This report is published thanks to the generous support of The Prince Charles Hospital Private Practice Trust Fund and The Prince Charles Hospital Foundation.
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Key Statistics

Dr Renelle Hewetson
- Social participation after right hemisphere stroke: Exploring facilitators and barriers to communication-based participation.

Dr Annalicia Vaughan
- The response of human bronchial epithelial cells to outdoor air pollution: Interventions to protect the diseased lung against diesel emission exposure.

Dr Petra Lawrence
- Pilot study to determine the feasibility of early interventions for emergency department attendees who present with moderate and high levels of psychological distress.

Dr Sandra Miles
- Sensory and motor interventions for very early school-age children: A cluster pragmatic randomised controlled trial examining effect on development, behaviour and academic learning outcomes.

Dr Matthias Kleinheyer
- Considerations for the Design and Control of Pulsatile Rotary Total Artificial Hearts.

Sam Liao
- The interaction between Left Ventricular Assist Devices and Intraventricular Flow: an In silico Evaluation

Andrew Stephens
- A Starling-like Physiological Control System for Ventricular Assist Devices

Weilan Mo
- Human Heart B-Adrenoceptors, Arrhythmias and Control by Phosphodiesterases

Hons: 26
Masters: 28
PhD: 70

205 articles and book chapters
AWARDS

TPCH Charlies Week
- Paul Zimmerman Award for Best New Investigator — India Lye
- Richard Slaughter Award for Best Clinical Research Presentation — Martin Canning
- Michael Ray Award for Basic Science/Translational Research Presentation — Dr Jacky Suen
- Graeme Nielson Best Published Paper in 2017 — Prof Dan Chambers

MNHHS 2018 Research Excellence Awards
- Research Support Award — Prof Ian Yang
- Clinical Research Award — Queensland Lung Transplant Program Clinical Trial Team
- Researcher of the Year — Prof Kwun Fung

TPCH 2018 Staff Excellence Awards
- Innovation Award — Jim Crowhurst
- Rising Star of Research — Amanda Corley
- Alexis Perros — Young Investigator Award for Best Abstract by someone under 35yrs of age — Australian & New Zealand Society of Blood Transfusion
- Sacha Rozencwajg — Best Medical Poster — Australia and New Zealand Intensive Care Society Annual Scientific Meeting
- Prof Scott Bell, Prof Peter Sly, Dr Luke Knibbs, Dr Tim Kidd and Prof Claire Wainwright — Australian Museum-Eureka Award (Infectious Diseases)
- Prof Tony Rahman — Australia Day Award — Queensland Health

Eric Wu — Sezai Innovative Research Award — International Society for Mechanical Circulatory Support

Michael Simmonds — Young Tall Poppy Award — Australian Institute of Policy and Science

Dr Jo Pauls — 3rd Prize Poster Award — European Society for Artificial Organs

Damian Williams, Tracy Nowicki, Prof Paul Fulbrook & Dr Sandra Miles — Australian New Zealand Skin Safety Award — 3M/Wounds Australia
Key Statistics continued...

- Caboolture Hospital: 4 - $8,000
- Emerging Researcher Grant: 6 - $149,612
- Equipment Grant: 8 - $92,274
- Innovation Grants: 20 - $1,146,053
- New Investigator Grants: 21 - $197,329
- PhD Scholarships: 4 - $243,738
- Research Fellowships: 2 - $600,000
- Team Grants: 6 - $1,000,000
- Specified Research Funding: $1,988,383

TOTAL: 73 - $5,425,389

TPCHF AWARDED GRANTS

- Equipment: 11 - $278,847
- Scholarships and Fellowships: 20 - $1,720,373
- Travel grants: 1 - $1,000
- Project & Partnerships: 128 - $10,196,327

TOTAL: 160 - $12,196,547

Key fellowships: Dr Peter Lazzarini — NHMRC Early Career Fellowship; Dr Jack Bell — Medical Research Futures Fund TRIP Fellow

A/Prof Peter Hopkins was elected Programme Chair for the International Society for Heart and Lung Transplantation Annual Scientific Meeting to be held in Sydney 2021

ICETLab applied for 3 provisional patents

Prof Tony Rahman — Invited to present to HRH Queen Elizabeth at the Royal College of Physicians, UK 500th year Anniversary Celebration.

PRESENTATIONS

- Kenya: 1
- Germany: 6
- France: 11
- Canada: 17
- Czech Republic: 1
- Argentina: 3
- South Korea: 3
- Sweden: 1
- Taiwan: 11
- Japan: 8
- New Zealand: 2
- Spain: 11
- China: 4
- Serbia: 7
- USA: 37
- UAE: 3
- Scotland: 2
- India: 1
- Malaysia: 3
- England: 2
- Philippines: 1

GRANTS AWARDED

- ACT: 2
- NSW: 17
- QLD: 93
- SA: 19
- TAS: 5
- VIC: 16
- WA: 6

NOTABLE MENTIONS

- A/Prof Peter Hopkins
- ICETLab
- Prof Tony Rahman

Right: Dr Louise See Hoe.
Foreword

When talented people with purpose come together great things happen.

This year’s Research Report is a tribute to the medical, nursing and allied health teams—the scientists, engineers and researchers who have taken on the challenge to find ways to improve our lives. However, there are other people who are equally as important in this effort to make things better. To the patients who have volunteered themselves in clinical trials and studies, your generosity—the giving of yourself—is a gesture which will help future generations. We thank you. To the funders and donors, you have bought the time to allow the researchers to undertake the exploration for the answers. Your contribution has a direct and tangible impact, every $44 powers another hour of research.

This Research Report touches on milestones, achievements and activities of the research community at The Prince Charles Hospital. However, there is a village of people who are behind each of these stories. For every presentation, award, academic highlight, publication and medical breakthrough has been a collaboration across people and institutions—each pivotal in the journey to improve health.

This year has seen the development of research careers with another eight PhDs awarded or submitted. There has been international award recognition for three researchers, 160 grants received, 205 publications and book chapters, 293 presentations globally, and a presentation to HRH Queen Elizabeth.

Over $12 million in funding was received with collaborative institutions, of which The Prince Charles Hospital researchers have been instrumental in their success. The Prince Charles Hospital Foundation’s initiative “The Common Good” was awarded $3.6 million in grants and a further $1.5 million in direct research funding, with all funds donated through the community, businesses and events.

This report is simply a snapshot of what has occurred during 2018. Behind every report are countless hours of applications, preparations, negotiations, collaborations, frustrations and data collection. It will never tell the full, human story of the determination and desire it takes to find the answers, the sacrifices made, the family support required, the anxiety experienced. We hope however it records and reflects the achievements – and allows every person involved to take a moment and appreciate the fact that every step has been worthwhile – every step is leading us closer and closer to the outcomes which will save and improve the quality of our lives.

Thank you for being a part of The Common Good.
HEAD OF RESEARCH GROUP
• A/Prof Dorothy Radford

KEY MEMBERS OF RESEARCH GROUP
• Theresa Malpas
• Michael Reye Baldini
• Angela Hedge
• Dr Christopher Whight
• Dr Vishva Wijesekera
• Dr Ryan Maxwell
• Dr Kylie Burns
• Dr Wendy Chan
• Dr Yong Wee
Adult Congenital Heart Unit

The Adult Congenital Heart Unit aims to improve the quality of life of patients with congenital heart disease. Our research ensures they have access to world-class cardiac care in line with international standards. Our role is to work with those in our care closely to understand the long-term complications of congenital heart disease and support happy, healthy lives.

A DYNAMIC FIELD OF STUDY

Modern medical advancements mean that children born with congenital heart diseases are surviving into adult life in greater numbers than ever before. Some of our patients have been the first to benefit from surgical procedures that were not possible a generation ago, making congenital heart research a dynamic field of study.

As a result, we place a huge emphasis on direct care and patient knowledge, ensuring regular contact with those in our care.

We work especially closely with young patients to support them as they get older to live with both the psychological and physical impacts of their condition.

HIGHLIGHTS

Our contribution to The Australian and New Zealand Fontan Registry continued to position us as a leader in our field through 2018. As part of this, we were involved in running a transition education day with Heart Kids, an Australia-wide group providing support to patients and families with congenital heart disease. We are proud to have built a strong relationship with Heart Kids in 2018.

Additionally, in 2018, and in line with a yearly trend, we saw more and more healthcare providers identify our unit as Queensland’s main referral centre, resulting in more patients coming to us from the Queensland Children’s Hospital and other locations.

We also increased our outreach and telehealth services to regional locations across Queensland and northern New South Wales.

COLLABORATIONS

The research undertaken by our group has been made possible by the Australian and New Zealand Fontan Registry in collaboration with many hospitals and research units across both countries.

Left: Dr Ryan Maxwell, Michael Reye Baldini, Wendy Ryan, Dr Lauren Shearer, Kay Rawnsley, Dr Yong Wee, Lisa Smith, Linda Morton, Dr Sylvia Chen.
HEAD OF RESEARCH GROUP
- A/Prof David Reid

KEY MEMBERS OF RESEARCH GROUP
- Prof Scott Bell
- Dr Daniel Smith
- Dr Megan France
- Dr George Tay
- Michelle Wood
- Tracy McMahon
- Andrea Beavers
- Margaret Lysaught
- Tiffany Jong
- Vanessa Moore
- Emma Megram
- Angela Matson
- Jenna Stonestreet
- Felicity Loel
- Karen Herd
- Rachel Gothmann
- Verne Keegan
- Kate McMorran
- Julieta Castellini
- Trent Donnelly
- Kathleen Hall
- Robyn Cobb
- Bec Chambers
- Dr Tim Kidd
- Rebecca Stockwell
- Joshua Arunkumaar
- Dr Ama-Tawiah Essilifie
- Dr Pramila Maniam
The Adult Cystic Fibrosis Centre

The goal of our research centre is to improve understanding of Cystic Fibrosis (CF) and the quality of life of adults living with the disease. CF is a multi-system disease that predominantly affects the lungs and digestive system.

DELIVERING THE BEST CARE FOR PATIENTS

CF unfortunately has no cure, making our outcomes critical to our community who need this research to help them live longer and healthier lives. The work we do is multi-faceted and includes a range of clinical and operational research, and research that addresses both the medical and psycho-social impacts of living with the condition. We also have a very efficient clinical trials facility that allows our patients to access new treatments, even at early phases of development.

HIGHLIGHTS

In 2018, our research into cross-infection continued to garner us international recognition and awards. By demonstrating that cross-infection of the lungs occurs between patients with CF, we have implemented a new infection control policy in the hospital with ensuite bathrooms and new ventilation systems.

These measures will not only mean a reduction in cross-infection for our patients, but they represent a proven infection control measure that other hospitals can replicate. Prof Scott Bell and his collaborative team were awarded the prestigious Australian Museum-Eureka Award for this research.

We have also had many achievements within the field of CF dietetics including the publication of a new clinical support and training package, development of a national mentoring program to CF dieticians, contributions to patient education resources, and the delivery of numerous lectures to universities across Australia.

PRESENTATIONS AND PUBLICATIONS

We presented at numerous national and international conferences. The team were part of delivering over 30 papers, publications and articles in 2018.

RESEARCH COLLABORATIONS

We work with multiple research and educational institutions on a global scale.

Our unit is one of the largest CF research centres in the southern hemisphere, and with some of the most state-of-the-art research facilities at our disposal, we have the capacity to invest in high impact, groundbreaking research.

Our team has a strong international reputation, with members of the group considered opinion leaders in the field. We are lucky to be able to collaborate with expert researchers around the world including doctors, microbiologists, chemists, epidemiologists and allied health professionals, and work together to deliver the best care for CF patients.
HEAD OF RESEARCH GROUP

• Dr Frances Kinnear

KEY MEMBERS OF RESEARCH GROUP

• Prof Wayne Hazell
• A/Prof Colin Myers
• Dr Neil Grant
• Dr Alastair Newton
• Dr David Wood
• Dr Michelle Davison
• Dr Sue Hobbins
• Dr Polash Adhikari
• Dr Faye Jordan
• Dr Linda Symington
• Dr Gavin Fincher
• Dr Rajeev Jarugula
• Dr Hanh Pham
• Dr Kim Hansen
• Dr Peter Rizzo
• Dr Rose Fahy
• Dr Allison Fifoot
• Dr Melanie Rule
• Sarah Hazelwood
• Tanya Montford
• Amanda Smith
• Jeanette Probyn
• Julie Craig
• Sandra Manderson
• Virginia Blakeley
• James Fleming
• Louise Spooner
• Sam Giess
• Lynda Briggs
• Susan Smith
The aim of our group is to produce top-quality research in the field of emergency medicine. To provide the best patient care possible, we strive for research outcomes that directly impact the practice of emergency medicine. Emergency care research can be fraught with complications due to the unplanned nature of the emergency environment with multiple patients arriving around the clock. To be effective in this field, our research must consider this challenge, alongside the complex collaborations that occurs within our multidisciplinary team of staff.

**RESEARCH WITH A DIRECT IMPACT**

We have selected the projects carefully to maximise the likelihood of successful research outcomes while also successfully upskilling our team in investigative methods. As this practical approach continues to grow our team’s capacity for research, we are able to participate in complicated projects tackling the more difficult medical issues.

Ultimately, we want to improve our understanding of how the decisions we make in the emergency room determine overall patient outcomes and keep patients and staff as safe as possible. To achieve this, our research portfolio includes a cross-section of research into diagnostic challenges, harm minimisation measures, patient management procedures and safety initiatives. Alongside research that is patient-centered, we also use research to maximise the safety and wellbeing of those who practice on the frontline of emergency medicine.

**HIGHLIGHTS**

In 2018, we were pleased to demonstrate our growing research strength and capacity with 25 studies in active recruitment or commencing in early 2019. Most notably, our pneumothorax study finished a seven-year long recruitment phase and the work has been submitted for publication in a major journal. Excitingly, the results of this trial have the potential to change practice for this condition on a global scale.

Additionally, we continued to drive excellence in the field of sepsis research. The importance of the study in which we are currently engaged has been recognized with the principal investigator of the study, Dr Stephen MacDonald, being the recipient of the Individual Global Sepsis Award at the International Sepsis Forum this year.

Presentation of early trial findings have also resulted in a best paper award at the Annual Scientific Meeting of the Australasian College for Emergency Medicine plus they have been published in a high-ranking journal with a much larger trial currently in the planning stages.

We were successful in attracting a large grant for a potentially ground-breaking Queensland asthma study, looking at the relationship between pollens in the air and viral infection patterns in asthma presentations. We look forward to seeing where this research will take us in 2019.

**PRESENTATIONS AND PUBLICATIONS**

In 2018, there were nine published, peer-reviewed papers and seven presentations.

