but thankfully cooled down just in time for the race to start. With a few more hills than expected the team all made it to the end and raised $2171 for life-saving heart research.

Charity challenge golf day

Heart Research Australia is very fortunate to be part of The Charity Challenge Golf Series, run by Gary Dawson OAM and Matthew Laverty.
Our annual Golf Day has forged many great friendships and business relationships over the years and has become a part of many Corporate golfing calendars, with senior executives of large organisations using this day as an ideal networking opportunity, as well as contributing towards raising much needed funding for heart research.

Long Reef Golf Club hosted the annual event in 2018. Participants not only experienced a fantastic round of golf, and a lovely lunch, but also had the opportunity to hear about the latest research being supported by Heart Research Australia with Nicci Dent and Dr Carmine Gentile speaking at the event.
Thank you for the generosity of all who organised, attended and supported this event. We are so grateful for your continued support.

Charity Challenge Gala Dinner

As a benefiting charity from the Charity Challenge Golf series, Heart Research Australia is fortunate to be a beneficiary from the annual Charity Challenge Gala Dinner held every year to help raise funds for the charities on the series.

This event contributed over $12,000 to Heart Research Australia and we are so grateful to everyone who supported and contributed to this.

Highlights From The Year

Community fundraising is a great way to help make a difference to the future of heart disease and help protect the hearts of future generations.

Gav Healy one of our loyal community fundraisers explains why he chooses to fundraise every year for Heart Research Australia and what it means to him:

Why did you choose to fundraise for Heart Research Australia?

In 2015 I decided to get my health and fitness back into shape after recently finding out that my wife had been diagnosed with the LMNA gene mutation which predisposes her to heart disease. My mum had also been recently diagnosed with having Yamaguchi Syndrome. I felt very frustrated that I couldn't fix this for them, as I'm a fix it kind of guy, but when I saw the HBF Run For A Reason ad on TV I realised I could help raise awareness and support a charity that specialises in heart disease.

I found Heart Research Australia and saw that they did innovative research into the prevention, diagnosis and treatment of heart disease so for me this was exactly the kind of charity I was looking to help fundraise for.

What does it mean to you to fundraise for Heart Research Australia?

I know that every little bit helps and being able to contribute year after year makes me feel like I'm helping in some small way. If I was a doctor I'd obviously be researching and doing the best I can to help my wife & mum, but I'm not, and this is a way I can help those who really do know what they are doing. I follow Heart Research Australia on Facebook and on Instagram and really enjoy seeing inspiring stories of families going through similar issues and researchers talking about medical breakthroughs.

What motivates you to support us year after year?

Heart disease isn't a problem that's going away any time soon and I feel like regular contributions helps maintain the momentum of ongoing research that is desperately needed. My motto is "Any heart research is good research". I'll keep supporting as long as I can and hopefully stay fit too.

What impact does your support have?

The money raised by our wonderful community of fundraisers and the generous donations made by their family and friends;

- Helps communities access vital heart disease information and resources
- Ensures our researchers have the necessary laboratory equipment to assist them in their research findings
- Goes towards the funding of world-class medical equipment
- Contributes to building and implementing research projects dedicated to exploring new ways of protecting Australia's hearts
- Supports two Chairs of Cardiology and the next generation of researchers.

Help us keep families together for longer - donate online at heartresearch.com.au/donation/

Our Research

Keeping families together for longer through life-saving heart research

Our research funding portfolio is focused on identifying new ways to prevent, treat and diagnose heart disease, which remains the leading single cause of death in Australia.

This report features just some of the many inspiring projects our researchers are working on, from finding a potential new risk factor for a heart attack, creating mini-beating hearts to repair the damaged heart muscle and ways to protect the hearts of breast cancer survivors. To read more about the work our researchers are doing visit www.heartresearch.com.au/our-researchers/

Why Research is so important

Heart disease kills one Australian every 29 minutes[1]. Despite major advances in the understanding and treatment of heart disease, there remains a large gap in our knowledge. For instance, there is an increasing number of people who are looking up from the operating table saying, 'why me doc?' The proportion of patients coming through North Shore Hospitals' Catheter lab for a stent, with no risk factors have increased from 13% to 27% over the last few years. Research is critical in understanding heart disease and helping to reduce these devastating statistics.

1. *3303.0 - Causes of Death, Australia, 2018. Australian Bureau of Statistics.*

Research Projects

Chair of Cardiology - Professor Helge Rasmussen

Professor Helge Rasmussen is the Chair of Cardiology at Royal North Shore Hospital. He divides his time between working as an interventional cardiologist and leading a team of researchers in molecular and cellular medicine. A particular focus of his research is learning how heart cells work, which has led to discoveries that could mean better treatment for heart failure and other forms of cardiovascular disease.

Professor Rasmussen's work covers understanding in the regulation of the cardiac Na+ -K+ pump and the development and implementation of primary percutaneous coronary intervention in ST elevation myocardial infarction in Australia. His basic science research has led to paradigm shifts in the understanding of the Na+ -K+ pump, and his clinical work in the cardiac catheter laboratory has led to a change of practice for patients with myocardial infarction.

Chair of Epidemiology – Professor Geoffrey Tofler

Professor Geoffrey Tofler is the Chair of Epidemiology at Royal North Shore Hospital. With over 20 years' experience as a clinical consultant cardiologist, including 13 years at Harvard Medical School Hospital in Boston, Professor Tofler's expertise is in the prevention of heart disease and management of heart failure. Current research includes triggers for heart attack and the links between bereavement and heart health.

Professor Tofler and his research group continue to look at new approaches to prevent heart disease, as well as ways to maximise the outcome of patients with known disease. The group's work ranges from population and clinical research to basic genetic level, with local, national and international collaborations.

Research Projects

Triggers of Heart Attack and their prevention

Lead Researcher - Professor Geoffrey Tofler and his research group have been leaders in the field of acute triggers of heart attack – providing additional clues to prevention that complement chronic risk factors such as hypertension and high cholesterol. The group developed and have used the TAMAMI database of patients who had heart attacks that were treated at Royal North Shore Hospital, to look more closely at specific triggers. A/Prof Tom Buckley, published a manuscript on Physical Exertion as a Trigger of Heart Attack. Another paper by the Group, examining Heavy/Fatty Meals as a trigger, is currently under review for publication (Dr Lorcan Ruane, first author).
These findings are being used to provide justification for a proposed larger study of Triggered Acute Risk Prevention.

