RPH Research Foundation®

ANNUAL REPORT 2024

Acknowledgement of Country

RPH Research Foundation respects and acknowledges Aboriginal and Torres Strait Islander peoples as Australia's first peoples and as the Traditional Owners and Custodians of the land and water on which we rely. We recognise and value the ongoing contribution of Aboriginal and Torres Strait Islander people and communities to Australian life and how this enriches us.

Table of Contents

Thank you to all our supporters who have helped us fund health and medical research for the past four decades.

Chair Report

In this my first year as Chair of the RPH Research Foundation Board, I am pleased to reflect on a remarkable year of progress and celebration.

The 2024 Financial Year marked the close of our 40th anniversary—a milestone that provided an opportunity to reflect on the significant impact the Foundation has achieved over the past four decades.

The dedication of researchers over the past 40 years was showcased at the 2023 Research Symposium and Awards Day, the key event for our 40th anniversary celebrations. It was a privilege to host this event and to acknowledge the successes of our research community.

A standout of the Symposium was awarding the inaugural Professor Lyn Beazley AO Emerging Leader Award, presented to Dr Lakshini Herat. This award recognises the dedication of our past Board Chair, Professor Lyn Beazley AO, and her support of early career researchers. Dr Herat exemplifies the qualities that Professor Beazley championed throughout her time on the Board.

Over the past Financial Year, the Foundation has continued to invest significantly in research aimed at improving the healthcare available to all Western Australians. Our investment underscores our commitment to fostering groundbreaking research and supporting the medical and health research community.

In November 2023, I had the pleasure of attending the opening of the new Royal Perth Hospital Centre for Advanced Therapies (CAT), located within the Foundation's Research Facility. The Centre was officially opened by the Honourable Stephen Dawson MLC, Minister for Medical Research.

This event was a testament to the Centre's pioneering work in manufacturing advanced therapy medicinal products. We are proud to partner with CAT and others, to foster research innovation in Western Australia, ensuring that our facility is a place where great ideas can flourish and lead to tangible improvements in healthcare.

I would like to extend my heartfelt thanks to my fellow Board members, CEO Cate Cassarchis and the staff of the Foundation.

Under Cate's leadership, this year the Foundation secured $3.3 million in Future Health Research and Innovation (FHRI) Fund grants that will be used to double our Research Innovation and Impact Grant program and begin a program of capital works to revitalise our research facility.

I acknowledge the dedication of the Executive Team for their hard work which is instrumental to our continued success and in advancing our mission of funding research for better health.

I am excited to steer the Foundation through a period of growth.

Sincerely,

Mr John Palermo

CEO Report

It has been a year of remarkable progress and growth for the RPH Research Foundation. We are driven by a dedication to supporting innovation and excellence in healthcare research, striving to make a lasting impact on the health and prosperity of the Western Australian community.

In 2024, the Foundation launched the Research Innovation and Impact Grant program (RIIG), our largest competitive grant program to date. A total of $3.6 million was allocated to novel projects that challenge existing paradigms and have the potential to revolutionise Western Australian healthcare.

We were delighted to secure matched funding of $1.8 million for this grant program through the Western Australian Government's Future Health Research and Innovation (FHRI) Fund Co-Funding Partnerships Program (Co-FPP).

We also awarded $77,052 in Seed Funding Grants to facilitate early-stage research. From investigating new treatments for diabetes to refining the diagnosis of Acute Myeloid Leukaemia, these projects exemplify bench-to-bedside research. We are proud to support these innovative projects.

The Foundation is dedicated to supporting translational research projects to help Western Australian patients. To facilitate this, we awarded five 2024 Nursing and Allied Health grants to translational projects.

During this Financial Year, we completed phase one of our capital refurbishment works, with the refurbishment of the two-storey building fronting 50 Murray Street. The Foundation's relocation to this building has helped free up space within the Foundation's 5,000sqm Research Facility.

I am delighted that our ongoing capital refurbishment program has been bolstered, thanks to funding from the Cook Government. The Foundation secured $1.5 million in matched funding from the inaugural FHRI Fund Enabling Scheme for a $3 million project to construct new OGTR-Certified PC2 Laboratories. These capital works herald the beginning of a significant capital program of works in our research facility.

The successes of this year would not have been possible without the steadfast support of our Board, the dedication and hard work of my team, and the guidance of Emeritus Professor George Yeoh, our Strategic Research Advisor.

I extend my deepest gratitude to all who have contributed to making this year a remarkable success for the RPH Research Foundation.

As we look forward to the coming year, I am confident that we will continue to build on these achievements, driving forward our mission to improve health outcomes for all Western Australians through innovative and impactful research.

Sincerely,

Cate Cassarchis

Research for Better Health

Research is the key to improving diagnostic methods, increasing disease prevention, and finding new life-changing treatments.

Research underpins our health system and continued investment in translational research is vital. In 2024, the Foundation invested $2,277,139 in a wide range of research projects all aimed at improving the health outcomes of Western Australians. The Foundation supported research through strategic funding, access to equipment in our research facility, our in-kind biostatistical service and our competitive grant programs. A selection of research supported in 2024 includes:

WESTERN AUSTRALIA NATIONAL IMAGING FACILITY NODE

Over the past five years, the Foundation has been providing support to Professor Paul M. Parizel, the David Hartley Chair of Radiology based at Royal Perth Hospital. A key highlight of Professor Parizel's work during this time has been related to the Western Australia National Imaging Facility (WA NIF) Node which officially opened in October 2023. The WA NIF Node is a multi-million-dollar research facility providing high-end preclinical and human imaging equipment and expertise to the Australian scientific community. It houses Western Australia's first research-dedicated human MRI and PET-CT imaging technologies, in a dedicated and state-of-the-art research environment. These instruments will underpin potentially life-changing clinical trials in cancer, neurological and cardiovascular disease supporting essential medical research and making clinical trials more accessible to Western Australians.