**RESEARCH COLLABORATIONS**

New and ongoing collaborations with many research groups, universities and scientific institutions Australia-wide also enhanced our ability to conduct high-quality practice-changing research this year.
HEAD OF RESEARCH GROUP

• Prof Norm Morris

KEY MEMBERS OF RESEARCH GROUP

• A/Prof Petrea Cornwell
• Dr Jack Bell
• Dr Peter Lazzarini
• Dr James Walsh
• Dr Nicole Bellet
Allied Health Research Collaborative

Our vision is to be a nationally recognised research unit delivering outcomes that support healthy, happy and productive lives. To achieve this, we bring together clinicians from allied health, internal medicine and nursing to implement an evidence-based practice that improves both in-hospital care and long-term outcomes for patients.

IMPROVING REHABILITATION PROCESSES

There are many disciplines that fall under allied health including physiotherapy, dietetics, occupational health, podiatry and speech pathology; to be successful as team, we strive for continuous improvement across each discipline.

Our common goal is improving rehabilitation processes through varied research projects taking place across the hospital.

This includes addressing issues such as in-patient malnutrition and other barriers to recovery, including frailty in stroke or transplant patients. We also focus more on vulnerable patients, such as those with multiple diseases or the frail and aging, as they are more likely to be at risk of harm or injury whilst in our care.

HIGHLIGHTS

2018 was a successful year for our group with the award of over $400,000 in new funding and two research fellowships through the National Health and Medical Research Council.

A major highlight was the roll out of a new approach to nutritional care across 11 hospitals in Queensland based on our work addressing malnutrition at The Prince Charles Hospital. We were proud to see our research result in a state-wide change to nutritional care.

Additionally, we continued to publish and supervise projects aimed at optimising rehabilitation outcomes for heart and lung transplants patients. In 2018, we implemented new muscle strength testing for individuals attending heart and lung transplant clinics and look forward to seeing how this measure will support improved patient care and management procedures.

PRESENTATIONS AND PUBLICATIONS

Researchers from our group published over 50 peer-reviewed manuscripts in 2018.

STUDENTS

Our fellows maintained a substantial student supervision load, with the group supervising 30 research higher degree students in 2018. Six of these higher degree students submitted their thesis or graduated in 2018 and a further four students completed an undergraduate program.

RESEARCH COLLABORATIONS

In 2018, we collaborated broadly on a local level and internationally with researchers in Canada, the UK, Ireland, New Zealand, Hong Kong and the USA.
HEAD OF RESEARCH GROUP
- Dr Usha Gurunathan

KEY MEMBERS OF RESEARCH GROUP
- Dr Lisa Stanton
- Dr Sophie Jayamaha
- Dr Chris Stonell
- Dr Ivan Rapchuk
- Dr Rachael Weir
The focus of our research is to improve the safety and quality of anesthetic care. Maximising the well-being of surgical patients is our core priority, and although the direction of our work evolves in line with surgical advancements, our research is guided by this founding principle.

**QUALITY OF ANAESTHETIC PRACTICE IS KEY**

Our team is committed to a collaborative approach that reinforces the importance of quality anaesthetic practice as key to advanced modern medicine. Whilst reducing surgical risk is fundamental, studies into patient benefits, such as reduced pain after surgery, faster recovery times and increased quality of recovery have become more important avenues as our field has evolved over time.

Our specific areas of interest include studies into cognitive impairment, frailty and pain relief after surgery, and improving patients’ health before surgery.

We are proud to be at the forefront of international anaesthesia research and working alongside other internal groups and external research institutions on a range of exciting and diverse research projects.

**HIGHLIGHTS**

2018 represented a year of exciting growth for the group as we took on more leadership roles in research projects. Our principal investigator, Dr Gurunathan, received a total of $80,000 for group projects to be initiated in 2018 and 2019. To work in collaboration with other disciplines, we were awarded an additional $150,000.

We also completed the first multi-centre trial initiated by our department in 2018. The results of the study, looking at the effects of anesthetic drugs on memory after an endoscopy procedure, will improve our understanding of the effects of commonly used anaesthetics.

Additionally, we completed a collaborative pilot study looking at links between frailty and obesity in cardiac patients, with the results initiated a new large-scale, three-year project.

**PRESENTATIONS AND PUBLICATIONS**

The outcomes of two international multi-centre landmark studies were published in top level journals and presented at the Australian and New Zealand Society of Cardiac and Thoracic Surgeons Annual Scientific Meeting. Four of our investigator-initiated studies were also published in 2018.

**COLLABORATIONS**

The Anaesthesia Research Group worked with various other research groups and externally with support from the University of Queensland, University of Melbourne, Royal Brisbane and Women’s Hospital, and QIMR Berghofer.
20 Years of Research and Counting

Walk into the laboratory of the Cardiovascular Molecular and Therapeutics Translational Group and you’ll feel as if you’ve crossed into a unique and exciting dimension of science. Pipes and pumps, tanks filled with water at precisely 37 degrees Celsius to replicate the conditions of the human body, bubbling tubes crossing over one another—Associate Professor Peter Molenaar’s lab is an intriguing sight.

Perhaps most remarkable, are the small, glass vials holding tiny tissue samples from explanted hearts—contracting and relaxing through a simulated, electrical impulse—mimicking a human heartbeat while being tested with various life-saving drugs.

But the lab holds far more than just these experiments. It encompasses a long and rich history of research, collaboration and commitment spanning over more than two decades.

20 years ago, Peter relocated his laboratory to The Prince Charles Hospital to further support heart research. It provided the opportunity to work with both cardiology and surgical programs all under one roof—a factor that would save him from transporting precious heart tissue samples collected in hospitals back to the laboratory.

Perhaps this sense of collaboration is what makes Peter’s lab so inviting. Scientists, hospital staff and students have all worked in the lab throughout its decades-long history. Each have been fundamental in its success and have been key in nurturing a strong interface between the research and clinical worlds.

“The lab acts as a nucleus of this multidisciplinary team. The physicians interact with their patients daily and the scientists bring expertise in their specific areas of research. When we’re finding ways to save lives, both are equally as important.”

However, heart disease statistics are still frightening. Approximately half of all patients with heart failure will die in the five years following their diagnosis—of that number, half of those will be of sudden death. It is a shocking reality for cardiac researchers like Peter. “Our real burning aim is to develop medicines or new ideas that will help these people, or lay the foundations for new medicines,” he explained.

The real reward has been the connection he has had with patients. Peter has personally had the opportunity to meet some of the transplant patients who have generously donated their explanted hearts to research following surgery.

They’ve trusted us that maybe one day, we can provide some answers or solutions that will help other patients. Those patients provide the motivation to continue doing this work—it’s an absolute pleasure to be doing so.

Having the support of the heart surgeons in this hospital was tremendously important. All of the surgeons, every single one of them, have been incredibly helpful over the years.
HEAD OF RESEARCH GROUP
• Dr Christopher Raffel

KEY MEMBERS OF RESEARCH GROUP
• Maricel Roxas
• Sandra Phillips
• Estelle Beevors
• Megan Mearns
• Suzanne Spencer
• Kathryn Stibijl
• Irena Rymar
• Winnie Chu
• Bernice Enever
• Julie Bailey-Bradshaw
• Hannauh Rheault
• A/Prof Haris Haqqani
• Dr Russell Denman
• Dr Scott McKenzie
• Dr Yee Weng Wong
• A/Prof Christian Hamilton-Craig
• Prof Gregory Scalia
• Dr Niranjan Gaikwad
• Dr Ryan Markham
• Dr Stephen Kyranis
• Dr Andrew Clarke
• Dr Peter Tesar
• Dr Anil Prabhu
• Dr Anthony Putrino
• Dr Wandy Chan
• Dr George Javorsky
• Dr Askhay Mishra
• A/Prof David Platts
• Dr Damian Roper
• Dr Katherine Lau
• Dr Rustem Dautov
The Cardiology Clinical Research Centre is one of the largest research sites in Australia for coordinating and conducting international clinical trials and investigative cardiology research. The focus of our group is to find new surgical approaches for major heart procedures and gain experience using the latest techniques and technology in the field.

**PIONEERING MAJOR HEART PROCEDURES**

We want to find the most advanced and best effective surgical procedures for treating life-threatening heart conditions, such as structural heart disease, acute coronary syndrome and heart failure. We also invest in researching drug therapies with the goal of finding better ways of managing a range of heart conditions.

Since our group's inception, we have sought to pioneer less invasive cardiac surgical techniques and find lower risk alternatives to open heart surgery. Our ability to carry out lower risk procedures is critical to improving patients' chance of survival, longevity and quality of life.

We are committed to delivering the most advanced surgical techniques in the world for heart patients, and as these techniques become the new global standard of care, remain at the forefront of their evolution.

**HIGHLIGHTS**

In 2018, there were 45 projects undertaken by our group, either singularly or in collaboration with others. Many of these were long-term clinical trials, including research to find a new treatment for diastolic heart failure and a new surgical technique for mitral valve surgery. The progress of these two projects this year has made us confident that we will achieve good outcomes and this research will represent a significant contribution to the field of cardiology.

Our heart failure nurse practitioner was additionally selected to become a principal investigator for an international trial into the recommended low-salt diet for heart failure patients. We are excited at the opportunity to formally assess this expert opinion and proud to have our first nurse practitioner take the lead on an international project.

2018 represented another exciting year for our team with the evolution of ongoing projects and the launch of new research. We received multiple awards, worked with leading international institutions and presented our work all over the globe. As one of the largest multicenter cardiology research sites in the country, we are proud be considered a department that is at the forefront of international cardiology, championing innovation and pushing boundaries every year.

**PRESENTATIONS AND PUBLICATIONS**

Numerous presentations and publications were delivered by our group to national and international acclaim.
AWARDS
We were awarded the following commendations in 2018:

• TPCH 2018 Staff Excellence Awards, Research Support Award—Runner Up
• TPCH 2018 Staff Excellence Awards, Innovation Award—Winner
• MNHHS 2018 Research Excellence Awards, Research Support Award—Finalist
• MNHHS 2018 Research Excellence Awards, Excellence in Performance Award—Finalist
• MNHHS 2018 Research Excellence Awards, Innovation Award—Highly Commended
• Asia Pacific Heart Rhythm Society, Taipei 2018, Young Investigator Award—Runner Up

RESEARCH COLLABORATIONS
In 2018, we worked closely with the other cardiac departments locally and Australia-wide, with support from different universities, research partners and hospitals. Our global partners included institutions across Europe, the USA and Singapore.
"We are committed to delivering the most advanced surgical techniques in the world for heart patients."

—Cardiology Clinical Research Centre
HEAD OF RESEARCH GROUP
• Dr Rishen Naidoo

KEY MEMBERS OF RESEARCH GROUP
• Dr Peter Tesar
• Dr Andrew Clarke
• Dr Homayoun Jalali
• Dr Dong Kang
• Dr Livia Williams
• Dr Anil Prabhu
• Dr Morgan Windsor
• Dr Bruce Thompson
• Dr Bishwo Shrestha
• Dr Lachlan Marshall
• Dr Charlie Liu
• Dr Sean Goh
• Dr Felicity McIvor
• Dr William Foot
• Dr Vinod Sharma
• Dr Fiona Doig
• Dr Doug Bell
• Dr Lincoln Chen
• Bronwyn Pearse
• Susan Smith
• Donalee O’Brien
• Catherine Saxon
Cardiothoracic Surgery Research Unit

The Cardiothoracic Surgery Research Unit supports focused, interdisciplinary and collaborative research projects into heart and lung diseases. As the largest cardiothoracic service in Australia, we aim to provide leadership in the field and provide the evidence-base necessary for medical teams across the country to address complex cardiothoracic surgical issues and optimise their patient care.

RESEARCH AT THE PRINCE CHARLES HOSPITAL

We ensure all our research is clinically relevant and evidence-based, as increased survival rates and healthier patient recoveries are the main determinants of success for our group. Communication and collaboration are key factors in the research and the partnerships we have developed with other departments, local universities and international research intuitions.

A collaborative ethos creates a supportive research culture for staff, especially for junior researchers, and ensures that cardiothoracic research at The Prince Charles Hospital has a strong future.

HIGHLIGHTS

In 2018, we were part of over 20 collaborative studies and delivered tangible changes to patient care. Staff were recognised for their research innovation with the award of two project grants, the first looking at new technology in allograft pulmonary valves, and the second aiming to improve psychosocial care for cardiac surgical patients. We are also proud to announce that one of our junior staff was accepted onto the cardiothoracic surgery training program. This is the first time this has happened in this hospital in ten years.

Many of our studies in 2018 were related to testing new equipment and technology, including our successful ongoing research into rapid deployment aortic valves.

After demonstrating that the new ‘Intuity’ valve can be safely implanted with good results, we were able to start evaluating another option, the ‘Inspiris Resilia’ aortic valve, suitable to use in some heart procedures.

This is an exciting development as these are new pieces of technology that will hopefully prolong valve durability and potentially reduce the re-operation rates.

Additionally, in the field of new devices, the ‘Impella’ device for ventricular assistance has been and continues to be used in our high-risk patients in a collaborative process involving cardiology, anaesthesiology, critical care and cardiothoracic surgery. This work is ongoing, and we are excited to see how this technology could improve heart patient care in 2019.

PRESENTATIONS AND PUBLICATIONS

We published 16 conference articles, eight peer reviewed journal papers and worked with new international collaborators.

RESEARCH COLLABORATIONS

In 2018, we continued our long-standing research collaborations with other cardiac and acute care services, the Australian Red Cross Blood Service and the University of Queensland. We also worked with researchers in the USA and New Zealand as part of multi-centre trials.
From Diesel Emissions to High Fibre Diets: Changing the way we look at Lung Disease

Dr Annalicia Vaughan is exploring new avenues in thoracic medicine with the support of The Common Good.

PURSUING MEDICAL RESEARCH

People pursue medical research for many reasons; to advance modern science, to improve health outcomes, or even to find better ways to prevent and treat illnesses. For Dr Annalicia Vaughan, research is all about grassroots beginnings that could one day open even more avenues in medicine.

After completing her Bachelor of Science in 2012, Annalicia aimed to study medicine, however decided to extend her studies with a research honours year.

“Research played to my strengths, I developed new skills and was able to do the things in science I enjoyed.”

Annalicia first began her research career in the UQ Thoracic Research Centre at The Prince Charles Hospital. Surrounded by an inspiring team, she was encouraged to apply for a New Investigator grant through The Common Good to support her research.

Her initial project focused on air pollution, specifically the effects of diesel and biodiesel emissions on lung cells. While it may seem like there is a clear answer to this issue, Annalicia broke the subject down even further.

“When diesel is combusted, it goes from this liquid form to a gaseous form—some solid particles remain, and these are far more toxic,” she explained.

Annalicia was able to isolate certain cellular effects caused by different diesel components, allowing her to investigate what exactly was causing so much harm to lung cells from these emissions.