Psychological Stress and Heart Risk – in Bereaved partners, and Stress among family members of Hospitalised Patients

Professor Tofler and his research group have a manuscript undergoing revisions for hopeful publication regarding use of beta blocker and aspirin to reduce risk in bereavement. Monica Ruckholdt under the PhD mentorship of A/Prof Tom Buckley and Prof Tofler, is analysing psychological and physiological changes in relatives of patients hospitalised in Intensive Care and Cardiology.

SCUPI (Smoking Cessation through Personal Identification)

This novel approach to smoking cessation, which was supported by a grant from Heart Research Australia, a SPARK innovation award, and an Australian patent, uses video to create a simulated teachable moment. It builds on the observation that many smokers can stop smoking once they have experienced a heart attack. In a recent internet-based study, over 60% of the smokers successfully stopped smoking and were still abstinent at 6 months. These findings were published by the Journal of Smoking Cessation with psychologist, Robin May, as first author. Professor Tofler and his research group are currently looking to expand the work, and recently attended a Bio Asia Conference in Taiwan, where the work was well received.

Framingham Heart Study Collaboration

This ongoing international collaboration with Framingham, Massachusetts, investigates the role of Haemostatic Risk Factors, and Genetic Determinants, in Cardiovascular Risk Prediction.

This collaboration saw an important publication into novel associations regulating coagulation Factor VIII and von Willebrand Factor plasma levels, which was published in the prestigious US journal, Circulation.

MACARF (Management of Cardiac Failure)

Professor Tofler is medical director of the Northern Sydney MACARF program to optimise management of heart failure. Analysis of the database of over 5000 patients has resulted in a recent publication (Dr Nelson Wang, first author) examining temporal changes in heart failure characteristics and outcome. In addition, a short paper on the prognostic role of heart rate in heart failure has been accepted for publication in a peer-reviewed journal. A quality improvement project on polypharmacy in heart failure is currently being conducted in collaboration with pharmacy collaborators.

PADDLE (Patient Directed Discharge Letter)

Professor Tofler and his team received a $200,000 grant from HCF to further develop his published findings that a one-page discharge letter written specifically for the patient using lay language, improved patient understanding of their hospitalisation and adherence to their discharge plans. This project includes North Shore Private Hospital, Ryde Hospital and Royal North Shore Hospital. Professor Tofler is currently on a NSW Health Committee to improve hospital discharge summaries. There is the exciting possibility that PADDLE will be rolled out state-wide.

MAFACARI (Masters Football and Cardiovascular Risk)

In 153 masters age footballers, Professor Tofler and his research group conducted a survey to assess the footballers knowledge of their cardiac risk, warning symptom recognition, and support of measures such as defibrillators. The findings showed that there was a significant amount of cardiac risk factors among the group, that many of the potential cardiac risk factors were not appropriately acted upon, and that there were gaps in knowledge of heart disease risk. There was strong support among the group for defibrillator availability. The findings were presented by Matthew Francis, medical student, at the 2019 Annual Australia and New Zealand Cardiology Conference.

As medical director of the **North Shore Cardiac rehabilitation service,** Professor Tofler encourages and supports clinical research from the rehabilitation service based on the patient characteristics and excellent outcomes.

Research Projects

Prevention of cardiac side effects of cancer treatment

Project Title:
Development of novel method to reduce radiotherapy-induced heart damage in breast cancer.

Lead Researcher:
Prof Helge Rasmussen

Funded Since: 2019

Amount: $194,845

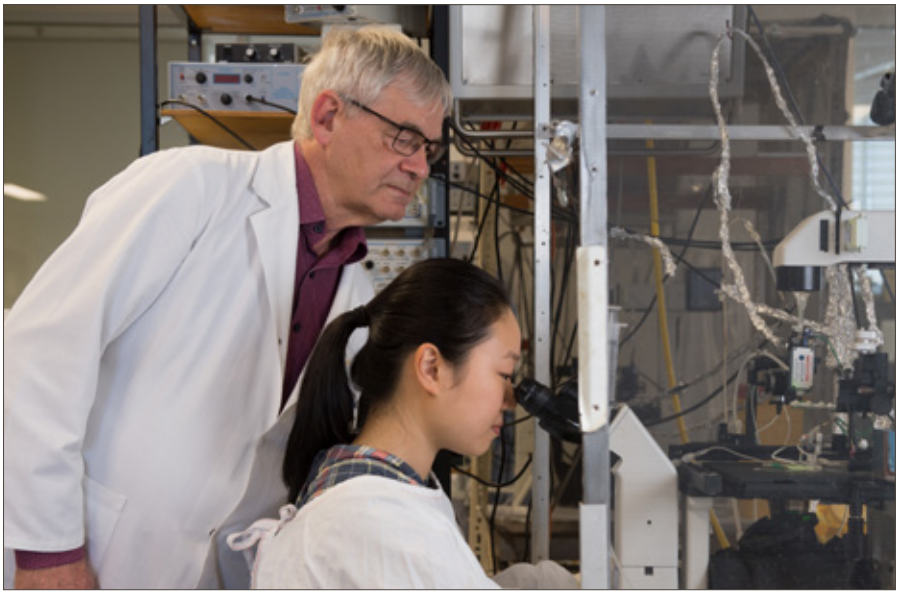
"Recent results are very promising and reflect what was discovered in test tube studies."

One in eight Australian women will be diagnosed with breast cancer before the age of 85. With an average age at diagnosis of 60 years, many will have a long unadjusted life expectancy. Breast cancer-specific deaths have declined due to improved diagnosis and treatments but only with the penalty of long-term side effects, mostly cardiovascular, from radiotherapy and/or chemotherapy.

In a novel approach to reduce heart muscle damage, Professor Rasmussen and his team have developed a small protein molecule (peptide) that greatly increases the sensitivity of cancer cells to the radiation, while its effects on the heart cells is much less pronounced.

The objective of Professor Rasmussen's project is to test if this new peptide can reduce or eliminate the risk of heart failure induced by radiation for cancer treatment, without decreasing the effectiveness of the radiation in treating the cancer.

The team's test tube studies have found that the effectiveness of radiation was increased when the peptide they've developed was applied to the cancer cells. After successful tests on cells, the team are now testing the application of the peptide to tumours in mice with the objective of progressing towards human trials. The recent results from animal studies are very promising and reflect what they had discovered in the test-tube studies.



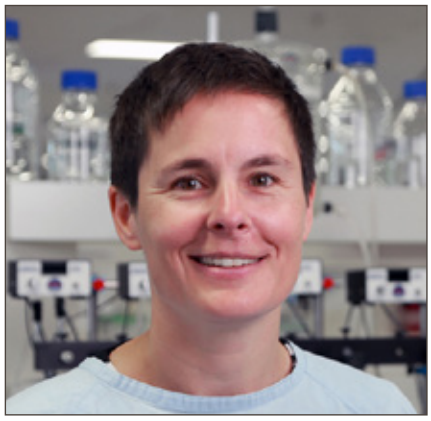
Discovery of new mechanisms for coronary disease

Project Title:
Discovering new mechanisms and early markers of coronary artery disease and protection against heart attack –
The BioHEART Study.