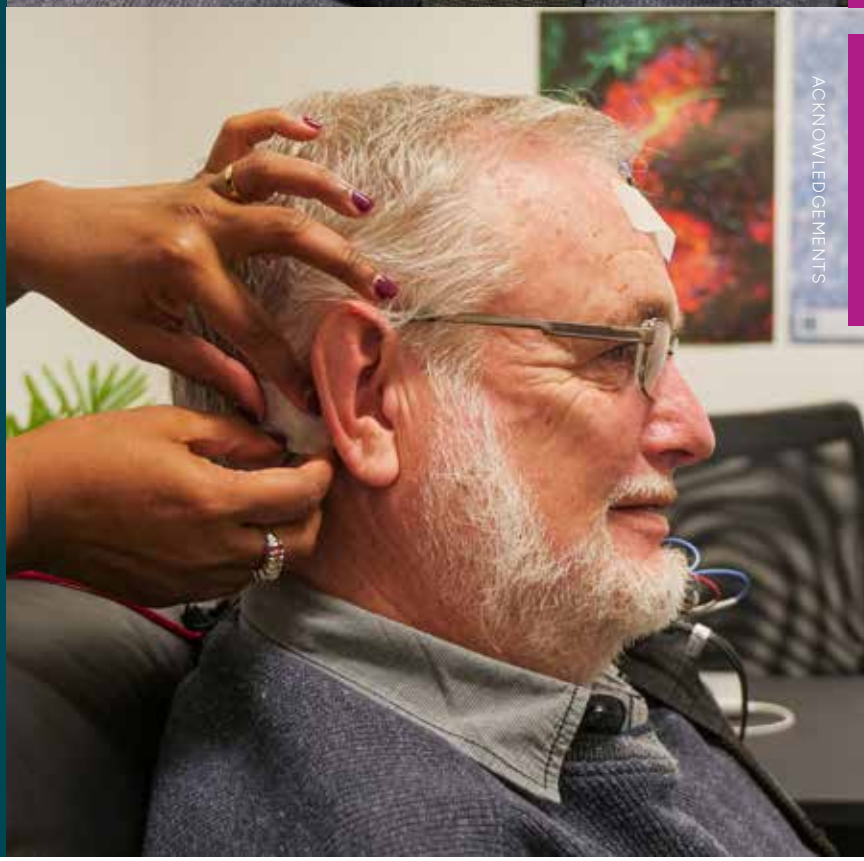
Professor Parizel and WA NIF Node Fellow, Ms Diana Patalwala with Minister Stephen Dawson.

DOBNEY CHAIR IN CLINICAL RESEARCH

In 2024, the RPH Research Foundation provided $643,171 in honour of the late Ray Dobney, to continue to support hypertension research being conducted by the Dobney Hypertension Centre (DHC) under the guidance of Professor Markus Schlaich, the Dobney Chair in Clinical Research. DHC has pioneered the development of catheter-based renal denervation (RDN), an interventional approach to lower blood pressure (BP) using a one-off procedure, demonstrating safe and long-term BP-lowering efficacy. This was approved by the US Food and Drug Administration (FDA) in November 2023, the first approved device-based approach for treating hypertension. DHC has also been working to clinically test the safety of a new antihypertensive pharmacotherapy specifically targeting the Endothelin pathway. Based on the results of a phase III trial, in March 2024 the US FDA approved the drug for uncontrolled hypertension. The approval of two novel therapeutic approaches within one year is a substantial milestone for hypertension research globally.

COULD HEARING AIDS HELP STAVE OFF DEMENTIA IN OLDER ADULTS?

The RPH Research Foundation has helped fund a groundbreaking research project known as the "HearCog" trial. This study investigated whether hearing aids can delay or arrest cognitive decline to tackle dementia. Hearing loss is the second highest cause of disability in the world, affecting 1.5 billion people, with 90% of cases being due to age-related hearing loss. Currently, more than 50 million people are living with dementia, a figure that is set to triple by 2050. Projections suggest that the total number of people living with dementia could be reduced by 13% if the onset of symptoms could be delayed by two years or more. RPH Research Foundation's 2020 Innovation and Impact Grant program provided funding to help with this critical project and Fellowship funding for the research lead, Dr Dona Jayakody. It is hoped the final findings of this project will have significant implications on clinical practice and health policy development worldwide.



NITRATE AND HUMAN HEALTH – SUPERHERO OR VILLAIN?

Dr Catherine Bondonno- Emeritus Professor Beilin AO Career Advancement Fellow

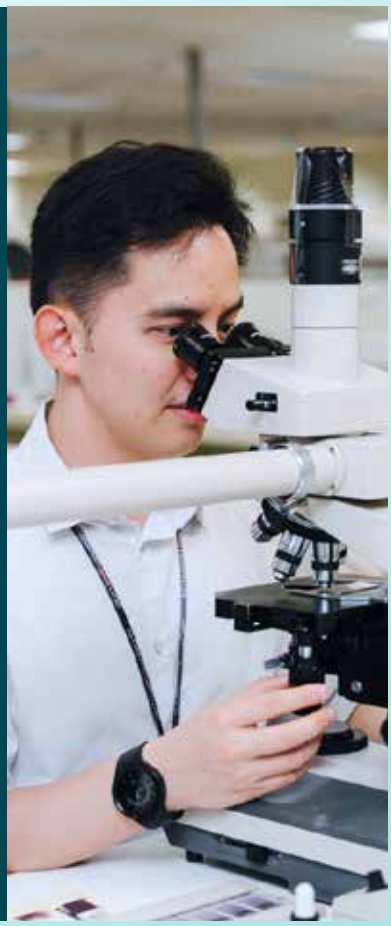
Dr Bondonno's work aims to unravel the long-standing debate surrounding nitrate, a compound found in vegetables like beetroot and spinach, processed meats and water, and its impact on human health. Her research explores whether the dietary source of nitrate - be it from water, meat, or vegetables - alters its effects on the human body. She aims to determine if nitrate can improve conditions such as cardiovascular disease, cognitive decline, dementia, and diabetes. Dr Bondonno led a review of nitrate with clinical and observational studies and found nitrate can prevent cardiovascular disease if it is sourced from vegetables. Her research has shown one cup of raw or half a cup of cooked dark leafy green vegetables a day is enough to have benefits on a person's cardiovascular health.

In 2024, Dr Bondonno began recruiting women to her Wise & Well clinical trial which seeks to assess the health impacts of a diet and lifestyle behaviour change program on reducing the risk of dementia, heart disease and falls.

TREATING INCURABLE CANCERS – IMMUNE EFFECTOR CELL THERAPIES

Thanks to a generous donation in memory of Margaret Alison Melvin, the Foundation awarded a 2024 Seed Funding Grant to Dr Collin Chin. With this funding, Dr Chin and his team will investigate how a patient's immune cell fitness affects their response to cell therapies. Immune effector cell (IEC) therapies harness the power of the immune system to combat cancer cells and represent a new era in the battle against cancer. IEC therapies include chimeric antigen receptor (CAR) T cells whereby a patient's immune cells are harvested from the blood, genetically engineered to recognise cancer cells, and reinfused into the bloodstream to kill cancers. IEC therapies such as CAR T-cell therapy have the potential to cure patients with otherwise fatal cancers.

While these new treatments show immense promise, they are very expensive, and more than half of patients relapse or do not respond. The goal of this project is to predict which patients will benefit the most from IEC therapies to improve patient outcomes, reduce healthcare costs and help researchers develop strategies to overcome resistance to IEC.