With her initial research complete, Annalicia was successful in applying for a PhD Scholarship, which allowed her to expand the topic. These opportunities have enabled Annalicia’s research focus to evolve—from investigating the effects of diesel emissions cells, she is now comparing different biodiesels to see if she can find a safer alternative.

“Biodiesels often have lower levels of toxic particles than diesel emissions, but we don’t know the effect of biodiesels on the lungs. Current testing doesn’t look at the biological effects, but instead the chemistry of the emissions,” she explained. “That’s where my research is interesting, because it looks at the cellular effects of these emissions.”

In the final stages of her PhD, Annalicia received a Research Fellowship. She is the first researcher to receive all three grants from The Common Good. “The timing and conditions of the Fellowship allowed me to apply even when I was still writing up my PhD thesis—it’s a unique opportunity.”

Annalicia is now performing a clinical trial to see if dietary fibre can reduce inflammation in lung cells through healthy gut bacteria. Her work has the extraordinary potential to change the way we look at lung disease.

“The potential that my work could give anyone a better quality of life is incredibly motivating. I would really like to see some of the things that I’m working on actually implemented into people’s lives.

Left: Dr Annalicia Vaughan.
HEADS OF RESEARCH GROUP
- A/Prof Peter Molenaar
- A/Prof Haris Haqqani
- Dr Yee Weng Wong
- Dr Wandy Chan

KEY MEMBERS OF RESEARCH GROUP
- Elizabeth Cheesman
- Dr Weilan Mo
- Dr Alex Dashwood
- Matt Wells
- Dr Nicole Bartnikowski
- Jo Maddicks-Law
- Jayne Bancroft
- Cassandra Vale
The Cardio-Vascular Molecular and Therapeutics Translational Group

The Cardio-Vascular Molecular and Therapeutics Translational Group uses cutting-edge laboratory research to improve outcomes for patients with heart disease. With our research, we give patients hope for survival by identifying new drug treatments and pioneering advanced therapeutic options.

CONFIDENCE IN NEW HEART MEDICINES

Most of our research takes place in our in-vitro human heart laboratory, where our expertise in the use of human heart tissue is employed to test new medicines, understand their mechanisms, and predict possible adverse effects before they are given to patients.

HIGHLIGHTS

In 2018, we continued our exciting work using human heart tissue to test new medicines and advance knowledge in the field of beta-blockers and ryanodine receptors. Human ventricle from patients with heart failure undergoing heart transplantation was used for this research, where we established a useful model of ventricular arrhythmia in the lab.

We tested a few different drug interventions this year with interesting findings, including predicting that activation of B1 and B2 adrenoceptors mediates arrhythmias, phosphodiesterases can control dangerous arrhythmias, and patients receiving the beta-blocker carvedilol have a reduced probability of arrhythmias.

As we move forward with this research, we will learn more about the mechanisms of arrhythmias and how to manage them with different beta blockers and drug combinations.

PRESENTATIONS AND PUBLICATIONS

The group delivered a small number of presentations and publications in 2018.

STUDENTS

After three years of dedicated hard work, Dr Weilan Mo successfully completed her PhD. We were proud to see her take up a post-doctoral research position at the University of Massachusetts.

RESEARCH COLLABORATIONS

We worked locally with other cardiac research teams, universities across Australia, and internationally with support from researchers in Spain and the UK.
HEAD OF RESEARCH GROUP

• Prof John Fraser

KEY MEMBERS OF RESEARCH GROUP

• A/Prof David Platts
• A/Prof Gianluigi Li Bassi
• A/Prof Haris Haqaani
• A/Prof Jae-Seung Jung
• A/Prof Jason Peart
• A/Prof Kiran Shekar
• A/Prof Peter Molenaar
• Alessandro Ferraioli
• Amanda Corley
• Arianna Esguerra
• Ben Fraser
• Braden Cupitt
• Carmen Ainola
• Dave Mullins
• Dr Bruno Vidal
• Dr Charles MacDonald
• Dr Connie Boon
• Dr Jacky Suen
• Dr John-Paul Tung
• Dr Jonathan Millar
• Dr Jonathon Fanning
• Dr Kafa Walweel
• Dr Karin Wildi
• Dr Katrina Ki

• Dr Kei Sato
• Dr Kris Skeggs
• Dr Liam Byrne
• Dr Louise See Hoe
• Dr Meredith Redd
• Dr Maximilian Malfertheiner
• Dr Monica Ng
• Dr Nchafatso Obonyo
• Dr Nicole Bartnikowski
• Dr Sacha Rozencwaig
• Dr Sai Raman
• Dr Sebastiano Colombo
• Dr Takako Akimoto
• Dr Viktor von Bahr
• Dr Wayne Dyer
• Dr Xiaomeng Wang
• Emily Wood
• Fergal Temple
• Gabriela Simonova
• Hollier O’Neill
• India Lye
• Janice Reid
• John Canning
• Kieran Hyslop

• Lauren Beard
• Lynette James
• Mahe Bouquet
• Margaret Passmore
• Marie Lyager
• Matthew Wells
• Mengyao Yang
• Olivia Zeckovic
• Oystein Tronstad
• Polly He
• Prof David McGiffin
• Prof Jonathan Chan
• Prof Stig Steen
• Sam Huth
• Samantha Livingstone
• Sanne Pedersen
• Sara Diab
• Sara Maxwell
• Tanya Anderson
• Taryn Smith
• Tayah McMaster
• Tristan Shuker
• Vanessa Taylor
• Will Crawford
Critical Care Research Group

The aim of the Critical Care Research Group is to increase understanding of the many issues that face critically ill patients and find new or improved treatment methods for hard-to-treat diseases. With our research, we aim to improve survival rates and quality of life for patients with life threatening conditions, such as heart disease, lung disease, sepsis and other critical conditions.

COMMITMENT, COLLABORATION AND PATIENCE

The nature of our research is multifaceted and complex. As a result, it takes many years to turn what we learn in a clinical setting into a standard procedure or approach that will save lives every day in hospitals across the world. This means the requirement for success in our field is nothing less than long-standing commitment, collaboration and patience from an international team.

As a world-renowned research centre, our patients have access to some of the best treatments and brightest medical professionals in the field. The hard work of our group means more deaths can, and will be, prevented by research that delivers innovation, new discoveries and radical advancements in care for the critically ill.

HIGHLIGHTS

2018 was a busy and exciting year for our group with thirteen studies either ongoing, or newly commenced. Like previous years, our work was praised via awards, international recognition and significant financial investment, including $1.3 million in funding from the University of Queensland.

Most notably, the “ICU of the Future” project gathered momentum in 2018. The aim of this project is to develop an improved ICU experience, encompassing what patients and their families value most. With this research, we are hoping to improve patient outcomes and reduce the burden of critical care on the hospital budget.

This is the first time a patient-centred approach to ICU design has been explored in Australia. Although this project is still in its early stages, we are already seeing very promising results.

We were proud to have completed four experimental studies in sepsis and heart disease research, including the first successful completion of a heart transplant with hypothermic ex-vivo perfusion. This kind of innovation is another example of how, year-in-year-out, we are continuing to break new ground in critical care.

In testament to our collaborative networks across Australia and New Zealand, we completed recruitment of an 11-site point prevalence study of ECMO infections and cannulae dressing and securement practices, which will be the first to describe the prevalence of nosocomial infection across the two countries. This will be an important starting point in addressing the unacceptably high infection rates in these vulnerable patients.

PRESENTATIONS AND PUBLICATIONS

Our team presented internationally with multiple invitations to showcase our research findings. We led a high number of presentations at The Prince Charles Hospital’s Charlie’s Week, including 28 “Hour of Power” presentations. We also included our research on nasal cannulation techniques into a new medical textbook and were the only contributors from the southern hemisphere invited to do so.

Left: Dr Katrina Ki, Talvin Lee.
Critical Care Research Group continued...

AWARDS
The team won multiple awards in 2018, including:

- Australian Society for Medical Research, Clinical Researcher Award 2018 — Prof John Fraser
- The Prince Charles Hospital’s Charlie’s Week, Paul Zimmerman Best New Investigator Award — Dr Jacky Suen
- The Prince Charles Hospital’s Charlie’s Week, Michael Ray Best Basic Science Award — Indy Lye
- The Prince Charles Hospital, Rising Star of Research Award — Amanda Corley

STUDENTS
We supervised seven honors students in 2018 and six PhD students.

RESEARCH COLLABORATIONS
We continued to maintain and grow our research collaborations across the globe in 2018, with active and ongoing collaborators from 20 countries. Our ties with global ECMO researchers continues to be strong with ongoing collaborations with the global ECMO body, ELSO, and the research-driven network ECMONet. We are ramping up our collaborations with our Asia Pacific neighbours in the specialty of ECMO to broaden our research efforts and improve patient outcomes on a broader scale.

Within intensive care networks across Australia and New Zealand we actively foster collaboration in this network and sit on many management committees for studies which will ultimately shape and improve the care we provide to the critically ill.
The nature of our research is multifaceted and complex. As a result, it takes many years to turn what we learn in a clinical setting into a standard procedure or approach that will save lives every day in hospitals across the world.

— Critical Care Research Group
HEAD OF RESEARCH GROUP

• Prof John Fraser

KEY MEMBERS OF RESEARCH GROUP

• Prof Geoff Tansley
• Dr Jo Pauls
• Dr Frey Munoz
• Dr Chris Chan
• Dr Nicole Bartnikowski
• Dr Shaun Gregory
• Eric Wu
• Dr Sam Liao
• Dr Andrew Stephens
• Eleonore Boile
• Alice Boone
• Clayton Semenzin
• Martin Mapley
• Kristy Garrick
• Raymond Ho
• Dr Michael Simmonds

• Anthony McNamee
• Dr Michael Stevens
• Vivian Koh
• Liam O’Connell
• Nathan Corvino
• Vasu Lakkoju
• Oscar Vosshage
• Dante Stephens
• Madison Beare
• Dylan Lightbody
• Kurt Glover
• Melanie Smarzoch
• Celine Leung
• Masataoka Inoue
• Kokuke Igarashi
• Joshua Rolls

• Sebastien Schott
• Dilan Fernando
• Adam Gluchowski
• Bryce Thompson
• Heidi Ting
• Prof Robert Salamonsen
• Prof Matthew Dargusch
• A/Prof Tim Dargaville
• Prof Zhiyong Li
• Dr Benjamin Simpson
• A/Prof Cara Wrigley
• Dr Danniell Mullany
• Prof Nobuo Watanabe
• A/Prof Einly Lim
Our group uses innovative research in the field of biomedical engineering to dramatically reduce deaths from cardiovascular diseases. Our emphasis is on designing and evaluating devices used by seriously ill heart failure patients, such as mechanical circulatory support systems and ventricular assist devices, and their controllers such as sensors and patient alert systems.

INNOVATIONS WITHIN CARDIOVASCULAR ENGINEERING

Our research is predominantly laboratory based and involves developing in-vitro, in-vivo, ex-vivo and computer models, which can be translated into clinical practice to directly benefit our patients. With cardiovascular disease being the leading cause of death in the developed world, we also want our work to inform medical, engineering and other health professionals via international publications and presentations.

It is important that our research has both clinical and teaching functions so that medical professionals, locally and further afield, can learn from our innovations.

HIGHLIGHTS

In 2018, we were excited to have grown our student researcher cohort to over 30 members, applied for three patents for new devices, and have been a multi-award winning team for another year. We had over 30 different projects start or remain ongoing that covered a wide range of research, including ventricular assist device development, physiological control systems, patient monitoring, implantable sensors, blood-device compatibility and cannulation strategies.

Developing new medical devices takes significant time and as a result, our projects are long-term endeavours without annual reporting of specific outcomes. In 2018, as in prior years, we have continued to progress towards having multiple pieces of technology move closer to being approved for use in everyday clinical care.

AWARDS

Members of our group were awarded the Innovative Research Award at the Annual Meeting of the International Society for Mechanical Circulatory Support and the Young Tall Poppy Award from the Australian Institute of Policy and Science.

STUDENTS

The group takes on a large student load each year, including four post-doctoral researchers, 11 PhD students and 17 honours students in 2018. We were proud to have Matthias Kleinheyer awarded his PhD this year, with another two PhDs submitted.

RESEARCH COLLABORATIONS

Ongoing national collaborations include other research departments, universities and research institutions across Australia. Internationally, we had continued support from researchers in Germany, Japan, Malaysia and China.
HEAD OF RESEARCH GROUP

• A/Prof Philip Masel

KEY MEMBERS

• Dr Peter Collins
• Dr George Tay
• Dr Andrew Burke
• Dr Daniel Smith
• Dr David Reid
• Alanna Bodger
• Ian Smith
The Core Thoracic Research Group supports new medical interventions into lung diseases and aims to improve the care available for patients living with serious respiratory conditions. We strive to evaluate and fill gaps in knowledge related to the diagnosis and management of a variety of common lung diseases.

ADVANCING LUNG DISEASE RESEARCH

As a group, we cover a diverse range of diseases although most of our research focuses on understanding and improving treatments for COPD and bronchiectasis.

We aim for our research to contribute to greater understanding of lung diseases globally and offer the best possible outcomes for all patients, giving them greater quality of life.

To achieve this, our group strongly encourages multidisciplinary research, aims to publish original research, and encourages our researchers to present their work both in Australia and internationally. We are a collaborative research site working alongside other departments, external research institutions and hospitals to collectively advance the field of lung disease research.

HIGHLIGHTS

In 2018, we had 12 studies in progress, which investigated a range of lung health issues. Particularly, our work in reviewing patients with pulmonary embolism and pulmonary arteriovenous malformations, a rare condition that affects blood flow between the heart and the lungs, has given us a better understanding of these life threatening conditions.

Additionally, our research into COPD highlighted too many variable approaches to managing hypoxia in our COPD patients. As a result, we discovered that a standard process for this condition was required and through this we have used our research to streamline the care we offer to for better outcomes.

PRESENTATIONS AND PUBLICATIONS

We published one paper this year.

RESEARCH COLLABORATIONS

Internal collaborators include other lung research units and allied health. Externally, we were supported by the Queensland University of Technology.
HEAD OF RESEARCH GROUP

- Prof Gregory Scalia

KEY MEMBERS OF RESEARCH GROUP

- Prof Jonathon Chan
- A/Prof David Platts
- A/Prof Darryl Burstow
- A/Prof Christian Hamilton
- Dr Anthony Putrino
- Natalie Kelly
- Maricel Roxas
- Craig
The Catheterisation Laboratory, Haemodynamics and Echocardiography Research Group

Our group studies the use of advanced echocardiology and sonogram technologies with the goal of advancing cardiology practice and improving treatments for patients with serious heart diseases. By using the most advanced techniques in echocardiology and driving research into new screening programs, our research ultimately leads to life-saving interventions for heart patients.