Lead Researchers:
Prof Gemma Figtree

Funded Since: 2017

Amount: $182,800



Cardiovascular disease remains the leading cause of death for Australia and has enormous social and economic impact across the globe. Despite common perceptions, it is not all solved. Despite major advances in the understanding and treatment of heart disease, there remains a large gap in our knowledge of what drives this.

Professor Figtree and her team are looking for novel blood markers and mechanisms that identify people with atherosclerosis well before they suffer any untoward events such as a heart attack or cardiac arrest. They are also investigating factors that may explain individual susceptibility and resilience to the well established cardiovascular risk factors, aiming to identify new markers and therapies to reduce the burden of cardiovascular disease. Their program is driven by the increasing number of heart attack patients who, having no risk factors, are asking “why me?” Over the last decade this percentage has increased from 13% to 27%, independent of age or sex, which highlights the need for ongoing efforts to unravel the “missing” biology of coronary disease.

Professor Figtree’s team have established a large cohort study of patients who are at risk or suffering from coronary artery disease. These patients volunteer, and consent to contribute a blood sample and their de-identified data to the study, allowing them to study new mechanisms of coronary artery disease. The team is particularly interested in comparing novel markers (genomic, metabolomic, inflammatory) in people with extensive coronary disease explained by traditional risk factors, against those who have extensive disease that is not explained by traditional risk factors.

The BioHEART study combines advanced non-invasive imaging of the coronary arteries with biobanked blood samples for comprehensive molecular characterisation. The team have been building a BioBank and doing early data entry and analysis thanks to pilot funding of Heart Research Australia. The study has reached approximately 1400 participants and is still growing, aiming to recruit 5000 CT coronary angiography subjects, and 2000 heart attack patients by 2020.

The work done by Professor Figtree and her team will help improve early identification of coronary artery disease and atherosclerosis beyond traditional risk factor assessment and will help guide personalised preventative therapies.

Research Projects

3D bioprinted heart 'replacement parts'

Project Title:
Developing 3D bioprinted personalized 'replacement parts' for heart attack patients.

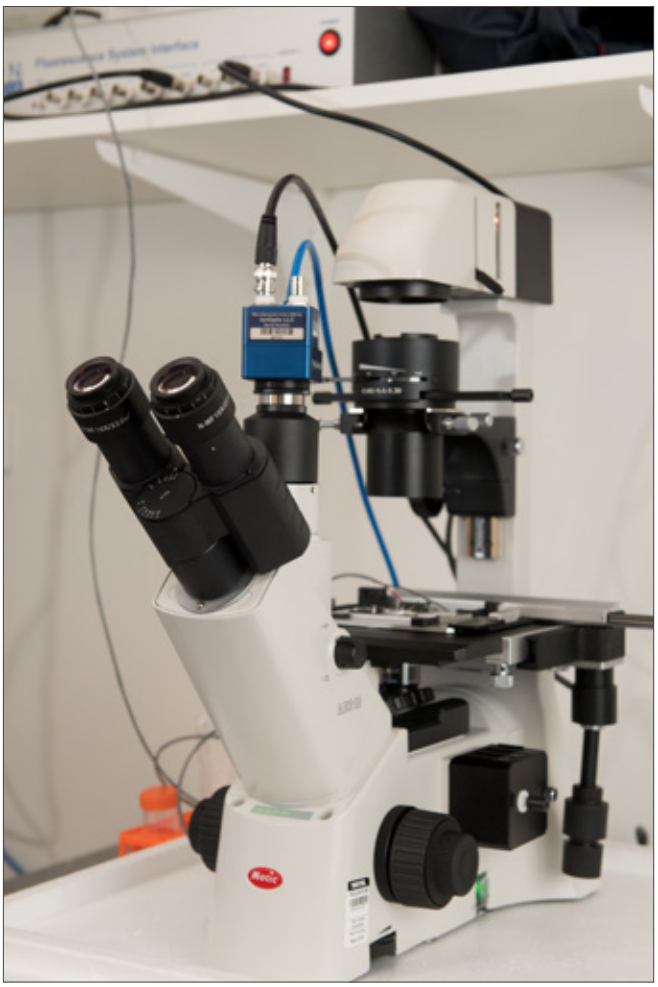
Lead Researchers:
Dr Carmine Gentile

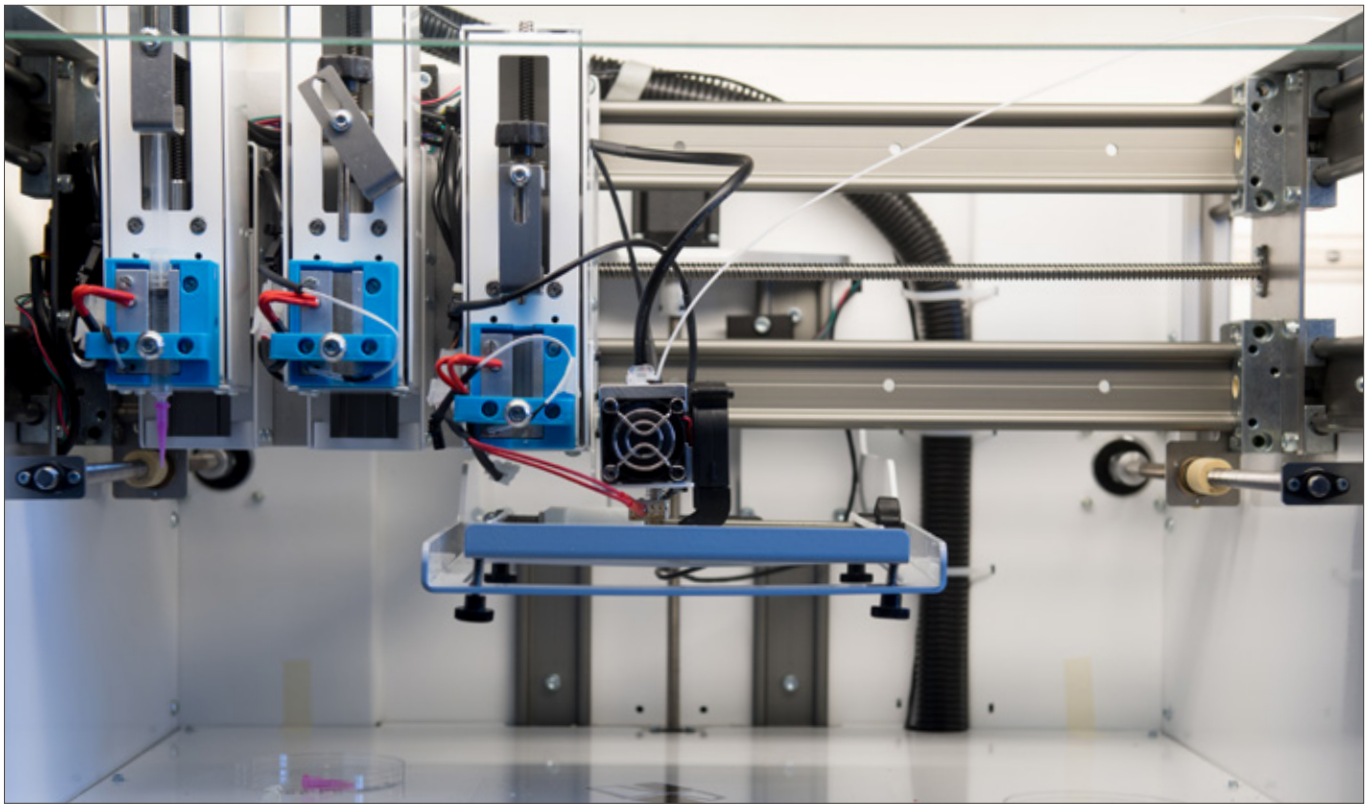
Funded Since: 2017 by the Millhouse Foundation