Cultivating Innovation: Meet the Recipients of RPH Research Foundation's Seed Funding Grants

The Foundation has a rich history of seed funding novel projects that have gone on to secure larger funding. This grant program continues our legacy of seed funding by providing preliminary funding of up to $20,000 for novel innovative research projects.

With a focus on advancing healthcare, knowledge acquisition and supporting a pathway to research success, these grants aim to nurture cutting-edge ideas and facilitate early-stage research. The 2023/2024 Seed Funding Grants provided $77,052.14.

Congratulations to the Seed Funding grant recipients.

RPH Research Foundation's Board Chair and CEO with Seed Funding Grant recipients

Investigating the use of an automated machine to deliver chest compressions in patients experiencing an in-hospital cardiac arrest.

Dr Alannah Cooper, Royal Perth Hospital

$19,970

Cardiovascular disease impacts over four million Australians, causing one in four deaths nationally, with around half due to sudden cardiac arrest. Annually, about 30,000 Australians experience cardiac arrest, with survival rates of under 10% out-of-hospital and 25% in-hospital.

Chest compressions are a core component of cardiopulmonary resuscitation (CPR) and can be performed manually (by staff) or mechanically with a device. Given the rising incidence of cardiac arrests, the research aims to address the gap in knowledge regarding the use of mechanical chest compression devices, specifically the LUCAS device, in hospital settings. A mixed methods study will collect both quantitative and qualitative data in two phases to understand how and why the LUCAS device is used. The findings will provide insights to inform clinical practice, policy, and future research, potentially improving outcomes for patients experiencing cardiac arrest and addressing a significant health issue in Australia.

Utilising drug concentration monitoring to improve personalisation of long-acting antiretroviral therapy in patients living with HIV.

Dr Mina John, Royal Perth Hospital

$17,195

This research project focuses on the emerging use of long-acting injectable antiretroviral therapy (ART) for treating human immunodeficiency virus (HIV), which could significantly improve patients' quality of life compared to daily oral ART.

Despite its potential benefits, a major concern is the substantial variability in drug concentrations between individuals over time, which may pose risks of drug resistance, disease progression, and HIV transmission if levels are subtherapeutic.

Dr John and her team aim to gain a greater understanding of individual factors that may contribute to this large variability with a vision to develop therapeutic drug monitoring and personalised treatment for patients. The study will utilise ultrasound assessments of injection sites to explore the role of injection location to drug variability. It is hoped this research will support the development of HIV clinical pathways focused on personalised care, more effective treatment in diverse populations and public health benefits.

Refining the Diagnosis of Acute Myeloid Leukaemia.

Dr Tulene Kendrick, Royal Perth Hospital

$19,887

Acute Myeloid Leukaemia (AML) is linked to genetic changes that influence the disease's severity and patient prognosis, making it crucial to detect these mutations for optimal treatment, including determining if bone marrow transplants are required. However, standard tests fail to identify chromosomal changes in nearly half of AML patients, complicating treatment decisions.

Dr Kendrick's research addresses this issue using "immuno-flowFISH," a novel WA-developed technology. This test is 1,000 times more accurate than standard chromosome tests and analyses at least 100,000 cells, focusing on leukemia cells. Proven to enhance genetic change detection in other blood cancers, this patented technology promises to refine diagnosis, optimise treatment, and improve survival rates for AML patients in WA.

The impact of glucose and sodium lowering therapies on heart and kidney disease.

Dr Vance Matthews, The University of Western Australia

$20,000

This research project explores a novel approach to treating hypertension by targeting the sodium and glucose co-transporter 1 (SGLT-1) protein.

Researchers hypothesise that inhibiting SGLT-1 can regulate blood pressure controlled by the fight or flight response, potentially improving hypertension management.

The research focuses on the kidneys' role in glucose reabsorption, particularly through SGLT-1 and SGLT-2 receptors. Existing medications that target SGLT-2 have shown promise in reducing cardiovascular risk. The researchers aim to extend this understanding by investigating the impact of inhibiting SGLT-1, especially in the context of neurogenic hypertension.

If successful, this approach could lead to better, more tailored treatment options with fewer side effects and increased cost-effectiveness, ultimately improving the lives of hypertensive patients.

Dr Tulene Kendrick with patient

RPH Research Foundation Symposium and Awards Day 2023

On Friday 27 October 2023, the RPH Research Foundation held its annual Research Symposium and Awards Day at The Westin to recognise and celebrate the researchers the Foundation funds.

Hosted by Board Chair Mr John Palermo, with immediate past Chair Professor Lyn Beazley AO acting as MC, the Foundation celebrated its 40th anniversary and four decades of funding Western Australian health and medical research.

An overview of the previous 40 years was delivered by past Board Chair, Emeritus Professor Lawrie Beilin AO.

The Symposium showcased some of the cutting-edge research that is currently being undertaken within the East Metropolitan Health Service (EMHS), and Western Australia more broadly.

Mr Simon Millman MLA, Parliamentary Secretary to the Minister for Health; Mental Health, delivered the opening address and shared the importance of funding medical research in Western Australia.

Official Welcome delivered by Board Chair Mr John Palermo

The highlight of the event was the Bryant Stokes Oration, which was delivered by Dr Norman Swan AM, on the importance of *"Communicating Science in Tough Times"*. Dr Swan is a multi-award-winning health and medical broadcaster and communicator well known for co-hosting Radio National's *Health Report and Coronacast*.

Congratulations to all the winners of the awards presented at the 2023 Symposium and Awards Day.

Mentorship Award

Early career researchers nominated their mentors to recognise those Senior Career Researchers who have helped them on their research journey.

The 2023 Mentorship Award was awarded to **Professor Michael Leahy.**

Professor Leahy is the Head of the Haematology Department at Royal Perth Hospital and his nominators shared that he has been responsible for creating a culture of research within the department.

Early Career Publication Award

The publishing process is highly competitive, and to publish in a high-quality journal requires early career researchers to compete against more experienced researchers. This award recognises early-career researchers who are publishing their work.

Dr Benjamin Parmenter was awarded the 2023 Early Career Publication Award for his publication titled *Higher Habitual Dietary Flavonoid Intake Associates with Less Extensive Abdominal Aortic Calcification in a Cohort of Older Women.*

Nursing Research Award

The inaugural winner of the RPH Research Foundation's Nursing Research Award was presented to **Dr Alannah Cooper.**

Dr Cooper submitted the top-ranked nursing project in the RPH Research Foundation's 2023 Nursing and Allied Health Grant Program.