THE CARTHARSIS PROGRAM

We are a group of cardiologists, echocardiologists, allied health practitioners and cardiac nurses who together, are delivering the world’s largest echocardiography comparative study, known as the Catharsis Program. Our goal is to perform many high resolution, protocol-driven echocardiograms on a broad range of heart patients and use the data to validate existing procedures or recommend new techniques.

The patients in our study, and those who will benefit most from our research, are those with life threatening heart conditions, including coronary disease, valve disease and pulmonary hypertension. Our group’s research is an integral part of the hospital wide collaborative effort to find new treatment options and better care pathways for heart patients.

HIGHLIGHTS

2018 was an exciting year for our team with multiple international presentations and publications. We had 16 studies in progress or completed, and the Catharsis Program continued to enrol heart patients and collect informative data.

This year, we saw exciting new correlations and understanding of the ways that echocardiography can diagnose cardiac conditions without the need for invasive tests. This is an exciting outcome for the project and is showing how our research has the potential to influence heart patient care and diagnostics.

PRESENTATIONS AND PUBLICATIONS

We produced multiple publications this year and were featured nationally and internationally. We presented our research to the Cardiac Society of Australia and New Zealand, American Society of Echocardiography (Tennessee), European Society of Cardiology (Munich), Cardiac Imaging and Intervention Summit (Beijing), and Cardiology Update in Echocardiography (Kenya).

STUDENTS

We supervised two masters students and one PhD student this year.

RESEARCH COLLABORATIONS

In 2018, we worked very closely with other cardiac departments, most significantly with critical care cardiology and medical imaging.
HEAD OF RESEARCH GROUP
• Prof Tony Rahman

KEY MEMBERS OF RESEARCH GROUP
• Prof John Croese
• Prof Alex Loukas
• Prof James McCarthy
• Prof Nathan Subramanian
• Prof Greg Anderson
• A/Prof Andrew Clouston
• Dr Ruth Hodgson
• Dr James Thomas
• Dr Jan Lian
• Dr Greg Miller
• Dr Paul Giacomin
• Dr Paul Chapman
• Dr Asim Khokhar
• Dr Sarah Kentwell
• Ann Vandeleur
• Jennifer Harch
• Leisa McCann
• Hayley Thompson
• Toni Schmid
• Davoud Pourmazi
The goal of our research group is to perform high quality gastroenterological and liver research and research into the public health concerns that relate to these fields. We focus on interventions and treatments for life-threatening and life-limiting conditions such as hepatitis, cirrhosis, hepatic encephalopathy and coeliac disease.

**FINDING NEW TREATMENTS AND BETTERING PATIENT SUPPORT**

Our ethos is to combine expertise, capability, and external knowledge to achieve the best outcomes for a range of patients.

Within our research projects, we are finding ways to identify conditions earlier, searching for new treatments, and supporting individuals to better manage their health. These outcomes are vitally important with respect to our research into liver diseases, given they represent a major public health crisis with many difficult social, family and personal impacts.

It is important to us that our work benefits the community in a tangible way and, after it is clinically tested, translates to major improvements to public health.

**HIGHLIGHTS**

In 2018, our biggest achievements related to three key research areas: coeliac disease, hepatic encephalopathy and hepatitis. In the field of hepatitis, we launched a new initiative treating inmates in Woodford prison. Since May 2018, we have screened over 400 individuals and treated over 150 with the goal to eradicate the disease from the prison. We are immensely proud of our ongoing commitment to treating hepatitis C in the community and it is our great hope that what we have achieved, including our methods, can be emulated in towns and cities across the world.

In recognition of this outstanding work, Prof Tony Rahman was an Australia Day Awards Winner for services to hepatitis C and we were also awarded a Queensland Health Award for Excellence and Connecting Healthcare.

Another big achievement in 2018 was our coeliac disease and hookworm trial. Although it appears that hookworm infection will not restore gluten tolerance in coeliac sufferers, the data collected has led to many new studies, which will help us understand more about other aspects of the disease, such as inflammatory markers and genetic components. We look forward to analysing the results and creating more exciting research pathways.

Lastly, we had a big breakthrough in our hepatic encephalopathy research. This study, identifying a specific chemical found in the breath of patients, has proven to be successful. This is an exciting step towards finding a single reliable test for this disease that does not currently exist anywhere in medical practice.

**PRESENTATIONS AND PUBLICATIONS**

Several publications were put out this year and findings were presented to The Brisbane Liver Group, Australian Gastroenterology Week and the American Association of Liver Diseases in San Francisco.

**STUDENTS**

The team supervised two PhD students in 2018.

**RESEARCH COLLABORATIONS**

National collaborations included the Queensland University of Technology, QIMR Berghofer, Concord Hospital and CSIRO. We had international support from research institutions in New Zealand and Canada.
HEAD OF RESEARCH GROUP
• Dr Eamonn Eeles
• Dr Chrys Pulle

KEY MEMBERS OF RESEARCH GROUP
• A/Prof Jeffery Rowland
• Dr Lucy Dakin
• Dr Ling Lan
• Dr Jack Bell
• Margaret Morton
• Leah Thompson
• Sally Barrimore
• Margaret Turner
• Rhonda Mead
• John Deeth
Internal Medicine Services

We are a collective of highly-skilled, interdisciplinary clinicians comprising the Dementia Research Unit, Investigator driven research and the Network for Orthopaedic Fracture Education and Research (NOFEAR). Together, we manage a portfolio of diverse projects in dementia, stroke and fracture recovery, which includes international clinical trials and other cutting-edge translational research.

IMPROVING CLINICAL CARE

The aim of Internal Medicine Services research is to improve clinical care for the hospital’s most vulnerable patients, such as the frail and aging, and those with cognitive decline.

Part of our ethos is a commitment to delivering continuous improvements in patient care and research that can be undertaken in the hospital setting. The Internal Medicine Dementia Research Unit is the only research site in Queensland providing dementia patients with access to clinical trials for new drug therapies.

Since our group’s inception, we have been responsible for this kind of pioneering research. Innovation is part of our research vision, and as a group, we strive for vast improvements to care delivery and treatment options for many vulnerable patients.

HIGHLIGHTS

In 2018, 17 new research studies commenced in addition to ongoing work from previous years. Our most groundbreaking research continues to be in our clinical drug trials, where we have been undertaking Australia-first research.

In collaboration with the CSIRO and the Queensland Brain Institute, we have been exploring the neurochemistry of Alzheimer’s disease with the view to being able to develop new, personalised drug treatments for this disease.

We successfully secured a grant to develop an app to manage information related to specialist consultations for inpatients. Since its creation, this app has been adopted by the Metro North Values Based Healthcare team and will be rolled out across the entire service.

PRESENTATIONS AND PUBLICATIONS

In 2018, we published 15 journal articles, presented seven oral presentations and eight posters. Locally, 11 members of our team presented at The Prince Charles Hospital’s Charlie’s Week.

AWARDS

We were awarded best poster at the Annual Scientific Meeting at the Australian and New Zealand Geriatric Society. We also won several awards at The Prince Charles Hospital’s Charlie’s Week.

RESEARCH COLLABORATIONS

Internally, we worked closely with other research departments, most notably allied health and critical care. We had international collaborations in the UK and New Zealand.
HEAD OF RESEARCH GROUP

• Wendy Strugnell

KEY MEMBERS OF RESEARCH GROUP

• Jim Crowhurst
• A/Prof Christian Hamilton-Craig
• Dr Katrina Hopcraft
• Dr Aaron Lin
• Dr Johanne Neill
• Dr Rachael O’Rourke
• Stanley Redmond
• Robyn Riley
• Dr Ian Sarno
• Andrew Trotter
• Allan Wesley
Medical Imaging Research Program

The Medical Imaging Research Program aims to progress the field of medical imaging and deliver improvements to diagnostic techniques such as X-ray, magnetic resonance imaging (MRI) and computerised tomography (CT) scanning. Our goal is to provide safer, faster and more accurate diagnoses of medical conditions using imaging, with a specific focus on improving cardiovascular health using MRI.

ADVANCEMENTS IN DIAGNOSIS CARDIOVASCULAR DISEASE

We are committed to improving how we treat and diagnose health problems and identifying potentially life-threatening conditions earlier by using the most advanced medical imaging techniques in the field. Our research group includes Australia’s largest cardiac MRI service, The Richard Slaughter Centre of Excellence in Cardiovascular MRI.

Through a collaboration with Siemens Healthcare, we are exploring new techniques for diagnosing cardiovascular disease. As a national center for excellence, we have an Australia-wide reach and treat patients from all over the country. It is our vision that all Australians, especially those with life-threatening heart disease, benefit from access to the best technology in medical imaging, combined with our cutting-edge, professional expertise.

HIGHLIGHTS

Our group had seven key projects in 2018 with support from internal collaborations and external research partnerships. Our success story remains the exercise-stress cardiac MRI program, which continues to help us manage patients with pulmonary hypertension.

Patients enrolled in the program are now undertaking a re-assessment after their initial treatment, and with the MRI program offering ongoing monitoring, we can keep evaluating the effectiveness of the program and the health status of our patients.

The results of our international lung screening trial from 2017 using low dose CT scanning has led to these results becoming the established protocol. In 2018, this meant many of our lung patients were exposed to much lower radiation doses and decreased potential patient harm as a result.

PRESENTATIONS AND PUBLICATIONS

We presented our research 17 times at local and international conferences and had nine publications.

RESEARCH COLLABORATIONS

We are thankful for support from other cardiology and thoracic medicine research groups, Siemens Healthcare and numerous other important collaborators including researchers from Germany and Canada.
HEAD OF RESEARCH GROUP
- A/Prof Brett Hughes

KEY MEMBERS OF RESEARCH GROUP
- Emma Wynd
- Kirsten Popplewell
- Vani Sathiaseelan
- A/Prof Zarnie Lwin
- Dr Matthew Burge
- Dr Po Inglis
Medical Oncology Research Group

Our group aims to improve survival outcomes for cancer patients, with a specific focus on helping those with lung cancer and mesothelioma. We have a long history of collaborative and pharmaceutical sponsored clinical trials in these key areas and we are considered a thought-leader in this field.

THE NEXT GENERATION OF INNOVATIVE RESEARCH

The advancements in cancer drugs and therapeutics in recent years have been remarkable, and as a very forward-thinking research group, we have been part of the growth of advanced immunotherapy and targeted drug therapies since our inception.

Despite the way new drugs have revolutionised cancer treatment in the past ten years, there are still vast improvements to be made to survival rates and quality of life for lung cancer patients. We consider it our research priority to be working on the ‘next generation’ of interventions and prioritising only the most innovative research, such as world-first clinical trials, brand new drug therapies and proposing radical alternatives to surgery.

HIGHLIGHTS

2018 was a very productive year for our group. We had 15 studies taking place, either in active recruitment or in follow up stages. In line with the success of previous years, we saw significant improvements to the health and well-being of our patients through their involvement in our clinical trials.

Most notably, we had positive outcomes treating different types of stage four non-small cell lung cancer with different drug therapies. This included studies targeting specific genetic variants; one known as anaplastic lymphoma kinase rearranged non-small cell lung cancer, and another known as epidermal growth factor receptor mutant non-small cell cancer.

We additionally commenced a national study in metastatic colorectal cancer with Dr Matthew Burge as the national chief investigator. We are proud to announce this is a research concept he developed and that he is leading this project for the Australasian Gastrointestinal Trials Group.

PRESENTATIONS AND PUBLICATIONS

In 2018, our group delivered over 80 publications and presentations.

RESEARCH COLLABORATIONS

Alongside our ongoing collaborations with different pharmaceutical companies, our research group had collaborations with Australian Lung Cancer Trials Group, Australasian Gastro-Intestinal Trials Group and Canadian Cancer Trials Group.
HEAD OF RESEARCH GROUP
• Prof Paul Fulbrook

KEY MEMBERS OF RESEARCH GROUP
• Dr Sandra Miles
• Josephine Lovegrove
The Nursing Research and Practice Development Centre exists to foster changes in hospital care through research and evidence-based practice. Since the department was founded in 2010, we have been focused on pressure injury prevention, falls prevention, emergency care and wound management.

IMPROVING NURSING PRACTICE AND PATIENT CARE

We are committed to reducing the occurrence and impact of these in addition to improving recovery and reducing prolonged hospital stays associated with these issues. Within our department, we take the role of research very seriously and want to achieve outcomes that improve nursing practice and have a direct impact on the quality of patient care.

Extending nursing capability in this way is achieved with hospital-wide support, and as a group, we have solid links with other departments, educational institutions and universities as part of a collaborative research culture dedicated to the delivering the best care.

HIGHLIGHTS

In 2018, we followed a trajectory of success akin to previous years. With over 40 projects taking place at different stages, we delivered many results throughout the year. As much of our work was directed towards reducing the impact of pressure injuries, this was our most recognised field of research.

We were proud to have been awarded three new research grants and have been the recipient of a Skin Safety Award at the Wounds Australia Conference, presented to an outstanding team who have implemented a sustainable patient care regimen to improve skin health.

PRESENTATIONS AND PUBLICATIONS

In 2018, we were part of co-writing and supporting 13 journal publications and 11 conference papers.

STUDENTS

We supported and supervised four PhD candidates, four masters students and one honours student.

RESEARCH COLLABORATIONS

We collaborated with many partners internally, state-wide and further afield including the Australian Catholic University, Alliance for Vascular Access Teaching and Research, Griffith University, Queensland Ambulance Service, Queensland University of Technology, Australian Catholic University, CSIRO and Latrobe University.
HEAD OF RESEARCH GROUP
• Dr Indira Prasadam
• Prof Ross Crawford
• Prof Yin Xiao

KEY MEMBERS OF RESEARCH GROUP
• Dr Antonia Rujia Sun
• Dr Sarah Whitehouse
• Dr Ibin Varghese
• Dr Allen Wu
• Dr Patrick Lau
• Salah Showiheen
Osteoarthritis Research Group

The goal of our group is to innovate in research across all areas of osteoarthritis including diagnosis, treatment options, potential cures and prevention methods. We look at the key risk factors, evaluate new ways of using medical imaging, and hope to find new treatments to repair damaged joints.

RESEARCH ACROSS DIAGNOSIS, TREATMENT, PREVENTION AND CURE

We also have a specific research focus on the relationship between the rise of obesity in Australia and higher rates of osteoarthritis. Far from being a minor health issue, osteoarthritis is a significant public health concern. It is known to affect one-in-four Australians and cost the health system more than $4 billion annually.

As a disease with many different causes and effects, and one without a single, effective treatment option, it presents a unique set of challenges to researchers and clinicians alike. To be effective in our field, we take a holistic approach using an integrated team of clinicians, scientists and researchers working together. With this strategy, we hope to better understand osteoarthritis, how we can prevent it and treat it, and improve lives of those impacted.