Amount: $66,000

"This research could lead to the creation of 3D bioprinted human heart tissues for transplantation, which would be life-saving for those in need of a transplant."

Dr Carmine Gentile's research focuses on the creation of new heart tissues using a patients' own cells in order to repair damaged heart muscle.
Damaged heart muscle currently leads to heart failure and ultimately death. For patients with end-stage heart failure, the current gold standard treatment is a heart transplant which comes with a significant number of risks as well as limited availability.
Dr Gentile works to create bioprinted heart tissues generated by isolating cells from patients' own skin or blood, which are first used to generate stem cells and then transformed into heart cells. Dr Gentile and his team have developed a new way to use these cells to generate personalised 'minihearts' that are loaded into the nozzle of a 3D bioprinter that can produce patient specific 3D printed heart tissue or a 'patch' to replace the damaged heart tissue. Thanks to funding from Heart Research Australia Dr Gentile is now able to test if bioprinted heart tissues contract 60-70 times per minute, which is how a healthy heart responds. This helps determine if the bioprinted tissues are safe for transplantation. Transplantation of a bioprinted heart tissue that contracts outside of this range may lead to arrhythmia in the patient, a dangerous and deadly complication for the patient.
Not only can Dr Gentile's bioprinted heart tissues be used for transplantation, they can also be used in a test tube to identify unpredicted side effects of medications on the heart of a patient. For instance, some chemotherapies can lead to heart failure in several cancer patients. In particular, a drug used to treat lymphoma and leukemia in children, may be responsible for damages to their hearts even after 17 years following this treatment. The equipment funded by Heart Research Australia for Dr Gentile helps detect these side effects using personalised minihearts from a patient's own cells. Preliminary studies have demonstrated that medication can be deemed safe for the patient or not before it is administered. This would enable a patient to be able to see if a prescribed medication changes the way their personalised miniheart contracts, enabling them to potentially seek advice from a doctor for a safer therapy.





Research Projects

Heart Failure and Cardiovascular MRI

Project Title:
Heart Failure and Cardiovascular Magnetic Resonance Imaging – pathophysiological mechanisms, improved diagnosis and new treatment.

Lead Researcher:
Prof Martin Ugander

Funded Since: 2019

Amount: $131,000

Heart failure affects about 40 million people worldwide, equating to 2% of all adults and 6-10% of people over 65 years of age. Once diagnosed, heart failure leads to 50% mortality within 5 years, which is poorer survival than for most cancers. This equates to a large patient group with a sizable burden of hospitalisation and premature death.

Professor Martin Ugander's latest research partially funded by Heart Research Australia focuses on developing and using state-of-the-art cardiovascular magnetic resonance imaging (MRI) to better understand, diagnose, and evaluate treatment in heart disease and ultimately reduce the need for invasive heart procedures and operations. By improving and simplifying the diagnostic process, timeframes are reduced meaning earlier treatment, less heart damage and more lives saved.

Professor Ugander's research specifically focuses on the challenges related to:

- Identifying and treating inefficient filling of the heart (diastolic dysfunction),
- Thick walls of the heart (left ventricular hypertrophy),
- A reduction in blood flow to the smallest vessels of the heart (coronary microvascular dysfunction).

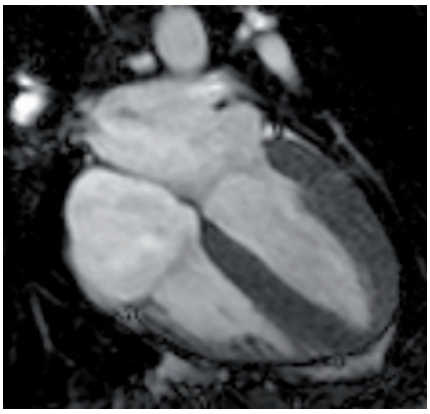
1. Inefficient filling of the heart:
Evaluating inefficient filling of the heart requires accurate measurement. Professor Ugander and his team have developed new MRI methods to provide accurate measurement of the speed of movement of the heart during filling, and blood pressure in different chambers of the heart. These movements and pressures will be evaluated via new non-invasive MRI measures compared to reference measurements in patients.

Through his research, Professor Ugander has found that surgical reduction in the size of the left atrium of the heart may improve the efficiency of filling. As a result, this latest research will also evaluate the ability of this new surgical treatment to improve filling efficiency in patients undergoing open-heart surgery.

2. Thick walls of the heart:
Professor Ugander and his team have developed new methods to better diagnose thick walls of the heart by both MRI and the electrical activity of the heart using electrocardiography (ECG). The accuracy and utility of these new methods will be evaluated in patients.