Her project is titled: *Measuring the level of Palliative Care Need and referral rates to palliative care for adult patients in the East Metropolitan Health Service.*

Professor Lyn Beazley AO Emerging Leader Award

The Professor Lyn Beazley AO Emerging Leader Award aims to recognise and support early career researchers who have demonstrated exceptional promise and dedication in their scientific or clinical research endeavours. The award is named in honour of RPH Research Foundation's immediate past Board Chair Professor Lyn Beazley AO, in recognition of her leadership, advocacy of research and commitment to supporting the next generation of researchers.

The inaugural winner of the Professor Lyn Beazley AO Emerging Leader Award is **Dr Lakshini Herat.** Dr Herat is a passionate medical researcher striving to develop effective treatments for the management of hypertension, diabetes, and their complications.

2024 Highlights

Capital Works Completed at 50 Murray Street

The Foundation completed works on its historic double-storey building fronting 50 Murray Street, which had stood vacant for a number of years.

At the start of 2024, the RPH Research Foundation staff team relocated to the first floor of the newly-renovated building. The Foundation's move has helped free up space within our six-storey Research Facility. With the remediation of the research facility commencing in 2024, our ongoing capital investment will continue to facilitate ground-breaking and innovative research in modern facilities.

$1.5 Million to Boost RPH Research Foundation's Health and Medical Research Facilities

The RPH Research Foundation has received $1.5 Million in funding thanks to a new scheme announced by the Cook Government. With matched funding from the inaugural Future Health Research and Innovation (FHRI) Fund Enabling Scheme the Foundation will construct new OGTR-Certified PC2 Laboratories.

This $3 million project will bolster the Foundation's work with researchers from across WA and help us revitalise the Foundation's research facilities. As the primary laboratory space for EMHS researchers, this refurbishment will deliver state-of-the-art laboratories to support bench-to-bedside research and provide the best outcomes for WA patients.

New Grant Round Providing $3.6 Million in Funding Announced

The RPH Research Foundation launched the 2024 Research Innovation and Impact Grants with $3.6 Million available for novel projects that aim to improve Western Australian healthcare.

The Foundation secured matched funding of $1.8 Million for this program as part of the Western Australian Government's Future Health Research and Innovation (FHRI) Fund Co-Funding Partnerships Program. Applications were opened in March 2024 inviting submissions up to $1.2 Million to fund new projects that challenge existing paradigms.

Grant Funding for Equipment to Help Treat Incurable Blood Cancer in Western Australia

Blood cancer is the second most deadly cancer in Australia, taking 16 lives each day. Chimeric antigen receptor (CAR) T-cells are the newest weapon in the fight against the commonest blood cancer, lymphoma. CAR T-cells can cure one in two patients who would not have survived on standard treatments. Thanks to grant funding from The John and Beryl May Henderson Foundation, the Foundation received $77,240 in June 2024 to support the purchase of vital equipment to help create a place of care in Western Australia. This will allow CAR T-Cell therapy to be manufactured in Western Australia, reducing our dependency on therapies from overseas and increasing the number of patients who can benefit from this treatment.

Nursing Research Foundation Joins RPH Research Foundation

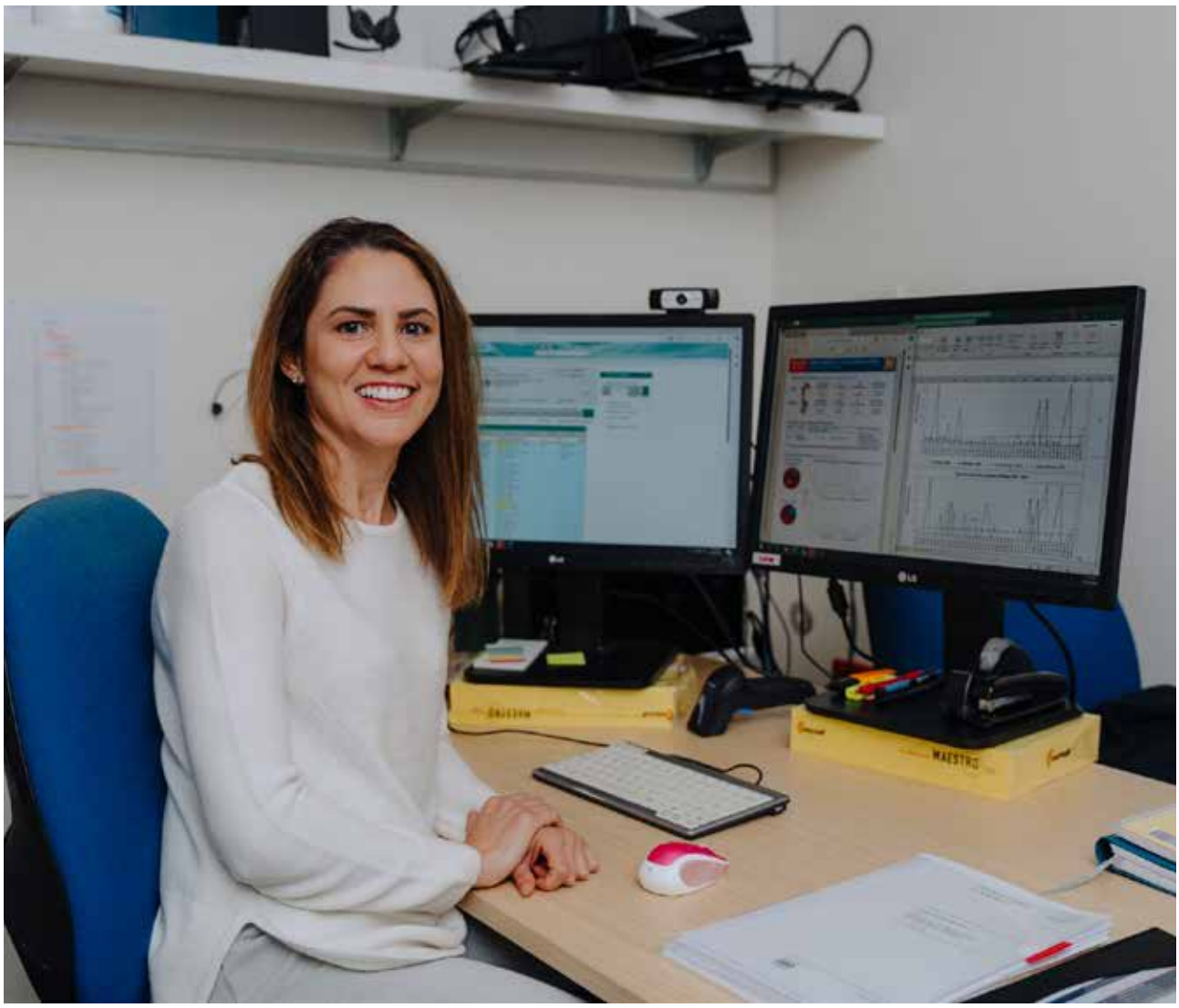
At the end of 2023, members of the Royal Perth Hospital Nursing Research Foundation (NRF) voted unanimously to wind up and join the RPH Research Foundation. The RPH Research Foundation will continue the NRF's legacy of supporting nursing and midwifery research at the Royal Perth Bentley Group and across the East Metropolitan Health Service.