HIGHLIGHTS

In 2018, our research focused on understanding more about the links between obesity and osteoarthritis. Across different projects in this field, we made four important observations:

- obesity, diabetes, hypertension, hypcholesteremia separately and together, can cause osteoarthritis;
- obesity can activate a certain inflammatory response in the body causing cartilage degradation;
- certain saturated fat diets cause osteoarthritis; and
- obesity can promote cartilage degeneration in three different ways, including causing induced oxidative stress.

These findings provide valuable insights into the development of obesity-associated osteoarthritis and provide new possibilities for treatment and prevention.

Additionally, we had some excellent progress in our research into using antioxidants to target mitochondria in the treatment of osteoarthritis. By addressing mitochondrial dysfunction, we were able to halt the disease progression in animal models. With further study, this approach could form the basis for a new osteoarthritis treatment option.

PRESENTATIONS AND PUBLICATIONS

We presented our research to Arthritis Queensland and the Translational Research Institute Health Forum in 2018.

AWARDS

We are proud of Dr Indira Prasadam who received the Young Investigator Award from Osteoarthritis Research Society International 2018 in the UK. This prestigious award recognises the top five Young Investigators in osteoarthritis research world-wide.

RESEARCH COLLABORATIONS

In 2018, we worked with support from allied health departments and local Queensland universities.

Left: Dr Indira Prasadam, Prof Yin Xiao.
How Hookworms May Hold the Key for Finding a Cure

Hookworms are not the first thing that comes to mind when discussing coeliac disease. These blood-feeding parasites are considered a hinderance rather than an aid in making a big difference for people who rely on gluten free diets.

PROSPECT OF INCREASED TOLERANCE

In 2016, Professor John Croese set out to enhance the quality of life for people with coeliac disease in a unique trial. His previous research revealed that hookworm infections had the surprising potential of allowing patients to reintroduce gluten back into their diets. The increased tolerance to gluten was an exciting prospect, especially for those who had been on a very strict gluten free diet in the past.

While deliberately infecting yourself with a parasite seemed like an unpleasant thing to do, trial participant Joanna Wiseman was fascinated by the research. Diagnosed with asymptomatic coeliac disease, she was excited by the prospect of being able to expand her diet through the duration of the trial.

You hear about tapeworms and those can be pretty horrendous, but when you look at hookworms, they are these little, thread-like things. These didn’t seem to be nearly as bad.

The hookworms were introduced through a small patch on her arm. “It was itchy for a few days, just like the nurses said it would be—they described the whole process quite well.” Joanna explained that it was a nervous wait to see if the trial would work for her.

Starting with little pieces of pasta, she was able to slowly reintroduce gluten into her diet and amazingly, built up the amount of pasta she could eat with no ill-effect over the weeks and months. “Coming to the end of the trial’s first stage, I was able to eat a full bowl of pasta,” she said.

The most exciting part was moving to the second stage of the trial. This meant, that for Joanna, her body was beginning to tolerate gluten and the first stage of the treatment had been successful.

One of the biggest potential successes for Joanna was that, any accidental cross-contamination containing gluten would not have such a dire effect on her health.

While Joanna’s experience was overall positive, studies into this area of research are still ongoing. Professor Croese is in the final stages of analysing the trial’s results to fully understand the effects of hookworms and increased gluten tolerance, with the aim of replicating these effects in medications and treatments.

Not having to read labels or stick to a strict plan when I was shopping was a big relief. I was really amazed at how much time and energy went into thinking about food every day as someone with coeliac disease.”

The Prince Charles Hospital

Left: Joanna Wiseman (Clinical Trial Patient).
HEAD OF RESEARCH GROUP

• Prof Daniel Chambers

KEY MEMBERS OF RESEARCH GROUP

• A/Prof Peter Hopkins
• A/Prof Brendan O’Sullivan
• Dr Simon Apte
• Dr Timothy Sladden
• Dr Chandima Divithotawela
• Dr John Feenstra
• Dr Michael Trotter
• Dr Kenneth Sinclair
• Dr Viviana Lutzky
• Dr John McIntosh
• Maxine Tan
• Tharushi De Silva
• Debra Enever
• Michelle Grant
• Sandy Bancroft
• Tracy Smith
• Maria Pietsch
• Avalon Knott
• Joel Yangson
• Dr James Walsh
• Donna Hickling
• Trish Leisfield
Queensland Lung Transplant Service

The aim of the Queensland Lung Transplant Service is to improve health outcomes and survival for patients with advanced lung disease. Our research advances the number and effectiveness of treatment options available for lung patients, increases the success rate of transplant procedures, and ensures positive outcomes for transplant recipients so they can maintain quality of life in the future.

SAVING LIVES IN REAL TIME

Lung transplantation is often the only viable option for patients with lung disease. Improving this procedure and reducing the impact of post-lung transplant rejection and complications is essential to increasing survival rates and improving quality of life.

Our clinical trial centre is one of the largest in the world and enables us to take a powerful, multifaceted approach to fighting all aspects of lung disease.

As an internationally renowned research group, we have been responsible for numerous world first studies in transplantation and advanced lung disease. With a research program that is effectively embedded in the clinical setting, many of our projects save lives in real time. Importantly, we ensure we are a highly innovative group, and through conducting world first trials, act as an important catalyst progressing global understanding of lung diseases.

HIGHLIGHTS

In 2018, our research program continued to bring cutting-edge science to the clinic for the benefit of our patients. We saw several patient’s lives directly saved by the dedication, imagination and talent of our incredible team.

In recognition of this work, members of our group were given prestigious appointments including Chair of the Pulmonary Fibrosis Australasian Clinical Trial Network, Programme Chair for The International Society for Heart and Lung Transplantation Conference 2021, a Clinical Professorship at the University of Queensland, an Adjunct Professorship and Associate Professorship at the Queensland University of Technology, and two new research fellowships at The Prince Charles Hospital.

Most of our work in 2018 was aimed at improving outcomes for patients with immune or fibrosis related transplant rejection and new research into silicosis. This was a mix of research driven projects and clinical trials, including our ongoing trial treating post-transplant rejection with stem cells, which represents the world’s largest ever study of stem cell therapy for lung disease.

In our research into lung failure caused by lung fibrosis, we found a lipid metabolite, known as LPA, was increased in transplanted lungs, indicating that potentially inhibiting this metabolite may be a strategy for treatment. Excitingly, after discovering ‘inhibitory antibodies’ in the blood of transplant patients which allow dissemination of bacterial infection, we investigated whether plasmapheresis, a process that filters the blood and removes harmful antibodies, could be used to treat a patient not responding to antibiotics. This trial was life-saving and showed us a new way we could potentially treat bacterial lung infections.
AWARDS

The group received multiple awards this year in recognition of our life saving research. The most prestigious award went to Dr Ken Sinclair for his work on LPA. Ken, who is the group’s most recent PhD student, won the International Society for Heart and Lung Transplantation Early Career Scientist Award. This international award is one of the most important and coveted in the field. Australians can be very proud that Ken brought the award to our shores for the first time.

Our team also won the Clinical Research Award at the Metro North Hospitals and Health Services Research Excellence Awards, and the Graham Nielsen Award for Best Published Paper at the Prince Charles Hospital’s Charlie’s Week.

PRESENTATIONS AND PUBLICATIONS

The groups were part of multiple presentations and publications in 2018.

RESEARCH COLLABORATIONS

Essential ongoing collaborators include the Lung Foundation Australia, the University of Queensland, the Queensland University of Technology, QIMR Berghofer, University of Sydney, Latrobe University, RMIT, Monash and all the Australian lung transplant programmes. We also had international support from multiple researchers.

Lastly, we had an important breakthrough in the field of silicosis, a major health problem caused by silica exposure and arguably, a newly emerging workplace health crisis. At present, methods to measure silica in the lung are rudimentary and not enough is understood about the full risks of silica exposure.

In 2018, we developed a new method to measure silica in the lungs and are now investigating how this relates to lung inflammation. This development was an exciting breakthrough and the subject of much media interest in 2018.
Lung transplantation is often the only viable option for patients with lung disease. Improving this procedure and reducing the impact of post-lung transplant rejection and complications is essential to increasing survival rates and improving quality of life.

— Queensland Lung Transplant Service
HEAD OF RESEARCH GROUP
• Dr Deanne Curtin

KEY MEMBERS OF RESEARCH GROUP
• Dr Dan Henderson
• Dr James Douglas
• Dr Peter Robinson
• Dr Irene Szollosi
• Dr George Tay
• Greg Jorgensen
• Nicola Dunn
• Jan Robinson
Sleep Health Research Group

The Sleep Health Research Group is focused on delivering effective care for patients with sleep related breathing disorders, such as sleep apnea, and those with diseases that adversely impact sleep habits. Quality sleep is vital to an individual’s good health, wellbeing and quality of life.

THE FOREFRONT OF SLEEP MEDICINE

Unfortunately, those living with sleep disorders will experience many adverse effects, such as depression, poor concentration and memory loss. There is long standing evidence that certain sleep disorders can increase the risk of some serious diseases, such as cardiovascular disease and dementia.

The goal of our group is to ensure those with sleep disorders have access to the best possible treatments, to deliver new models of care and build our understanding of how sleep disorders impact the community. A big part of our research ethos is to make the diagnosis and treatment of these issues more accessible for patients living in regional and remote areas. This is achieved by making sure we are at the forefront of sleep medicine and embrace all the technological advancements available to us in our field.

HIGHLIGHTS

Overall, 2018 was a year of growth for the team who were busy undertaking eight different studies. A big highlight for us in 2018 was receiving an Innovation Grant from The Common Good to support our ongoing research in schizophrenia, dementia and neuromuscular diseases. It is exciting to have expanded our research scope in this way, and we look forward to sharing more outcomes in 2019.

PRESENTATIONS AND PUBLICATIONS

We presented numerous abstracts at the Australasian Sleep Association Annual Conference.

RESEARCH COLLABORATIONS

We collaborated internally with other research departments and externally with thanks to Metro North Hospital and Health Service, the Queensland Brain Institute and CSIRO.
HEAD OF RESEARCH GROUP
• Prof Kwun Fong

KEY MEMBERS OF RESEARCH GROUP
• A/Prof Rayleen Bowman
• Prof Ian Yang
• Dr Felicia Goh
• Dr Henry Marshall
• Dr Annette Dent
• Dr Annalicia Vaughan
• Maria Martins
• Linda Passmore
• Elizabeth McCaul
• Deborah Courtney
• Jacci Brady
• Pamela Fung
Our research group undertakes a broad range of research including clinical, translational and scientific, which aims to improve the health of people who are at risk of, or affected by, lung disease. Our objective is to prevent, diagnose and treat lung diseases including lung cancer, mesothelioma and chronic conditions, such as asthma.

RESEARCH INTO PREVENTION AND EARLY DETECTION

Often, lung diseases are hard to treat making research into prevention and early detection critical to improving survival rates. Consequently, most of our research is dedicated to these goals, with early diagnosis giving patients more treatment options, improved prognosis and better overall health outcomes.

Our research is driven by the need to improve lung health for all, but we also want to ensure the healthcare we develop is cost-effective and innovative by using the most advanced technology where possible.

We strive for research that is embedded into the clinical program, ensuring our research questions are highly relevant and we are rapidly translating findings into something that becomes available to more patients. Our ethos is about bringing patients, clinicians and scientists together to benefit everyone, invigorate our practice, and ensure that the lung disease community has access to world-class care.

HIGHLIGHTS

In 2018, our research group was awarded many new grants and contributed to over 50 publications in respiratory medicine. An important highlight continues to be our biomarker research program, which aims to identify biomarkers in the human genome that may lead to new, personalised treatments for lung diseases. Many trials of new diagnostic techniques took place and the prospect that we will be able to replace some procedures or surgery with a simple blood, breath or urine tests is edging closer each year.

Additionally, we have been using a highly specialised centrifuge to identify and analyse biodata, which is considered the most technologically advanced technique in this field. It is exciting to be carrying out such innovative research, knowing it has the potential to improve diagnostic procedures and outcomes for many patients in the years to come.
PRESENTATIONS AND PUBLICATIONS

We contributed to over 50 different publications in 2018. Our PhD, MPhil and honours students were privileged to deliver presentations at national and international meetings, including at the international European Respiratory Society Annual Congress in Paris and the prestigious Asian Pacific Society of Respiratory Congress in Taiwan.

RESEARCH COLLABORATIONS

We are pleased to have continued many productive collaborations state-wide, nationally and internationally and to have welcomed visiting academics and researchers in 2018.
We strive for research that is embedded into the clinical program, ensuring our research questions are highly relevant and we are rapidly translating findings into something that becomes available to more patients.

—University of Queensland Thoracic Research Centre
## The Prince Charles Hospital Foundation Grants 2018

<table>
<thead>
<tr>
<th>Grant Type</th>
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<th>Title</th>
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<td>Cardio-Vascular Molecular and Therapeutics Translation Research Group</td>
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<td>The influence of body mass index (BMI) on serum antibiotic concentration of cefazolin and probenecid in hospital in the home patients with cellulitis: a pilot study</td>
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<td>Caboolture Hospital</td>
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<td>Integrated children’s care clinic (ICCC) versus a self-directed care pathway for children with a chronic health condition: a multi-centre randomised controlled trial study protocol</td>
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<td>Tympanometry in the Emergency Management of Children with Acute Otitis Media</td>
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<td>Investigation into the effect of ventricular assist device implantation and support on cardiac tissue</td>
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<td>Use of body composition compared to standard nutritional assessments to improve selection of lung transplant candidates and patient outcomes</td>
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<td>Emerging Researcher Grant</td>
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<td>Inflammatory and DNA damage mechanisms in response to e-cigarette aerosols in COPD/ lung cancer primary human bronchial epithelial cells</td>
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<td>Sechrist CP-G Series Air/Oxygen Blender, Pole Mount, Dual Flowmeter</td>
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<td>LulzBot TAZ 6 Three-Dimensional Printer with Enclosure and Dual Extruder Attachment.</td>
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### Active Grants 2018 continued...