3. Small vessel disease:
Throughout the research project the accuracy of a new ECG method to diagnose small vessel disease, as shown by MRI, will be evaluated.
The development and evaluation of these new diagnostic methods and treatment will establish their utility for use in everyday care in patients with heart failure who otherwise currently may be incorrectly diagnosed and have a lack of treatment options available to them.
The research from Professor Ugander and his team uses internationally unique, boldly novel, and state-of-the-art methods to address currently unmet clinical needs with regards to methods for the diagnosis and treatment of heart failure. This is highly clinically relevant with a large potential clinical impact.
The results of the research partially funded by Heart Research Australia, will potentially benefit all patients being evaluated for known or suspected heart failure. More accurate diagnostic methods lead to earlier detection, earlier treatment, decreased morbidity and mortality, and ultimately decreased costs for the healthcare system.

Importantly, this represents a disease panorama that disproportionately affects indigenous groups who have a higher burden of diabetes, hypertension, and obesity. The detection of cardiac involvement manifested as left ventricular hypertrophy and coronary microvascular dysfunction by advanced ECG is particularly valuable since these new methods are software-based, they do not require new ECG hardware, and can readily be made accessible in rural areas. All patients with known or suspected heart failure would potentially benefit from the results of the research by Professor Ugander and his team. In these patients, accurate diagnosis is needed to confidently confirm or exclude the presence of heart failure,



MRI image of heart

and this research seeks to improve these methods, and evaluate a bold new treatment option. These new methods will also provide an important ability to accurately and non-invasively study the effects of new treatments for heart failure, which ultimately will come to clinical use. This indirect clinical role as an improved tool for scientific evaluation of new therapies should not be underestimated.

* 4364.0.55.001 - National Health Survey: First Results, 2017-18. Australian Bureau of Statistics.

Research Projects

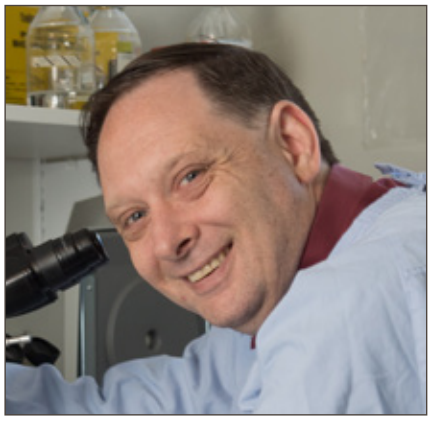
Pre-eclampsia and Peri-Partum Cardiomyopathy

Project Title:
Is pre-eclampsia in pregnancy related to pregnancy induced heart failure?.

Lead Researcher:
Dr Anthony Ashton

Funded Since: 2018 by Anonymous Trust & Foundation

Amount: $150,000 over 3 years + $60K for equipment



"The ultimate goal of our research is to ensure a complication free pregnancy for every mother and the healthy delivery of all babies in our care."

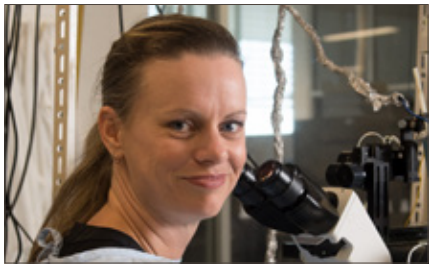
Most pregnancies end with the birth of a healthy baby to a healthy mother; however, some pregnancies end in unforeseen and currently untreatable complications. Unfortunately, the signs that something is wrong in these pregnancies are "normal" for most women at the end of pregnancy. Imagine being a new mother (along with all the stress, fatigue and mayhem of having a newborn baby) but feeling that something isn't right with your health. For many women that is how their diagnosis of peri-partum cardiomyopathy (or pregnancy induced heart failure) begins. Peri-partum cardiomyopathy is where the mother goes into heart failure in the last months of pregnancy or in the 6 months following it and affects approximately 1500 women each year in Australia. The outcomes for these women are bleak with 40% of women forced to take heart failure medication for life (to retain modest function) and 20 % of women will need a life-saving heart transplant in order to see their new baby's 16th birthday. The disease is a serious challenge for obstetricians because there are no effective interventions to treat, prevent or diagnose it. Recently, there have been clues into the origins of the condition. Peri-partum cardiomyopathy has been linked to another serious pregnancy complication, pre-eclampsia. Pre-eclampsia occurs in 5% of pregnant women and manifests in the latter stages of pregnancy as high blood pressure and kidney failure. In fact, more than 50% of women with pregnancy induced heart failure have had high blood pressure during their pregnancy.

Dr Ashton and his team has spent the first half of 2019 identifying new causes of peri-partum cardiomyopathy in patient samples. Their new data shows conclusively that the root cause of peri-partum cardiomyopathy is in the way the maternal vasculature responds to pregnancy. The normal processes that constrain the degree to which the mother's blood vessels accommodate pregnancy are lost in women who suffer from peri-partum cardiomyopathy. This fits with current paradigms on pre-eclampsia, which highlight the aberrant regulation of blood vessels by the placenta. Moreover, they suggest strongly that a single mechanism may cause both diseases.

These critical insights have allowed Dr Ashton and his team to create a first-of-its-kind test which can be used to develop new drugs to combat both pre-eclampsia and peri-partum cardiomyopathy. To find these drugs, the team are currently engaging with pharmaceutical companies to choose the

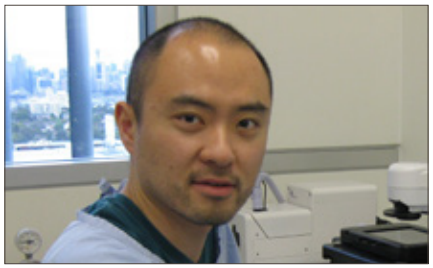
"diamond in the rough" that will become the first prototype agent for curing pre-eclampsia and peri-partum cardiomyopathy. These findings will continue to unravel the mysteries of these two conditions and provide opportunities for development of new diagnostics for early detection of both conditions. To this end, the team is embracing new and exciting technologies (such as RNAseq) that enable individualised treatment regimens for each pregnant woman through earlier diagnosis and targeted therapy. The ultimate goal of this research is to ensure a complication free pregnancy for every mother and the healthy delivery of all babies in our care.

Dr Elisha Hamilton - Laboratory Manager for Professor Helge Rasmussen



Dr Hamilton is directly responsible for performing most experiments that are conducted within Professor Rasmussen's laboratory as well as providing a supervisory role to students and research assistants within the lab. Her role as Laboratory Manager requires that she balances the scientific needs of the laboratory staff and students with the business needs of the lab. Her duties include the maintenance of laboratory equipment, procurement, data management, budgeting, training and liaising with collaborators. In addition, Dr Hamilton acts as the work health and safety representative for the laboratory group, as well as the preparation and submission of funding applications, scientific manuscripts and ethics applications.