Centre for Advanced Therapies Unveiled by Minister for Medical Research

In November 2023, the Honourable Stephen Dawson MLC Minister for Emergency Services; Innovation and the Digital Economy; Science; Medical Research; Minister Assisting the Minister for State and Industry Development, Jobs and Trade visited RPH Research Foundation for the official opening of the new Royal Perth Hospital Centre for Advanced Therapies (CAT). CAT is located on level five of the Foundation's Research Facility.

Advancing Healthcare: 2024 Nursing and Allied Health Grant Recipients

The RPH Research Foundation awarded a total of $72,861 to five research projects through the 2024 Nursing and Allied Health Grant Program.



Exploring the patient's experience when allocated to an isolation room to manage multi-resistant organisms

$15,000

Coordinating Principal Investigator: Ms Gabrielle Calleja

This research project investigates how to improve the patient experience and reduce the mental health impact on patients colonised with Multi-resistant organisms (MROs). MROs, commonly referred to as "superbugs," are bacteria that cannot be killed using common antibiotics and pose significant challenges in healthcare settings. Isolation is a key part of infection control measures in hospitals. However, these measures can have a negative impact on the mental health of patients.

The study aims to understand patients' concerns and emotional experiences related to MRO colonisation and isolation, gathering insights to improve patient-centred care. By exploring these aspects, the project seeks to enhance support for individuals affected by MRO colonisation and potentially influence future treatment approaches.

Improved Lung Function Testing for Transgender People

$15,000

Coordinating Principal Investigator:
Mr Finn Chilcott

Australia-wide there has been a rise in transgender individuals seeking gender-affirming healthcare. Transgender people face numerous barriers in accessing care and will often avoid treatment due to healthcare providers lacking in transgender health education, discrimination, refusal of care and abuse.

Transgender, intersex and/or gender diverse (TIGD) people have higher rates of anxiety, and depression, and are at increased risk of respiratory conditions like Chronic Obstructive Pulmonary Disease (COPD) and asthma. However, assessing respiratory health in the TIGD population is challenging due to a lack of guidance on appropriate reference values.

This project aims to collect lung function data from healthy TIGD individuals to assess how gender-affirming therapies impact lung function and the impact of selecting parameters based on gender versus sex. The findings will guide healthcare professionals toward more accurate diagnoses, treatments, and equitable care.

Blending digital and clinician support to help people with chronic pain and mental health concerns

$15,000

Coordinating Principal Investigator:
Dr Robert Schutze

One in five Australians live with persistent daily pain. People with chronic pain are more likely to also have mental health conditions than people who do not live with chronic pain. Yet access to whole-person health care that addresses both pain management and mental health needs is limited.

To tackle this problem, researchers and healthcare professionals are developing a new approach called "Blended Pain Care" combining the best features of clinician-supported care and digital health solutions. Researchers and health professionals are working with people who live with chronic pain to find new ways of delivering mental health care and pain management support.

The project also aims to address the barriers that prevent many individuals from accessing mental health support for their chronic pain. By leveraging digital technologies, the project seeks to increase access to evidence-based care for pain-related mental health concerns.

How well do children and adolescents who sprain their ankle or knee recover from their injury?

$13,891

Coordinating Principal Investigator:
Dr Karen Richards

Many children and adolescents attend the Emergency Department (ED) with a sprain of their ankle or knee. These types of injuries can lead to pain, difficulties moving around, worry and inability to take part in school, hobbies or sports. Most of what we know about healing times and the recovery from ankle or knee sprains comes from adult studies. However, little is known about recovery times and injury recurrence in children.

This study aims to assess the recovery and potential re-injury rates in children and adolescents treated for ankle or knee sprains at the Midland ED over six months. Understanding their recovery journey and healthcare access is vital for tailored care. By addressing these gaps, the research aims to enhance the well-being of young patients. The findings will inform improvements in care pathways, discharge protocols, and potentially new services, contributing to better healthcare outcomes for young patients locally and beyond.

Developing a way to measure if people are engaged in their rehabilitation in the Intensive Care Unit (ICU)

$13,970

Coordinating Principal Investigator:
Ms Sheldon Walker

This project focuses on finding methods to personalise rehabilitation strategies for patients who have prolonged stays in intensive care units (ICUs). ICUs are specialised units that provide life-saving care to critically ill or injured patients. Improved survival rates coupled with an ageing population have resulted in unprecedented demand for, and longer admissions in, the ICU. Long ICU stays have long-term consequences for patients, with survivors often grappling with PTSD, depression, cognitive dysfunction, and physical decline. These challenges can lead to increased healthcare utilisation, caregiver burden, and diminished wellbeing for survivors and their families.

This research aims to explore individual preferences for rehabilitation strategies in ICU patients and develop a measure of cognitive engagement based on physiological indicators. This will help clinicians personalise rehabilitation approaches, thereby improving outcomes and quality of survivorship.

Centre for Advanced Therapies unveiled by Minister for Medical Research

A new Royal Perth Hospital Centre for Advanced Therapies has opened in the RPH Research Foundation's research facility, to bring individualised patient treatment options to Western Australian patients.

In November 2023, the Honourable Stephen Dawson MLC Minister for Medical Research visited the RPH Research Foundation for the official opening of the new Royal Perth Hospital Centre for Advanced Therapies (RPH CAT).

This facility is dedicated to the development of advanced therapy medicinal products (ATMPs), providing a beacon of hope for patients with limited treatment options. ATMPs are biological medicines for human use that are based on genes, cells or tissues.

This facility will lead the way in developing and manufacturing groundbreaking therapies, such as bacteriophage therapy for antibiotic-resistant infections, tumour-infiltrating lymphocytes for melanoma treatment, and corneal endothelial cells for the treatment of corneal oedema and visual impairment.

The CAT is established under the Bill and Ray Dobney Cell and Tissue Therapies WA (CTTWA). Thanks also to a Gift in Will in memory of Felix Viktor and Verena Vonesch, the RPH Research Foundation has granted funds to A/Prof Zlatibor Veličković, CTTWA's Facility Director, for the development of ATMPs.

RPH CAT will enhance Western Australia's manufacturing capability for early-phase trials of locally and internationally developed ATMPs. The Centre will also serve as the hub for health research and innovation for ATMP in WA and nationally.