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<td>Physiology Monitoring Module</td>
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<td>Equipment Grant</td>
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<td>PN ancillaries</td>
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<td>Equipment Grant</td>
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<td>XSensor Pro Software Upgrade</td>
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<td>IEM Mobil-O-Graph® BP &amp; Pulse Wave Analysis Monitor and Apple iPod for patient reported activity and symptoms.</td>
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<td>Novel Exosome Diagnostics for Pleural Effusion</td>
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<td>Potential of Left Atrial strain obtained during Exercise Stress Echocardiography in the diagnosis of Heart Failure with Preserved Ejection Fraction</td>
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<td>Directing stroke rehabilitation research from a consumer perspective: A citizen’s jury approach</td>
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<td>Volatile organic compounds in exhaled breath to diagnose lung cancer</td>
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<td>Dr Jonathan Fanning, Dr David Highton, Dr Ivan Rapchuk, Dr Simon Finnegan</td>
<td>Individualised intraoperative haemodynamic optimisation informed by the lower limit of cerebral autoregulation to reduce perioperative morbidity and mortality: development of a novel clinical monitoring parameter</td>
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<td>Dr Jonathan Fanning, Dr Nigel Pinto, Dr Ivan Rapchuk</td>
<td>Optimising intraoperative coagulation management for precision vascular surgery</td>
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<td>Prof Paul Fulbrook, Dr Sandra Miles</td>
<td>Fast screening and assessment in the emergency department: a clinical innovation to prevent falls in older people</td>
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<td>Lung Microbiome Variation at Sites of Inflammation in Formalin-Fixed, Paraffin-Embedded Lung Tumours</td>
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<td>Dr Usha Gurunathan</td>
<td>Use of preoperative rotational thromboelastometry (ROTEM) assays to detect postoperative thrombotic complications following total hip and knee arthroplasty in overweight and obese patients (RETHInK-O study)</td>
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<td>Dr Peter Lazzarini, A/ Prof Jaap van Netten, Dr Malinu Fernando, Jason Warnack, Prof Scott Wearing, Prof Bijan Najafi</td>
<td>Towards an Objective Plantar Stress threshold to heal Diabetic Foot Ulcers: A TOPS threshold to heal DFUs</td>
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<td>Pulmonary biofluids-associated lung injury in acute respiratory distress syndrome</td>
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<td>Dr Margaret McElrea, Prof Kwun Fong, Prof Annie Chang, Tamara Blake</td>
<td>Spirometry and fractional exhaled nitric oxide (FeNO) reference values for Indigenous Australians: Phase II - adult Aboriginal and Torres Strait Islanders</td>
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<td>Prof Norman Morris, Dr James Walsh, Dr Nicole Betlet, Menaka Sabaratnam</td>
<td>Small muscle training for big gains: Using high intensity single muscle group training in heart failure</td>
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<td>MyFootCare: A Mobile App to Engage Patients with Diabetic Foot Ulcers in Self-Care</td>
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<td>Eloise Shaw, Rhys Heffernan, Dr James Lyons, Prof Kwun Fong</td>
<td>Support Vector Machine Based Techniques for Automation of Methylation High Resolution Melt Analysis for Use in Early Detection of Lung Cancer</td>
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<td>High flow Oxygen and Nitric Oxide inhalation to prevent intubation in hypoxic Respiratory failure (HONOR study)</td>
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<td>Dr Irene Szollosi, Dr Eamonn Eeles, Dr Deanne Curtin, Dr Jurgen Fripp, Prof Elizabeth Coulson</td>
<td>Obstructive Sleep Apnoea in Mild Cognitive Impairment: an opportunity to preserve brain health.</td>
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<td>STARDUST: The significance of different endotypes in Adult Respiratory Distress Syndrome (ARDS) for effective treatment</td>
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<td>Dietary fibre and short chain fatty acids as immune regulators in COPD: a potential novel therapy</td>
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<td>Extracellular vesicles as a novel biomarker for chronic obstructive pulmonary disease (COPD) exacerbation detection</td>
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<td>Sally Barrimore</td>
<td>A quasi-experimental pre- and post- study to evaluate the impact of implementing an enteral tube feeding decision support tool on hip fracture inpatient healthcare outcomes</td>
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<td>Outcomes for mitral valve repair and replacement for rheumatic heart disease in children</td>
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<td>Alanna Bodger</td>
<td>Permanent Pacemaker Response and The Role of Exercise Modality on Maximum Oxygen Consumption During Cardio-Pulmonary Exercise Testing for Heart Transplant Assessment</td>
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<td>Leigh Couch</td>
<td>A profile of characteristics and outcomes of alcohol and other drug clients undertaking withdrawal management: A retrospective cohort study to inform best practice service delivery</td>
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<td>Braden Cupitt</td>
<td>Disruption of Endothelial Junctions and the Glycocalyx as Possible Mechanisms for Altered Vascular Permeability in ECMO Patients</td>
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<td>Better understanding the energy crisis of the acutely stressed heart</td>
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<td>Dr Daniel Henderson</td>
<td>Sleep quality in acute exacerbations of cystic fibrosis</td>
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<td>Andrew Hislop</td>
<td>Hip Muscle Structure and Function in People with Knee Osteoarthritis Compared to Healthy Controls</td>
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<td>Numerical evaluation of adult aortic cannulation during cardiopulmonary bypass: a neurological implication</td>
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<td>India Lye</td>
<td>Cannula-related infection and colonisation during extracorporeal membrane oxygenation</td>
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## Active Grants 2018 continued...

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<tr>
<th>Grant Type</th>
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<th>Title</th>
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<tbody>
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<td>A pilot study on the association of frailty and adverse outcomes in elective cardiac surgery patients</td>
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<td>Impact of legislation changes to involuntary orders on emergency department presentations: a retrospective chart audit</td>
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<td>RAPID–OSA Study: Remote ApneLink Providing Immediate Diagnosis of Obstructive Sleep Apnoea</td>
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<td>Characterisation of cardiac neurohormonal and inflammatory patterns in a novel 24-hour ovine heart transplant model.</td>
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<td>Taryn Smith</td>
<td>Facilitating endothelial cell growth and proliferation at the interface between heart wall and VAD inflow cannula</td>
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<td>New Investigator Grant</td>
<td>Ashleigh Stevenson</td>
<td>Tezosentan, an endothelin-1 antagonist protects against inflammation and protein oxidation in an ovine model of endothelin-1 induced inflammatory cells</td>
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<td>Fergal Temple</td>
<td>Do microparticles generated following transfusion of stored packed red blood cells modulate recipient neutrophil microbicidal arsenal function?</td>
<td>$9,997.00</td>
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<td>Sheena Tom</td>
<td>AMD Disc infectOn PReventioN in central venous catheters</td>
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<td>New Investigator Grant</td>
<td>Ritu Trivedi</td>
<td>Biometric properties of donor tissue allograft pulmonary heart valves: relationship with processing variables</td>
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<td>Investigating the factors affecting implementation of sensory modulation in inpatient mental health units</td>
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<td>PhD scholarships</td>
<td>Craig Aitken</td>
<td>Towards Individualising Rehabilitation: Identifying factors which limit exercise tolerance in chronic heart and lung disease</td>
<td>$81,246.00</td>
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<td>PhD scholarships</td>
<td>Thanush de Silva</td>
<td>Alveolar macrophage and regulatory T cell changes in the lung of transplant patients undergoing rejection</td>
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<tr>
<td>PhD scholarships</td>
<td>Natalie Edwards</td>
<td>Myocardial work assessment provides incremental information on left ventricular function across multiple pathological states.</td>
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<td>PhD scholarships</td>
<td>Vainess Mbuyi</td>
<td>PhD research program: Indigenous peoples experiences of health care</td>
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<td>Research Fellowships</td>
<td>Dr Simon Apte</td>
<td>Improving the Rate of Lung Transplant Survival by Specifically Regulating the Anti-Graft Immune Response</td>
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<td>Research Fellowships</td>
<td>Dr Jo Philipp Pauls</td>
<td>Development of a Right Ventricular Assist Device</td>
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<tr>
<td>Team Grant</td>
<td>Critical Care Research Group</td>
<td>Bench, bedside, and beyond: a translational research programme to improve outcomes for patients suffering critical illness</td>
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| Team Grant              | IHBI Cartilage and Skeletal Biology Research Group | Development of effective prevention and treatments for metabolic osteoarthritis | $100,000
<table>
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<th>Grant Type</th>
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<td>Team Grant</td>
<td>Innovative Cardiovascular Engineering and Technology Laboratory (ICETLAB)</td>
<td>Using engineering, biology and medicine to develop the next generation of mechanical circulatory support</td>
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<td>The Adult Cystic Fibrosis Centre Multi-disciplinary Research Team</td>
<td>A multi-modality, multi-disciplinary program of research to improve disease outcomes in cystic fibrosis</td>
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<td>The Prince Charles Hospital Community Gut and Liver Research Group</td>
<td>Improving Gastroenterology Outcomes Through Clinical Research</td>
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<td>Aitken</td>
<td>TPCH Foundation</td>
<td>Towards Individualising Rehabilitation: Identifying factors which limit exercise tolerance in chronic heart and lung disease</td>
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<td>Apte</td>
<td>TPCH Foundation</td>
<td>Improving the Rate of Lung Transplant Survival by Specifically Regulating the Anti-Graft Immune Response</td>
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<td>Bamimore</td>
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<td>A quasi-experimental pre- and post- study to evaluate the impact of implementing an enteral tube feeding decision support tool on hip fracture inpatient healthcare outcomes</td>
<td>2018</td>
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<td>Bell</td>
<td>TPCH Foundation</td>
<td>Evaluating the impact of oral pre-operative carbohydrate supplementation in acute hip fracture inpatients: a randomised controlled trial feasibility study</td>
<td>2016-2018</td>
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<tr>
<td>Bell</td>
<td>TPCH Foundation</td>
<td>Outcomes for mitral valve repair and replacement for rheumatic heart disease in children</td>
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<tr>
<td>Bell, Thomson, Rogers, Wainwright, Floto, Clements</td>
<td>NHMRC</td>
<td>The emerging problem of non-tuberculous mycobacteria infection: understanding aetiology, geospatial epidemiology and developing interventions</td>
<td>2016-2020</td>
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<td>Bell, Young, Hill, Banks, Comans, Barnes, Keller</td>
<td>AHPOQ</td>
<td>SIMPLE Phase II: Scale, Scope and Spread</td>
<td>2018</td>
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<td>Bodger</td>
<td>TPCH Foundation</td>
<td>Permanent Pacemaker Response and The Role of Exercise Modality on Maximum Oxygen Consumption During Cardio-Pulmonary Exercise Testing for Heart Transplant Assessment</td>
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<td>Bolle</td>
<td>TPCH Foundation</td>
<td>“Improving the Skin-Driveline Interface to Reduce Ventricular Assist Device Driveline Infections”</td>
<td>2017-2018</td>
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<td>Boone</td>
<td>TPCH Foundation</td>
<td>Development and evaluation of a portable intra-ventricular balloon pump to improve left ventricular function.</td>
<td>2018</td>
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<td>Bowman, Chee</td>
<td>TPCH Foundation</td>
<td>Novel Exosome Diagnostics for Pleural Effusion</td>
<td>2018</td>
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<td>Bowman, Fong</td>
<td>TPCH Foundation</td>
<td>Detection of microbial pathogens using quantitative polymerase chain reaction (qPCR) in patients with acute exacerbations of COPD</td>
<td>2017-2018</td>
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<td>Chambers</td>
<td>IMPACT Philanthropy Application Program</td>
<td>Single-cell RNA-sequencing in idiopathic pulmonary fibrosis; pathogenic and diagnostic insights from the transcriptome</td>
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<td>Chambers</td>
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<td>Ambulatory oxygen for interstitial lung disease</td>
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<td>Chambers</td>
<td>The University of Queensland</td>
<td>MBF Cell Therapy</td>
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<td>Chambers</td>
<td>TPCH Foundation</td>
<td>Taking stem cell therapy to the clinic — is reprogramming alveolar macrophages the key?</td>
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<td>Chambers, Hopkins, Lim, Wallace</td>
<td>TPCH Foundation</td>
<td>First-in-man study of amniotic epithelial stem cell therapy for idiopathic pulmonary fibrosis</td>
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<td>Chambers, Hopkins, O’Sullivan, Sinclair</td>
<td>TPCH Foundation</td>
<td>Prevention and treatment of idiopathic and post-transplant pulmonary fibrosis</td>
<td>2019-2021</td>
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<tr>
<td>Chambers, Hopkins, Westall, Holmes, Glanville</td>
<td>NHMRC</td>
<td>Conquering the final frontier in lung transplantation — Mesenchymal stromal cell therapy for chronic lung allograft dysfunction</td>
<td>2016-2020</td>
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<td>Chambers, Hopkins, Yerkovich, Stadden</td>
<td>NHMRC</td>
<td>Protecting the endothelial glycocalyx to improve transplant rates and outcomes</td>
<td>2016-2019</td>
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<tr>
<td>Chan, Scalia</td>
<td>TPCH Foundation</td>
<td>Potential of Left Atrial stain obtained during Exercise Stress Echocardiography in the diagnosis of Heart Failure with Preserved Ejection Fraction</td>
<td>2018</td>
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<td>Charania</td>
<td>TPCH Foundation</td>
<td>Living with the effects of MND (Motor Neurone Disease): The impacts of communication disorders on the person with MND and their carers</td>
<td>2017-2018</td>
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<td>Chee</td>
<td>TPCH Foundation</td>
<td>Clinical Diagnostics of Pleural Effusion Exosomal miRNAs</td>
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<td>Coin, Bell</td>
<td>UQ-QIMR Berghofer</td>
<td>Deep sequencing of microbial communities in cystic fibrosis airways</td>
<td>2017-2018</td>
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<td>Conley</td>
<td>TPCH Foundation</td>
<td>Determining the prevalence of ECMO-related infections and describing novel ways to reduce it</td>
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<td>Conley, Lye, Marsh, Rickard</td>
<td>ACCCN</td>
<td>AMD Disc infectOn PRevention in central venous catheters (ADORN Trial)</td>
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<td>Cornwall, Gustafsson, Kuys, Comans, Thompson</td>
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<td>Directing stroke rehabilitation research from a consumer perspective: A citizen’s jury approach</td>
<td>2018</td>
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<td>Couch</td>
<td>TPCH Foundation</td>
<td>A profile of characteristics and outcomes of alcohol and other drug clients undertaking withdrawal management: A retrospective cohort study to inform best practice service delivery</td>
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<td>Crawford</td>
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<td>Australia-India Strategic Research Fund</td>
<td>New Class of Intelligent Robotic Imaging System for Keyhole Surgeries</td>
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<td>Cupitt</td>
<td>TPCH Foundation</td>
<td>Disruption of Endothelial Junctions and the Glycocalyx as Possible Mechanisms for Altered Vascular Permeability in ECMO Patients</td>
<td>2018</td>
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<td>de Silva</td>
<td>TPCH Foundation</td>
<td>Alveolar macrophage and regulatory T cell changes in the lung of transplant patients undergoing rejection</td>
<td>2018-2020</td>
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<td>Dent, Anderson</td>
<td>TPCH Foundation</td>
<td>Volatile organic compounds in exhaled breath to diagnose lung cancer</td>
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<td>Dibia</td>
<td>TPCH Foundation</td>
<td>The influence of body mass index (BMI) on serum antibiotic concentration of cefazolin and probenecid in hospital in the home patients with cellulitis: a pilot study</td>
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<td>Donnelly</td>
<td>TPCH Foundation</td>
<td>Lafayette Manual Muscle Tester 01165</td>
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<td>d’Udekem, Radford</td>
<td>NHMRC</td>
<td>Giving an adult life after Fontan surgery to those with the most severe congenital heart conditions</td>
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<td>Edwards</td>
<td>TPCH Foundation</td>
<td>Myocardial work assessment provides incremental information on left ventricular function across multiple pathological states.</td>
<td>2018-2019</td>
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<td>Edwards, Kerr, Finlayson, Lazzarini</td>
<td>QUT IHI</td>
<td>Medoc TSA-II NeuroSensory Analyzer and VSA accessory</td>
<td>2018-2019</td>
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<td>Essifte, Reid, Lamont</td>
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<td>“Novel multiomic insight into evolution of antibiotic resistance in Pseudomonas aeruginosa in cystic fibrosis and relationship to clinical outcomes”</td>
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<td>Fanning, Highton, Rapchuk, Finnegan</td>
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<td>Individualised intraoperative haemodynamic optimisation informed by the lower limit of cerebral autoregulation to reduce perioperative morbidity and mortality: development of a novel clinical monitoring parameter</td>
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<td>Fanning, Pinto, Rapchuk</td>
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<td>Optimising intraoperative coagulation management for precision vascular surgery</td>
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<td>Ferraioli</td>
<td>TPCH Foundation</td>
<td>Better understanding the energy crisis of the acutely stressed heart</td>
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<td>Fong, Bowman, Marshall</td>
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<td>Project - Optimising Screening for lung cancer</td>
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<td>Frakking</td>
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<td>Integrated children’s care clinic (ICCC) versus self-directed care pathway for children with a chronic health condition: a multi-centre randomised controlled trial study protocol</td>
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<td>Fraser</td>
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<td>A quasi-experimental pre- and post- study to evaluate the impact of implementing an enteral tube feeding decision support tool on hip fracture inpatient healthcare outcomes</td>
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<td>Fraser</td>
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<td>Fraser, Macdonald, McGiffin, Chong, Dobson</td>
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<td>The Dead Heart Project: when is a heart truly dead?</td>
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<td>Fraser, McGiffin, Macdonald, Suen, Corley, Jarrett, Ghassabian, Cullen, See Hoe, McDonald, Tronstad, Palpant, Barnett, Marasco, Flaws</td>
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<td>Bench, bedside and beyong: a translational research programme to improve outcomes for patients suffering critical illness</td>
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<td>Fraser, Li Bassi, Amato, McAuley, Suen, Milat, Schmitt, Shekar</td>
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<td>New frontiers in Acute Respiratory Distress Syndrome: Development of novel imaging technology to appraise inflammatory biofluids-associated lung injury and ground-breaking treatments</td>
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<td>Fulbrook, Miles</td>
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<td>Fast screening and assessment in the emergency department: A clinical innovation to prevent falls in older people</td>
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<td>Fulbrook, Williams</td>
<td>Smith &amp; Nephew</td>
<td>Pilot study: Evaluation of a silicone gel adhesive hydrocellular foam dressing for the prevention of sacral pressure injuries in hospitalised elderly patients</td>
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<td>Garette</td>
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<td>Pre-clinical characterisation of leukocyte-specific inflammatory response to extracorporeal membrane oxygenation</td>
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<td>Garrick</td>
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<td>Investigation into the effect of ventricular assist device implantation and support on cardiac tissue</td>
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<td>Garrick</td>
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<td>Optimisation and adaptation of a suture-less cannula for rapid implantation of biventricular assist devices</td>
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<td>Garrick</td>
<td>TPCH Foundation</td>
<td>Suture-less cannula design for rapid implantation of rotary blood pumps</td>
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<td>Goh</td>
<td>TPCH Foundation</td>
<td>Lung Microbiome Variation at Sites of Inflammation in Formalin-Fixed, Paraffin-Embedded Lung Tumours</td>
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<td>Goh, Yang</td>
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<td>Lung microbiome variation at sites of inflammation in formalin-fixed, paraffin-embedded lung tumours</td>
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<td>Golledge, Daly, Jacob, Krishna, Loukas, Mason, Mulvey, Smout, Lazzarin, Fernando, Bansal, Day, Doherty, Eisen, Jaeggi, Malabu, Pinchbeck, Sangla, Sinha, Upton, Yip</td>
<td>James Cook University</td>
<td>Ulcer and wound HEALing consortium</td>
<td>2018-2020</td>
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<td>Gregory, Tansley, Platts, Thomson, Chan, Pauls, Munoz, Barnikowski, Strugnell, Mullany</td>
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<td>Using engineering, biology and medicine to develop the next generation of mechanical circulatory support</td>
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<td>Gurunathan</td>
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<td>Use of preoperative ROTEM assays to predict postoperative thrombotic complications following total hip and knee arthroplasty in overweight and obese patients (ReThink-O study)</td>
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<td>TPCH Foundation</td>
<td>Sleep quality in acute exacerbations of cystic fibrosis</td>
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<td>Herd</td>
<td>Metro North App Challenge</td>
<td>E.A.T; Enzyme absorption tool, an APP for assessing fat intake and the amount of pancreatic enzymes to take.</td>
<td>2018-2019</td>
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<td>Hickling</td>
<td>TPCH Foundation</td>
<td>Use of body composition compared to standard nutritional assessments to improve selection of lung transplant candidates and patient outcomes</td>
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<tr>
<td>Hickling, Hopkins, Trotter, Chambers, Bell, Walsh</td>
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<td>Use of body composition compared to standard nutritional assessments to inform lung transplant decisions and patient outcomes</td>
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<tr>
<td>Hickling, Hopkins,Trotter, Chambers, Bell, Walsh</td>
<td>CAHRI</td>
<td>Use of body composition compared to standard nutritional assessments to inform lung transplant decisions and patient outcomes</td>
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<tr>
<td>Hislop</td>
<td>TPCH Foundation</td>
<td>Hip Muscle Structure and Function in People with Knee Osteoarthritis Compared to Healthy Controls</td>
<td>2018</td>
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### Active Grants 2018 continued...