Owen Tang - Laboratory Manager for Professor Gemma Figtree



Professor Figtree's Laboratory strives to understand the way reactive oxygen species affect disease in the heart and blood vessels. Oxidative stress is a major driver of cellular dysfunction, leading to cardiovascular disease. Owen Tang is studying these molecular mechanisms and testing different ways to prevent it. As a by-product of Owen's project, a novel probe which can effectively measure the membrane redox potential has also been developed by the team. The probe allows them to detect reactions in the cell that show if the processes they are targeting are being affected. This probe can potentially be used in different studies within the research group or by other teams.
In parallel to conducting research, Owen is directly responsible for the overall management of the laboratory. This includes tasks such as implementing WHS protocols, overseeing the procurement of consumables, and onboarding and training of new team members on PC2 environment. The laboratory has grown significantly over the last two years as understanding of the disease has broadened. With more than a dozen members working in the laboratory at any given time, ensuring the efficiency and safety of the laboratory is an important part of Owen's role.

Scholarships funded by Heart Research Australia

Dr Chris Roche

Dr Chris Roche, a cardiac surgical trainee, has brought surgical skills and insights to the team supervised by Dr Carmine Gentile - a bioprinting expert who is working towards producing heart patches made of special 'bio-ink'. Together, their project aims to regenerate parts of the heart that have died following a severe heart attack and help heart failure patients. The 'bio-ink' uses individualised stem cells taken from blood or skin samples which are then converted to beating heart cells.

Dr Roche is working with Dr Gentile to optimise the bioprinting technique. The next phase will use a bioink called GelMA. This is a high-tech bioink to use in the bioprinter and needs a special UV light to link molecules together to make it strong after it has been used to print a patch (i.e. when it is used to make a patch it becomes stronger after it is exposed to UV). Stem cells are difficult to work with, requiring intensive work and expertise to culture them correctly and make them turn into heart cells. To do this, the team are working with a scientist from StemCell Technologies, Vancouver. This is an exciting phase of the project because if they can make patches from GelMA and put heart cells from human stem cells inside the patches, this will be a significant achievement.

Dr Roche is working to significantly advance the field of cardiac tissue bioengineering. This project is at the forefront of research in this subject area globally and is, ultimately bringing us closer to being able to provide a paradigm shifting solution for heart failure patients.

Dr Di Wu (Woody)

Woody is a doctor (qualified in China) who is on a pathway to fulfilling his dream of combining research with clinical practice. His passion and focus is to help discover cures for people with heart failure.

Working with Professor Gemma Figtree and Dr Kirsten Bubb, Woody has begun working on investigating a novel pathway that involves free radicals which cause damage to the heart – and results in the enlargement and scarring of the heart. Woody aims to discover whether this pathway can be targeted with new medicines in order to develop new and better treatments for heart failure.

Free radicals produced as a by-product of oxygen are essential to physiological metabolism, but will cause disease when the production of free radicals becomes uncontrollable, which is a common problem in heart failure patients.

Woody uses the aortic banding procedure, a disease model that mimics pressure-loaded left ventricular remodelling which is the pathological feature of enlarged and scarred hearts. Already, he has successfully performed the aortic banding model and has developed a novel genetically modified mouse which is protected from free radicals.

Monica Ruckholdt

Monica is currently working on her PhD with The University of Sydney Susan Wakil School of Nursing and Midwifery, Faculty of Medicine and Health. She is supervised by Associate Professor Tom Buckley and Professor Geoffrey Tofler.

With over 9 million hospitalisations per year in Australia, the impact on the health and well-being of family members is a further risk. Researching the impact on partners, spouses and parents of patients hospitalised in cardiology and intensive care wards will identify psychological, behavioural and physiological predictors of cardiovascular risk, both during the hospital stay and following discharge. Identifying these changes and their modifiers will potentially explain risk and inform potential preventative strategies that can be translated into practice.

When a patient is hospitalised, it is often a stressful time for the patient's family members, with increased psychological morbidity including symptoms of anxiety and depression and post-traumatic stress symptoms during and following the hospitalisation experience, especially following unexpected admission with acute or critical illness. This psychological morbidity is likely to contribute to increased cardiovascular risk that has been reported in some family members of hospitalised patients.

Monica has found that:

1. The family response to critical illness and hospitalisation of a relative. These include development of adverse psychological outcomes including anxiety, acute stress disorder, post-traumatic stress disorder, depression, and complicated grief.

2. Six major factors appear to influence coping strategies utilized by family members of hospitalised relatives. These include social support, gender, age, relationship with the patient, decision maker role, and prior ICU experience.

3. Coping influences the ability for rational and proactive decision making by family members, with disengaged copers being twice as likely to refuse medical treatments for their hospitalised relative, compared to adaptive copers.

4. Uncertainty of the patient's prognosis and recovery heightens the intensity of the emotional response experienced by family members. Such family members appear at increased risk for experiencing depressive symptoms.

The next steps for the research project will be to undertake further analysis of the family members. The aim is to understand the issues more accurately to put forward improved protocols and possible proactive treatments to reduce the adverse impact on family members.

170

people have a

heart attack

every day.

SOURCE:
AIHW - Australia's health 2018.
ISBN: 978-1-76054-377-8 Cat. no: AUS 222

Keeping Hearts Beating

When was the last time you had a heart health check?

Heart Research Australia's researchers are constantly working towards our vision of making breakthroughs in heart disease happen but there is still a long way to go. The hope is a world free from heart disease, however, with 1 in 20 Australians currently affected by this insidious disease* this hope is still a while off.

At Heart Research Australia, in addition to funding life-saving heart research, we are also passionate about spreading heart health messages to ensure every Australian has access to the best information and support.

Please book an appointment with your GP for a heart health check. The cost of this is now covered by Medicare so should not cost you anything. Having a heart health check enables you to know your risk factors and numbers. This can help you make informed decisions and be proactive about your heart health.

We have a lot of great information on our website. Please visit it to increase your knowledge and understanding of heart health:
www.heartresearch.com.au

** 4364.0.55.001 - National Health Survey: First Results, 2017-18. Australian Bureau of Statistics.*

Matters of the heart cardiac series

Discovering you have a heart condition can have a significant effect on you and your loved ones socially, physically and emotionally. Understanding the impact, and learning about your condition and its treatment, is important to come to terms with this significant event.
As part of our patient engagement program, we have produced a series of informational videos, with the aim of providing cardiac patients, their families and the wider community with helpful information.
These videos cover the most common heart procedures, information on the latest cardiac research, personal stories from heart survivors and the importance of rehabilitation. The videos are available on our website and offered for use in doctor rooms and hospital TV channels. Topics in the series include; About Angiography, What is a Heart Attack, The Importance of Cardiac Rehabilitation.