> **The Foundation takes pride in hosting the Centre within our research facility and having A/Professor Zlatibor Veličković and his team in our building.**

The inauguration of the RPH CAT highlights Western Australia's commitment to reducing the burden of disease in communities and fostering economic growth through advanced therapeutic research. It also underscores the collaborative spirit of the research community, exemplified by the partnerships between CTTWA, The Kids Research Institute, Harry Perkins Research Institute, and Lions Eye Institute, among others.

Community Health Talks

In collaboration with the City of Perth Library, the RPH Research Foundation proudly hosts a series of free community health talks throughout the year.

These sessions are designed to provide the public with insights into the innovative research being conducted by East Metropolitan Health Service under the auspices of the RPH Research Foundation and our partners. These community health talks not only highlight research supported by the RPH Research Foundation but also engage the public in meaningful discussions about health and wellbeing.

WHERE DIABETES MEETS THE EYE: NEW GLUCOSE-LOWERING DRUGS AND THEIR BENEFITS IN DIABETES

Dr Lakshini Herat, a Career Advancement Fellow at the RPH Research Foundation, delivered an informative session on the latest advancements in diabetes research. With over 1.7 million Australians affected by diabetes, Dr Herat's research focuses on new glucose-lowering treatments that prevent diabetic complications in the eye and kidney. Attendees also benefited from free blood pressure checks conducted by the Dobney Hypertension Centre team, emphasising the importance of monitoring and managing blood pressure.

CELL AND GENE THERAPIES IN WESTERN AUSTRALIA

Dr Zlatibor Velickovic, Director of the Ray and Bill Dobney Cell and Tissue Therapies WA (CTTWA) facility at Royal Perth Hospital, shared insights into the cutting-edge research and manufacturing capabilities of the facility. As Western Australia's only public hospital-accredited manufacturer of clinical-grade cellular therapies, CTTWA is at the forefront of regenerative medicine, developing personalised treatments to improve patient care.

HEALTH IN A VIRTUAL ENVIRONMENT (HIVE)

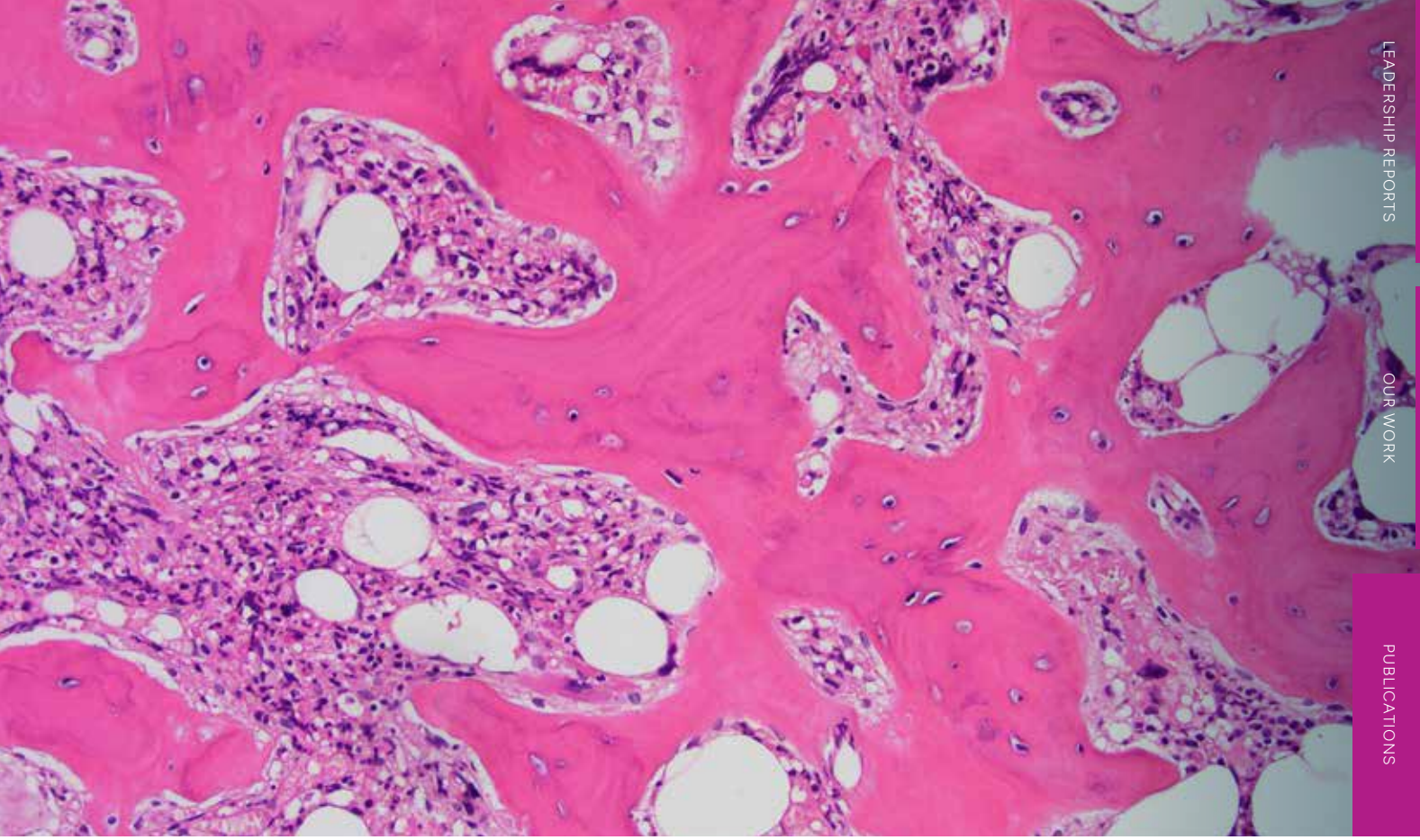
Ms Eliza Becker introduced the audience to the East Metropolitan Health Service's HIVE program, Western Australia's first remote monitoring initiative. This innovative program aims to deliver safe, affordable, and person-focused care, leveraging technology to provide healthcare in the right place and at the right time.

FOOD AS MEDICINE

Dr Catherine Bondonno, an RPH Research Foundation Career Advancement Fellow, shared the therapeutic potential of food in promoting health and preventing disease. Her research highlights the protective effects of phytonutrients found in fruits and vegetables, such as flavonoids and nitrates, and their role in improving heart health and cognitive function. Dr Bondonno also introduced a new clinical trial aimed at encouraging healthier dietary choices among individuals.

TAKE THE PRESSURE DOWN – EASIER THAN YOU THINK

Professor Markus Schlaich, the RPH Research Foundation's Dobney Chair in Clinical Research, gave a compelling presentation on managing high-blood pressure. Hypertension remains the largest killer globally and affects one-third of Australians. Professor Schlaich's team also conducted 68 free blood pressure checks for attendees, educating them on the significance of knowing their numbers and practical measures to control hypertension.