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<th>Years of Funding</th>
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<td>Ho</td>
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<td>Numerical evaluation of adult aortic cannulation during cardiopulmonary bypass: a neurological implication</td>
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<td>Hollis, Bell, Franz</td>
<td>Metro North</td>
<td>Impact of a pre-operative VLCD weight loss program on unfavourable surgical outcomes in general surgical patients: a feasibility study</td>
<td>2017-2018</td>
<td>$29,989.00</td>
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<td>TPCH Foundation</td>
<td>Tympanometry in the Emergency Management of Children with Acute Otitis Media</td>
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<td>Infective Endocarditis Qld Collaborative</td>
<td>TPCH Foundation</td>
<td>Infective Endocarditis Qld Collaborative</td>
<td>2018</td>
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<td>Internal Medicine Services including Internal Medicine and Dementia Research Unit</td>
<td>MNHHS</td>
<td>develop an App for the Development on an IT Solution (App) to record and measure subspecialty consultation for inpatients at TPCH</td>
<td>2018-2019</td>
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<td>Kappler, McEwan, Essiffe</td>
<td>NHMRC</td>
<td>Extracellular stress defence mechanisms in non-typeable Haemophilus influenzae</td>
<td>2018-2021</td>
<td>$622,634.00</td>
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<td>Keller, Laur, McNicholl, Valatits, Basualdo-Hammond, Bell, Bierer, Curtis, Douglas, Dubin, Duerksen, Gramlich, Laporte, Ray</td>
<td>Canadian Frailty Network</td>
<td>More-2-Eat Implementation Phase II grant KT2017-01</td>
<td>2018-2019</td>
<td>$142,000.00</td>
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<td>Ki</td>
<td>TPCH Foundation</td>
<td>Sechrist CP-G Series Air/Oxygen Blender, Pole Mount, Dual Flowmeter</td>
<td>2018</td>
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<td>Kidd, Bell</td>
<td>UQ-QIMR Berghofer</td>
<td>Dynamics and clinical implications of outer membrane remodelling among multidrug resistant (MDR) Klebsiella pneumoniae and Pseudomonas aeruginosa</td>
<td>2018-2019</td>
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<td>Lazzarini</td>
<td>NHMRC</td>
<td>The incidence and predictors of foot disease hospitalisation</td>
<td>2018-2022</td>
<td>$322,952.00</td>
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<td>Lazzarini, van Netten, Fernando, Waimock, Wearing, Najafi</td>
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<td>Towards an Objective Plantar Stress threshold to heal Diabetic Foot Ulcers: A TOPS threshold to heal DFUs</td>
<td>2018</td>
<td>$73,560.00</td>
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<td>Li Bassi</td>
<td>TPCH Foundation</td>
<td>Pulmonary biofluids-associated lung injury in acute respiratory distress syndrome</td>
<td>2018</td>
<td>$49,890.00</td>
<td>$49,890.00</td>
<td>Project Grant</td>
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<td>Liao</td>
<td>TPCH Foundation</td>
<td>Refinement of bilayered scaffolds for a novel suburea-less inflow cannula for left ventricular assist devices</td>
<td>2017-2018</td>
<td>$24,679.46</td>
<td>$24,679.46</td>
<td>Emerging researcher grant</td>
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<td>Lord, Williams, Fulbrook, Miles</td>
<td>Wounds Australia</td>
<td>A double-blind trial of the application of 0.2% glyceryl trinitrate (GTN) for the healing of chronic venous leg ulcers</td>
<td>2018-2019</td>
<td>$5,000.00</td>
<td>$5,000.00</td>
<td>Project Grant</td>
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<td>Lovegrove</td>
<td>TPCH Foundation</td>
<td>Assessment of pressure injury risk and intervention planning for hospitalised patients: a comparison of nurses’ clinical judgement with and without the use of a standardised pressure injury risk assessment tool</td>
<td>2017-2019</td>
<td>$9,796.18</td>
<td>$9,796.18</td>
<td>New Investigator Grant</td>
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<td>Lye</td>
<td>TPCH Foundation</td>
<td>Cannula-related infection and colonisation during extracorporeal membrane oxygenation</td>
<td>2018</td>
<td>$9,121.12</td>
<td>$9,121.12</td>
<td>New Investigator Grant</td>
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<td>Mapley</td>
<td>TPCH Foundation</td>
<td>A low cost bearingless drive for the OpenHeart rotary ventricular assist device</td>
<td>2017-2018</td>
<td>$9,875.79</td>
<td>$9,875.79</td>
<td>New Investigator Grant</td>
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<td>Marshall</td>
<td>HIRO</td>
<td>Academic Lung Cancer Physician - research fellowship</td>
<td>2014-2019</td>
<td>$375,000.00</td>
<td>$75,000.00</td>
<td>Fellowship</td>
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<td>Mbuzi</td>
<td>TPCH Foundation</td>
<td>Indigenous peoples’ experiences of health care</td>
<td>2018-2019</td>
<td>$27,082.00</td>
<td>$27,082.00</td>
<td>PhD Scholarship</td>
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<td>McElike, Fong, Chang, Blake</td>
<td>TPCH Foundation</td>
<td>Spirometry and fractional exhaled nitric oxide (FeNO) reference values for Indigenous Australians: Phase II - adult Aboriginal and Torres Strait Islanders</td>
<td>2018</td>
<td>$84,125.67</td>
<td>$84,125.67</td>
<td>Project Grant</td>
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<td>McIvor</td>
<td>TPCH Foundation</td>
<td>A pilot study on the association of frailty and adverse outcomes in elective cardiac surgery patients</td>
<td>2018</td>
<td>$8,635.25</td>
<td>$8,635.25</td>
<td>New Investigator Grant</td>
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<td>McQuilter, Anthony, Chambers, Carraro</td>
<td>NHMRC</td>
<td>Modulation of lung regeneration and remodeling by the innate immune system</td>
<td>2018-2020</td>
<td>$40,000.00</td>
<td>$7,500.00</td>
<td>Project Grant</td>
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<td>Miles</td>
<td>TPCH Foundation</td>
<td>Fast screening of patients that present to the emergency department following a fall: a feasibility and prevalence study</td>
<td>2016-2019</td>
<td>$9,762.39</td>
<td>$9,762.39</td>
<td>New Investigator Grant</td>
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<td>Molenaar</td>
<td>University of Queensland</td>
<td>Electrophysiology Equipment</td>
<td>2018</td>
<td>$105,000.00</td>
<td>$105,000.00</td>
<td>Equipment Grant</td>
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<td>Molenaar, Haqqani, Wong</td>
<td>TPCH Foundation</td>
<td>Cardio-Vascular Molecular and Therapeutics Translational Research Group</td>
<td>2018-2019</td>
<td>$100,000.00</td>
<td>$100,000.00</td>
<td>Project Grant</td>
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<td>Morris</td>
<td>Health and Research Office of Queensland</td>
<td>Exercise Training in Pulmonary Hypertension (ExTria PH): A Randomised Controlled Trial of Exercise Training in Pulmonary Hypertension.</td>
<td>2015-2019</td>
<td>$247,000.00</td>
<td>$55,000.00</td>
<td>Project Grant</td>
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<td>Morris, Kermeen, Strugnell</td>
<td>Actelion Pharmaceuticals</td>
<td>Exercise in pulmonary hypertension.</td>
<td>2015-2018</td>
<td>$43,750.00</td>
<td>$14,500.00</td>
<td>PhD stipend top up</td>
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<td>Morris, Kermeen, Strugnell</td>
<td>Actelion Pharmaceuticals</td>
<td>Defining Right Ventricular during exercise in pulmonary hypertension.</td>
<td>2015-2018</td>
<td>$75,500.00</td>
<td>$25,000.00</td>
<td>PhD stipend top up</td>
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<td>Morris, Walsh</td>
<td>TPCH Foundation</td>
<td>Equipment Grant: Purchase of PhysioFlow Equipment for measuring cardiac output</td>
<td>2018</td>
<td>$28,000.00</td>
<td>$28,000.00</td>
<td>Equipment Grant</td>
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<td>Morris, Walsh, Bellet, Sabaratnam</td>
<td>TPCH Foundation</td>
<td>Small muscle training for big gains: Using high intensity single muscle group training in heart failure</td>
<td>2018</td>
<td>$48,318.00</td>
<td>$48,318.00</td>
<td>Project Grant</td>
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<td>O’Farrell</td>
<td>TPCH Foundation</td>
<td>Inflammatory and DNA damage mechanisms in response to e-cigarette aerosols in COPD/ lung cancer primary human bronchial epithelial cells</td>
<td>2018</td>
<td>$25,000.00</td>
<td>$25,000.00</td>
<td>Emerging Researcher Grant</td>
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<td>O’Sullivan</td>
<td>TPCH Foundation</td>
<td>Nanoparticles to induce tolerance in human lung transplantation</td>
<td>2018-2020</td>
<td>$300,000.00</td>
<td>$50,000.00</td>
<td>Fellowship</td>
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<td>Partridge</td>
<td>TPCH Foundation</td>
<td>Managing, and coping with, acts of verbal abuse and physical assault in the Emergency Department: what is the experience of ED nurses?</td>
<td>2018</td>
<td>$2,000.00</td>
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<td>Project Grant</td>
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<td>Pauls</td>
<td>TPCH Foundation</td>
<td>Mock Circulation Loop (incl. data acquisition system (DAQ))</td>
<td>2018</td>
<td>$47,007.00</td>
<td>$47,007.00</td>
<td>Equipment Grant</td>
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<td>Petrie</td>
<td>TPCH Foundation</td>
<td>Impact of legislation changes to involuntary orders on emergency department presentations: a retrospective chart audit</td>
<td>2018</td>
<td>$9,330.91</td>
<td>$9,330.91</td>
<td>New Investigator Grant</td>
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<tr>
<td>Ploderer, Lazzarini, van Netten, Brown, Clark, Warnock</td>
<td>TPCH Foundation</td>
<td>MyFootCare: A Mobile App to Engage Patients with Diabetic Foot Ulcers in Self-Care</td>
<td>2018-2019</td>
<td>$55,756.00</td>
<td>$20,000.00</td>
<td>Project Grant</td>
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<tr>
<td>Prasadam, Bell, Crawford, Xiao</td>
<td>TPCH Foundation</td>
<td>Development of effective prevention and treatments for metabolic osteoarthritis</td>
<td>2015-2020</td>
<td>$3,189.53</td>
<td>$3,189.53</td>
<td>New Investigator Grant</td>
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<tr>
<td>Prasadam, Bell, Crawford, Xiao</td>
<td>QIMR- Berghofer Institute of Medical Research</td>
<td>Near-miss NHMRC application funding</td>
<td>2018-2019</td>
<td>$70,000.00</td>
<td>$35,000.00</td>
<td>Project Grant</td>
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<td>Rahman</td>
<td>GESA</td>
<td>Non Alcoholic Liver Disease</td>
<td>2017-2019</td>
<td>$35,000.00</td>
<td>$35,000.00</td>
<td>Project Grant</td>
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<td>Rahman</td>
<td>GISAG-CED</td>
<td>CURE-IT</td>
<td>2017-2019</td>
<td>$150,000.00</td>
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<td>Project Grant</td>
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<td>Rahman</td>
<td>QIs Health</td>
<td>Futures Fund</td>
<td>2017-2019</td>
<td>$250,000.00</td>
<td>$250,000.00</td>
<td>Project Grant</td>
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<td>Raymond Ho, Jo Pauls</td>
<td>TPCH Foundation</td>
<td>Numerical Investigation of Aortic Cannula During Cardiopulmonary Bypass: A Neurological Implication</td>
<td>2018-2019</td>
<td>$9,985.04</td>
<td>$9,985.04</td>
<td>New Investigator Grant</td>
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<td>Reid</td>
<td>TPCH Foundation</td>
<td>Profiling cell-free DNA release after acute heart injury and throughout chronic heart failure</td>