To view the Matters of the Heart episodes, please visit
heartresearch.com.au/video

The Heart Hub

The Heart Hub section on our website provides easy to understand information about heart disease, risk factors, and the different types of treatments, conditions and procedures available for those affected by heart disease.

Visit ***heartresearch.com.au/heart-hub*** for more info.

The Heart Smart Club

The Heart Smart Club provides members with information on how to maintain a heart healthy lifestyle, e-newsletters - which include research updates, heart healthy recipes, information about different heart conditions and stories from people who are fighting heart disease and how they are coping with this life-changing adjustment plus more.

Stay tuned for some exciting updates to our Heart Smart Club.

To join our Heart Smart Club simply visit ***heartresearch.com.au/heart-smart-club***

Do you LIKE us?

Make sure you like and follow our Facebook page to stay on top of all the latest heart health information and keep your heart health top of mind. We are also on Instagram, LinkedIn and Twitter.

Heart Smart pocket guide

Our Heart Smart Pocket Guide is a compact, wallet-sized fold-out guide to heart attack symptoms, a heart attack action plan and risk factors. We initially distributed these to our donors and supporters, and now offer the pocket guides to the wider community via Social Media and sent close to 11,000 just this year alone.

We have been overwhelmed by the personal stories hundreds of people have shared with us because of the pocket guide. Sadly, too many people have lost a loved one to a heart attack simply because they were unaware of the symptoms, and often, in the absence of chest pain they mistook the warning signs for heartburn, stress or another illness.

We aim for the pocket guide to help people be more aware of the full range of symptoms of a heart attack and encourage them to seek medical attention if they're ever in doubt. No family should go through the tragedy of losing a loved one so unexpectedly to a heart attack, and we hope the pocket guide might play a small role in preventing such heartache.

To order your free guide visit:
heartresearch.com.au/free-pocket-guide

Financials

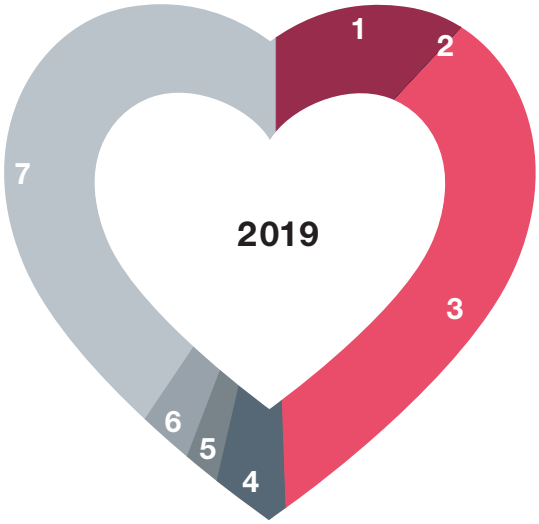
Heart Research Australia supports a centre of excellence that attracts world-class and emerging researchers to conduct ground breaking research into the prevention, diagnosis and treatment of heart disease.

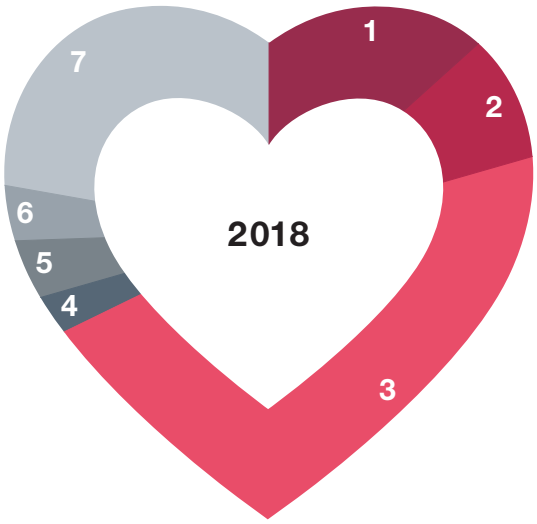
We are extremely proud of the contribution to research of over $32.6M we have made over the past 32 years towards combating Australia's leading killer and creating more heart survivors.

In an increasingly competitive environment to obtain research funding there is a greater need for Heart Research Australia to increase the amount of funds available for research. To enable this, we continue to invest some of the income received to acquire new donors and increase funds available for research. In FY18 the board approved a 5-year plan to invest 15% of current income to the acquisition of regular donors. At the end of year 2 the plan provided additional income of $301k. It is essential to invest in acquisition to ensure the long-term viability of the organization. For every $1 invested in the current regular giving program the current return is $1.52.

None of our achievements would be possible without the continuing generosity of our supporters, backed by the hard work of our community fundraisers, corporate supporters and Trust and Foundations.

How you have helped us over the part two years - Income





2019		*2018*
11.97%	**1** Appeals	**13.60%**
0.06%	**2** Raffles	**7.05%**
37.69%	**3** Bequests	**47.13%**
3.94%	**4** Corporate	**2.84%**
2.43%	**5** Corporate in kind	**3.96%**
3.50%	**6** Community	**3.44%**
40.41%	**7** Other donations (Includes Merchandise)	**21.97%**

Income	2019	2018
Fundraising activities	2,430,532	2,316,713
Appeals	290,843	314,961
Raffles	1,565	163,432
Bequests	916,142	1,091,772
Corporate	95,717	65,901
Corporate In Kind	59,075	91,836
Community	84,968	79,763
Other Donations	981,829	508,943
Merchandise	394	105
Non-operative activities	126,094	116,287
Total income	**2,556,626**	**2,433,000**

Expenses	2019	2018
Employee costs	739,362	813,158
Fundraising	458,210	780,671
Administration	150,928	191,140
Provision for Doubtful Debt	425,000	—
Corporate In Kind	59,075	91,836
Research support	1,084,841	666,025
Total expenses	**2,917,416**	**2,542,830**
Net surplus/(deficit)	**(360,790)**	**(109,830)**

Assets and Liabilities	2019	2018
Cash and cash equivalents	987,174	998,195
Trade and other receivables	90,009	233,175
Financial investments	1,157,858	1,060,681
Plant and equipment	16,138	18,629
Intangibles	23,218	71,723
Inventory for distribution	34,231	50,848
Total assets	**2,308,627**	**2,433,251**
Trade and other payables	649,833	328,134
Provisions	32,866	8,569
Total liabilities	**682,699**	**336,703**
Net Assets	**1,625,928**	**2,096,548**

Our Governance

Heart Research Australia is a company limited by guarantee. We are registered with the Australian Charities and Not-for-profits Commission (ACNC) and are authorised to fundraise in most Australian States and Territories. Heart Research Australia is approved by the Australian Tax Office as a health promotion charity and a deductible gift recipient.