Bone marrow scarring and abnormal bone growth in a patient with myelofibrosis, a type of blood cancer that can progress to acute leukaemia

Publications

Publishing research is a vital part of disseminating results and helping improve healthcare. We are proud to share a selection of journal articles published in the 2024 Financial Year by researchers supported through RPH Research Foundation grants.

Bondonno NP, Pokharel P, **Bondonno CP**. et al. Source-specific nitrate intake and all-cause mortality in the Danish Diet, Cancer, and Health Study. ***Eur J Epidemiol.*** 2024. https://doi.org/10.1007/s10654-024-01133-5.

Dent E, Hanlon P, **Sim M,** Jylhävä J, Liu Z, Vetrano DL, Stolz E, Pérez-Zepeda MU, Crabtree DR, Nicholson C, Job J, Ambagtsheer RC, Ward PR, Shi SM, Huynh Q, Hoogendijk EO. Recent developments in frailty identification, management, risk factors and prevention: A narrative review of leading journals in geriatrics and gerontology. ***Ageing Research Reviews.*** 2023. (91) 102082. https://doi.org/10.1016/j.arr.2023.102082.

Sharif N, Zulqarnain Gilani S, Suter D, Reid S, Szulc P, Kimelman D, Monchka BA, Jozani MJ, Hodgson JM, **Sim M**, Zhu K, Harvey NC, Kiel DP, Prince RL, Schousboe JT, Leslie WD, Lewis JR. Machine learning for abdominal aortic calcification assessment from bone density machine-derived lateral spine images. ***eBioMedicine***. 2023. (94) 104676. https://doi.org/10.1016/j.ebiom.2023.104676.

Smith C, **Sim M,** Dalla Via J, Gebre A, Zhu K, Lim WH, Tah R, Kiel D, Schousboe, JT, Levinger I, von Haehling S, Woodman R, Coats AJ, Prince RL, Lewis JR. Extent of abdominal aortic calcification is associated with incident rapid weight loss over five years: the Perth Longitudinal Study of Ageing Women. ***Arteriosclerosis, Thrombosis, and Vascular Biology.*** 2023. (44) e54-e64. https://doi.org/10.1161/ATVBAHA.123.320118.

Sesa-Ashton G, Nolde JM, Muente I, Carnagarin R, Macefield VG, Dawood T, Lambert EA, Lambert GW, Walton A, Esler MD, **Schlaich MP.** Long-Term Blood Pressure Reductions Following Catheter-Based Renal Denervation: A Systematic Review and Meta-Analysis. ***Hypertension.*** 2024. (81) e63-e70. https://doi.org/10.1161/HYPERTENSIONAHA.123.22314.

Azzam O, Heidari Nejad S, Carnagarin R, Nolde JM, Galindo-Kiuchi **M, Schlaich MP.** Taming resistant hypertension: The promise of novel pharmacologic approaches and renal denervation. **British *Journal of Pharmacology.*** 2023. (181) 319-339. https://doi.org/10.1111/bph.16247.

Morris ME, Thwaites C, Lui R, McPhail SM, Haines T, Kiegaldie D, Heng H, Shaw L, Hammond S, McKercher JP, Knight M, Carey LM, Gray R, Shorr R, **Hill AM.** Preventing hospital falls: feasibility of care workforce redesign to optimise patient falls education. ***Age Ageing***. 2024 Jan (53) afad250. https://doi:10.1093/ageing/afad250.

Herat LY, Matthews JR, Hibbs M, Rakoczy EP, **Schlaich MP, Matthews VB.** SGLT 1/2 inhibition improves glycemic control and multi-organ protection in type 1 diabetes. ***iScience.*** 2023. (26) 107260. https://doi.org/10.1016/j.isci.2023.107260.

Pokharel P, Blekkenhorst LC, **Bondonno CP,** Murray K, Radavelli-Bagatini S, Magliano DJ, Daly RM, Shaw JE, Lewis JR, Hodgson JM, Bondonno NP. Association of Vegetable and Potato Intakes With Markers of Type 2 Diabetes Risk in the AusDiab Cohort. ***The Journal of Clinical Endocrinology and Metabolism.*** 2024. dgae333. https://doi.org/10.1210/clinem/dgae333.

Gebre AK, **Sim M,** Dalla Via J, Smith C, Rodríguez AJ, Hodgson JM, **Bondonno CP,** Lim W, Byrnes E, Thompson PR, Prince RP, Lewis JR. Association between high-sensitivity cardiac troponin I and fall-related hospitalization in women aged over 70 years. ***Heart.*** 2023. (110) 108-114. https://doi.org/10.1136/heartjnl-2023-322861.

Hill CR, Shafaei A, **Matthews VB, Ward NC,** Croft KD, Lewis JR, Hodgson JM, **Balmer L,** Blekkenhorst LC. S-Methyl Cysteine Sulfoxide Does Not Ameliorate Weight Gain or Hyperlipidemia in Mice Fed a High-Fat Diet. ***Molecular Nutrition and Food Research***. 2024. (68) 2400034. https://doi.org/10.1002/mnfr.202400034.

McCutcheon D, Soderstrom J, Raghavan M, Oosthuizen F, Douglas B, **Burrows S,** Smith JL, Fatovich D. Illicit drugs in the emergency department: Can we determine on clinical grounds if patients are intoxicated? Results from the Western Australian Illicit Substance Evaluation (WISE) study. ***Drug and Alcohol Review.*** 2023. (42) 1807-1815. https://doi.org/10.1111/dar.13738.

Smith JL, Greene S, **McCutcheon D,** Weber C, Kotkis E, Soderstrom J, Douglas B, Lenton S, Grigg J, Dessauer P, Ezard N, Fatovich DM, on behalf of the EDNA Investigators. A multicentre case series of analytically confirmed gamma-hydroxybutyrate intoxications in Western Australian emergency departments: Pre-hospital circumstances, co-detections and clinical outcomes. ***Drug and Alcohol Review***. 2024. (43) 984-996. https://doi.org/10.1111/dar.13830.

Ward NC, Ying Q, **Chan DC,** Pang J, Mori TA, Schultz CJ, Dwivedi G, Francis RJ, Watts GF. Improved arterial inflammation with high dose omega-3 fatty acids in patients with elevated lipoprotein(a): Selective effect of eicosapentaenoic acid? ***Journal of Clinical Lipidology.*** 2023. (17) 694-699. https://doi.org/10.1016/j.jacl.2023.08.004.

Weber, C., Smith, J. L., Soderstrom, J., **Burrows, S., McCutcheon, D.,** … Oosthuizen, F. Analytically confirmed illicit and novel psychoactive drug use in Western Australian emergency departments: initial results from the Emerging Drugs Network of Australia (EDNA). ***Clinical Toxicology***. 2023. (61) 500–508. https://doi.org/10.1080/15563650.2023.2229951.