<td>2018</td>
<td>$24,997.00</td>
<td>$24,997.00</td>
<td>Emerging Researcher Grant</td>
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<td>Reid</td>
<td>QIMR- Berghofer Institute of Medical Research</td>
<td>Near-miss NHMRC application funding</td>
<td>2018-2019</td>
<td>$70,000.00</td>
<td>$35,000.00</td>
<td>Project Grant</td>
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<td>Reid, Anderson, Lamont, Bell, Frazer, Wainwright</td>
<td>NHMRC</td>
<td>Abnormal lung iron homeostasis in Cystic Fibrosis</td>
<td>2014-2018</td>
<td>$629,661.00</td>
<td>$125,932.20</td>
<td>Project Grant</td>
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<td>Reid, Bell, Smith</td>
<td>TPCH Foundation</td>
<td>A Multi-modality, multi-disciplinary program of research to improve disease outcomes in cystic fibrosis</td>
<td>2018-2020</td>
<td>$600,000.00</td>
<td>$200,000.00</td>
<td>Project Grant</td>
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<td>Robinson</td>
<td>TPCH Foundation</td>
<td>RAPID-OSA Study: Remote ApneaLink Providing Immediate Diagnosis of Obstructive Sleep Apnoea</td>
<td>2018</td>
<td>$9,349.73</td>
<td>$9,349.73</td>
<td>New Investigator Grant</td>
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<td>Sabaratnam, Morris, Sabapathy</td>
<td>GCUH Foundation</td>
<td>Does the addition of high intensity single muscle group training improve exercise training efficiency in heart failure?</td>
<td>2018-2019</td>
<td>$20,000.00</td>
<td>$10,000.00</td>
<td>Project Grant</td>
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<td>Scalia</td>
<td>TPCH Foundation</td>
<td>CATHARSIS Study - Comparative echocardiography catheterization</td>
<td>2017-2019</td>
<td>$83,000.00</td>
<td>$83,000.00</td>
<td>Project Grant</td>
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<td>See Hoe</td>
<td>TPCH Foundation</td>
<td>The Dead Heart Project: When is a ‘dead heart’ truly dead?</td>
<td>2017-2020</td>
<td>$300,000.00</td>
<td>$100,000.00</td>
<td>Fellowship</td>
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<td>Semenzin</td>
<td>TPCH Foundation</td>
<td>Design and Validation of a Predictive Computational Fluid Dynamics Model of the OpenHeart Ventricular Assist Device</td>
<td>2017-2018</td>
<td>$9,999.62</td>
<td>$9,999.62</td>
<td>New Investigator Grant</td>
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<td>Shekar, Venkatesh, Ziegennuss, Dranars, Walsham, Parmar</td>
<td>TPCH Foundation</td>
<td>High flow Oxygen and Nitric Oxide inhalation to prevent intubation in hypoxic Respiratory failure (HONOR study)</td>
<td>2018</td>
<td>$58,390.27</td>
<td>$58,390.27</td>
<td>Project Grant</td>
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<td>Shuker</td>
<td>TPCH Foundation</td>
<td>Characterisation of cardiac neurohormonal and inflammatory patterns in a novel 24-hour ovine heart transplant model.</td>
<td>2018</td>
<td>$9,968.00</td>
<td>$9,968.00</td>
<td>New Investigator Grant</td>
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<td>Sly, Bell, Wainwright, Fantino, Tanque, Bosco, Ware, Holt</td>
<td>CF Foundation (USA) Therapeutics Inc</td>
<td>Macrophages: the forgotten cells in CF lung disease</td>
<td>2016-2019</td>
<td>$350,000.00</td>
<td>$87,500.00</td>
<td>Project Grant</td>
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<td>Sly, Wainwright, Bell, Read, Smith, Fantino, Tanque, Tawiah-Essifte, Kettle, Dickerhof, Dowling, Paprakki, Rosenow, Butler, Ware</td>
<td>CFF Foundation (USA) Therapeutics</td>
<td>Early life origins of CF lung disease</td>
<td>2018-2020</td>
<td>$1,648,854.00</td>
<td>$519,618.00</td>
<td>Project Grant</td>
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<td>Smith</td>
<td>TPCH Foundation</td>
<td>Facilitating endothelial cell growth and proliferation at the interface between heart wall and VAD inflow cannula</td>
<td>2018</td>
<td>$9,993.00</td>
<td>$9,993.00</td>
<td>New Investigator Grant</td>
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<td>Smith</td>
<td>MNHHS CAHRI</td>
<td>Determining patient and service needs for participatory co-design of a mobile technology enabled mental health Model of Care in the acute cardiac surgical setting.</td>
<td>2018</td>
<td>$9,033.00</td>
<td>$9,033.00</td>
<td>PhD Scholarship</td>
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<td>Smith, Edirippulige</td>
<td>Vertex Pharmaceuticals, Circle Of Care Grant</td>
<td>MOBILE Device Utilisation Lifting Adherence and Treatment Engagement in Cystic Fibrosis (MODULATE-CF)</td>
<td>2017-2019</td>
<td>$80,000.00</td>
<td>$40,000.00</td>
<td>Project Grant</td>
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<td>Stephens</td>
<td>TPCH Foundation</td>
<td>LulzBot TA2 6 Three-Dimensional Printer with Enclosure and Dual Extruder Attachment.</td>
<td>2018</td>
<td>$4,175.48</td>
<td>$4,175.48</td>
<td>Equipment Grant</td>
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<td>Stephens</td>
<td>TPCH Foundation</td>
<td>Development of a Novel Fibre Optic Pressure Transducer</td>
<td>2015-2018</td>
<td>$9,951.00</td>
<td>$3,317.00</td>
<td>New Investigator Grant</td>
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<td>Stephens</td>
<td>Griffith University</td>
<td>Griffith University Conference Travel Grant</td>
<td>2018</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>Travel Scholarship</td>
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<td>Stevenson</td>
<td>TPCH Foundation</td>
<td>Tezosentan, an endothelin-1 antagonist protects against inflammation and protein oxidation in an ovine model of endothelin-1-induced inflammatory cells</td>
<td>2018</td>
<td>$9,673.10</td>
<td>$9,673.10</td>
<td>New Investigator Grant</td>
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<td>Suen</td>
<td>TPCH Foundation</td>
<td>Physiology Monitoring Module</td>
<td>2018</td>
<td>$12,400.00</td>
<td>$12,400.00</td>
<td>Equipment Grant</td>
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<td>Szollosi, Eekels, Curtin, Fripp, Coulson</td>
<td>TPCH Foundation</td>
<td>Obstructive Sleep Apnoea in Mild Cognitive Impairment: an opportunity to preserve brain health.</td>
<td>2018</td>
<td>$79,300.00</td>
<td>$79,300.00</td>
<td>Project Grant</td>
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<td>Tansley</td>
<td>TPCH Foundation</td>
<td>Upgrade to PIV system</td>
<td>2018</td>
<td>$14,072.00</td>
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<td>Equipment Grant</td>
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<td>Temple</td>
<td>TPCH Foundation</td>
<td>Do microparticles generated following transfusion of stored packed red blood cells modulate recipient neutrophil microbicidal arsenal function?</td>
<td>2018</td>
<td>$9,997.00</td>
<td>$9,997.00</td>
<td>New Investigator Grant</td>
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<tr>
<td>The Prince Charles Hospital Community Gut and Liver Research Group</td>
<td>TPCH Foundation</td>
<td>Improving Gastroenterology Outcomes Through Clinical Research.</td>
<td>2017-2020</td>
<td>$300,000.00</td>
<td>$100,000.00</td>
<td>Project Grant</td>
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<td>Thomas</td>
<td>GESA</td>
<td>Fatty Liver</td>
<td>2018-2019</td>
<td>$25,000.00</td>
<td>$25,000.00</td>
<td>Project Grant</td>
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<td>Tom</td>
<td>TPCH Foundation</td>
<td>AMD Disc infectiOn PReventionN in central venous catheters</td>
<td>2018</td>
<td>$9,910.62</td>
<td>$9,910.62</td>
<td>New Investigator Grant</td>
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<td>Trivedi</td>
<td>TPCH Foundation</td>
<td>Biometric properties of donor tissue allograft pulmonary heart valves: relationship with processing variables</td>
<td>2018</td>
<td>$9,965.19</td>
<td>$9,965.19</td>
<td>New Investigator Grant</td>
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<td>Tronstad</td>
<td>TPCH Foundation</td>
<td>XSensor Pro Software Upgrade</td>
<td>2018</td>
<td>$4,800.00</td>
<td>$4,800.00</td>
<td>Equipment Grant</td>
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<tr>
<td>Upham, Simpson, Baines, Cao, Yang, Gibson, Rogers</td>
<td>NHMRC</td>
<td>Understanding how azithromycin prevents exacerbations in severe asthma</td>
<td>2018-2020</td>
<td>$697,273.20</td>
<td>$0.00</td>
<td>Project Grant</td>
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<td>Upham, Simpson, Grainge, Gibson, Yang, Boscoe, Radford</td>
<td>NHMRC</td>
<td>Anti-viral immune dysfunction in severe asthma varies across inflammatory phenotypes</td>
<td>2017-2019</td>
<td>$997,153.40</td>
<td>$0.00</td>
<td>Project Grant</td>
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<td>van Netten, van Bisd, Bui, van Gemert, Lazzarin, Najafi</td>
<td>Academic Medical Centre, Amsterdam, The Netherlands</td>
<td>Improving patients' understanding of offloading: an exploration towards better communication and diabetic foot ulcer healing prediction using objective biomechanical and log-data measurements</td>
<td>2018-2019</td>
<td>$80,088.00</td>
<td>$0.00</td>
<td>Project Grant</td>
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<td>Vaughan</td>
<td>TPCH Foundation</td>
<td>High-fibre diet and short chain fatty acids as immune regulators in COPD: a potential novel therapy</td>
<td>2017-2020</td>
<td>$300,000.00</td>
<td>$100,000.00</td>
<td>Fellowship</td>
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<td>Wainwright, Bell, Wason, Thomson, Roberts, Cohn, Byrnes, Teddens, Grimwood, Ahern</td>
<td>MRFF</td>
<td>A platform clinical trial approach to the management of Mycobacterium abscessus complex (MABSC)</td>
<td>2018-2022</td>
<td>$2,000,000.00</td>
<td>$400,000.00</td>
<td>Project Grant</td>
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<td>Wells, Smith</td>
<td>NHMRC</td>
<td>Paradoxical antibody: the role of antibody in exacerbating Pseudomonas lung infection</td>
<td>2018-2021</td>
<td>$662,389.00</td>
<td>$220,796.33</td>
<td>Project Grant</td>
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<td>Weng Wong</td>
<td>TPCH Foundation</td>
<td>IEM Mobil-O-Graph® BP &amp; Pulse Wave Analysis Monitor and Apple iPod for patient reported activity and symptoms</td>
<td>2018</td>
<td>$6,950.00</td>
<td>$6,950.00</td>
<td>Equipment Grant</td>
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<tr>
<td>Whiley, Coulter, Clark, Pandey, Wainwright, Jennison, Nimmo, Bell</td>
<td>QCH Foundation</td>
<td>Enhancing detection and management of Mycobacterium abscessus complex (MABSC) infection in children with cystic fibrosis</td>
<td>2017-2019</td>
<td>$296,244.00</td>
<td>$98,748.00</td>
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### Higher Degree Students Supervised During 2018

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<td>Anas Ababneh</td>
<td>PhD</td>
<td>The effect of an educational program and self-monitoring on improving adherence for Removable Cast Walkers (RCWs) and wound healing in patients with Diabetic Foot Ulcers (DFUs)</td>
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<td>Myocardial work assessment provides incremental information on left ventricular dysfunction across multiple pathological states</td>
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<td>Next generation sequencing analysis of thoracic malignancies - optimisation of bioinformatics for somatic variant identification and validation strategies towards personalised therapy</td>
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### Higher Degree Students supervised during 2018 continued...

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### Higher Degree Students supervised during 2018 continued...

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