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.

Board of Directors

Heart Research Australia is governed by a Board of Directors. Members include cardiologists, academics, researchers and business leaders.

CHAIR

Anthony Crawford
BA, LLB, FAICD
Retired Solicitor
Company Director

DEPUTY CHAIRS

Michael Lawrence
BEc, SF Fin, MAICD,
Harvard Executive Program
CEO, Customer Owned Banking Association

Associate Professor Gregory Nelson
MBBS, FRACP, FCSANZ
Head, Department of Cardiology, Royal North Shore Hospital (outgoing)
Consultant Cardiologist

CHAIR OF THE FINANCE, AUDIT AND RISK COMMITTEE

Michael Lawrence
BEc, SF Fin, MAICD,
Harvard Executive Program
CEO, Customer Owned Banking Association

HONORARY MEDICAL DIRECTOR

Dr Rebecca Kozor
BSc (Med) MBBS PhD FRACP FCSANZ
Consultant and Non-invasive Imaging Cardiologist
Director, Rapid Access Chest Pain Clinic, Royal North Shore Hospital
Co-director, Advanced Cardiovascular Imaging Laboratory
Senior Lecturer, Sydney Medical School, University of Sydney

DIRECTORS

Professor Ravinay Bhindi
MBBS (USyd), MSc (Oxon), PhD (USyd), FRACP, FCSANZ, FESC
Professor, University of Sydney
Head, Department of Cardiology, Royal North Shore Hospital (incoming)
Consultant and Interventional Cardiologist

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OAM,MPH/MIPH(UNSW)
Managing Director, CodeClean Australia/New Zealand

Professor Levon Khachigian
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NHMRC Senior Principal Research Fellow
Professor in Medicine, UNSW
Head, Vascular Biology and Translational Research, School of Medical Sciences, UNSW Medicine

Dominic May
MMgmt, JP, MAICD
Corporate Services Manager & Executive Member, North Shore Private Hospital

Brigid K. Shute
Grad Dip. ProfMktg
Group CEO, HaloGo Holdings

Anthony Thirlwell OAM,
FAICD, BSC(Hons), MBA
Previously CEO National Heart Foundation of Australia (NSW)

Dr Michael Ward
MBBS (Hons), FRACP, PhD, DDU, FCSANZ
Consultant & Interventional Cardiologist

Committees of the board

The primary responsibility of the **FINANCE, AUDIT AND RISK COMMITTEE (FAC)** is to oversee the Foundation's financial management, corporate governance and compliance with statutory requirements to ensure the Foundation's long-term viability. Its duties include monitoring the performance of the Foundation's investment portfolio and oversight of the annual audit process.

The FAC also monitors the risk profile of the organisation and advises the Board on matters relating to the key risk areas of Revenue, Expenses, Research and Administration.

CHAIR
Michael Lawrence

BOARD MEMBERS
Tony Crawford
Dominic May
A/Prof Greg Nelson
Brigid Shute

Governance review

The Board Charter, adopted in September 2016, commits the Board to **"excellence in governance"**. To this end, a program of periodic review has been established to ensure all aspects of the Foundation's activities are consistent with best practice for the sector.

THE RESEARCH ADVISORY COMMITTEE (RAC) reviews applications made to Heart Research Australia for financial support, monitors the research activities funded by Heart Research Australia and makes recommendations and delivers reports to the Board of Directors on matters relating to the research objectives of Heart Research Australia. Members of the RAC are all highly qualified researchers and practitioners.

CHAIR
Dr Michael Ward

MEMBERS
Prof Ravi Bhindi,
Prof Levon Khachigian
Dr Rebecca Kozor

EXTERNAL MEMBER
Professor Carolyn Sue
(Director of Research, Kolling Institute)

The primary role of the **Scientific Advisory Committee (SAC)** is to advise the Board on future directions in research and the resources required to support future research initiatives.

CHAIR
A/Prof Greg Nelson

MEMBERS
Prof Ravi Bhindi
Prof Gemma Figtree,
Prof Levon Khachigian
Brigid Shute
Tony Thirlwell
Dr Michael Ward

Honours Board

Heart Research Australia supports world-class and emerging researchers to turn their innovative 'out of the notebook' ideas into reality. With the government not funding this type of first-stage research, Heart Research Australia is totally dependent on the community to help our researchers in their quest for major break-throughs in heart disease. We would like to recognise the incredible generosity of the following individuals and organisations who have contributed significantly to help keep families together for longer.

Significant benefactors $10,000 and over

Ian & Helen Bersten
Yvonne & John Almgren AM
Richard Small
Paul Allison OAM

Significant Benefactors $5,000 - $10,000

Anita McKenzie
Allan Farrar
Mr & Mrs Gilfillan
Mary Glendinning
Moreton Rolfe
Tony McCormick

Significant Benefactors $1,000 - $5,000

Anthea Duncan
Arnold Abeshouse
Barry Duncan
Bernard & Shirley Maybloom
Brian Rathborne
Brooks Wilson AM
Bruce and Barbara Walker
Sandy & Charlie Shuetrim AM
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Robbert Fuller
Ronald Webb
Russell Beers
Stephan Center
Thomas Pinzone
Thomas Hancock
Wendy Trevor-Jones

Community Organisations and Ambassadors

Australian Rugby Union (ARU)
Anna & Alessandro Pavoni from Ormeggio
Chris Russell AM
Community Heart Health Care
Red & White Committee:

- Lori Farrar
- Lynne Ravenhall
- Fiona Taylor
- Jenny Carr
- Lynn Varvel
- Jenny Goldring

Con Dedes from the dedes Group
Northern Suburbs Rugby Club

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Commonwealth Bank
dedes Waterfront Group
General Reinsurance Life Australia Ltd.
Jones Day Lawyers
Kelly + Partners
Hattoneale
Hollman Webb Lawyers
NAB
Northern Sydney Local Health District
Ormeggio Pty Ltd
Ramsay Heath Care Ltd
Woolworths Group

Gifts in wills

The Estate of the Late:
Beryl Elizabeth Raymer
Edwin Alfred Britt
George & Mary Thompson
Jeanette Elizabeth Hamilton
Maureen Patricia White
Reginald Stubbs
Robert William Holdaway
William Peter Steele Nicolson

Trusts and Foundations

Cromwell Property Group Foundation
Ernst & Young Foundation
Skipper Jacobs Charitable Trust
The Lady Proud Foundation
The Lin Huddleston Charitable Foundation
The Mill House Foundation
Vonwiller Foundation
Wiggs Foundation
Wood Family Foundation

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