Van der Lee L, Patman S, **Hill AM.** Development of a clinical practice guideline for physiotherapy management of adults invasively ventilated with community-acquired pneumonia. ***Physiotherapy***. 2024. (122) 57-67. https://doi.org/10.1016/j.physio.2023.12.003.

Francis-Coad J, Weselman T, Burton E, Beilby J, **Hill AM.** Fall prevention education co-designed and evaluated with community-dwelling older people living with dementia and their caregivers: A feasibility study. ***Health & Social Care in the Community.*** (2023) 9965507. https://doi.org/10.1155/2023/9965507.

Statement of Financial Position

As at 30 June 2024

	2024 ($)	2023 ($)
Current Assets		
Cash and cash equivalents	13,284,905	10,344,649
Other financial assets - term deposits at bank	6,124,000	8,000,000
Trade and other receivables	153,354	594,204
Other assets	58,133	50,507
	19,620,392	**18,989,360**
Non current assets		
Property, plant and equipment	22,762,723	21,990,413
Financial assets at fair value through profit and loss	47,161,896	42,091,308
Shares in subsidiary company	1	1
	69,924,620	**64,081,722**
TOTAL ASSETS	**89,545,012**	**83,071,082**
Current liabilities		
Trade and other payables	898,933	1,284,033
Deferred Revenue	3,898,647	1,092,663
Provisions	51,010	51,210
Bank Loan	-	60,125
	4,848,590	**2,488,031**
Non current liabilities		
	-	-
TOTAL LIABILITIES	**4,848,590**	**2,488,031**
NET ASSETS	**84,696,422**	**80,583,051**
Accumulated funds	74,555,377	70,442,006
Asset revaluation reserve	10,141,045	10,141,045
TOTAL EQUITY	**84,696,422**	**80,583,051**

The statement of Comprehensive Income and Expenditure provided together with the Statement of Financial Position have been extracted from the audited Special Purpose Financial Statements of the Royal Perth Hospital Medical Research Foundation. The audited Special Purpose Financial Report can be obtained upon request from the Chief Financial Officer.

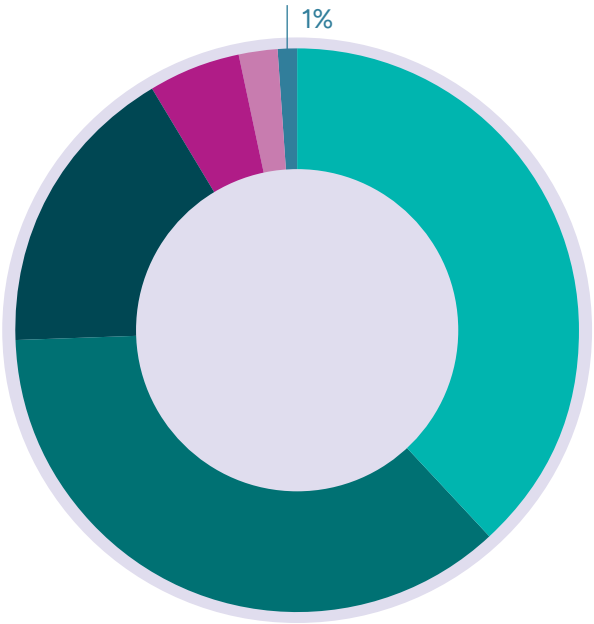
Annual Performance

For the year ending 30 June 2024 we recognised a profit of $4,113,371.

STATEMENT OF COMPREHENSIVE INCOME & EXPENDITURE

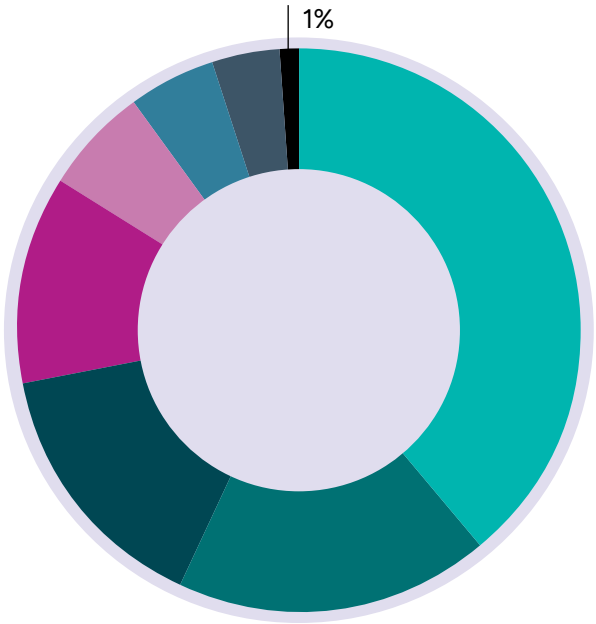
For the year ended 30 June 2024

Income 2023 - 2024



39%	Investments
34%	Unrealised gains on investment
19%	Rent and buildings
5%	MRF syndicates
2%	Donations and bequests
1%	Other

Expenditure 2023 - 2024



39%	Research grants
18%	Buildings
15%	Employment
12%	Other expenses
6%	Office and administration
5%	Depreciation
4%	Management services
1%	Fundraising

Our total expenditure for the year was $5,809,787 and our major expenses related to Research Grants, Laboratories & Building Maintenance.

Board of Management and Board Committees

Governance of the RPH Research Foundation is led by our Board of Management, whose dedication and expertise are pivotal to our success. Supported by our committees, reviewers and advisors these individuals volunteer their time and knowledge to guide the Foundation. We extend our gratitude to each of these appointees for their contribution that supports research aimed at improving health outcomes for all.

Board Members

Mr John Palermo

Chair
FCA AGIA

Dr Rebecca McCrackan

Deputy Chair
BSc(Hons) PhD M(IP Law) FITPA

Ms Amanda Cox

FCA FGIA FCG CGP

Professor Daniel Fatovich

MBBS FACEM PhD

Mr David Jones

BSc ADPA (WAAPA) JD (Hons)

Ben Noteboom

BSc (Physiotherapy), MBA MHA FCHSM CHE AFAIM

Emeritus Professor Glennda Scully

FCA GAICD

Advisors

Emeritus Professor Lawrie Beilin AO

(Advisory)
MB.BS. Hons (Lond) MD (Lond) FRCP (London). MA (Oxon) FRACP FCSANZ

Emeritus Professor George Yeoh

(Strategic Research Advisor)
BSc (Hons) PhD

Patrons

His Excellency the Honourable Chris Dawson AC APM Governor of Western Australia and Mrs Darrilyn Dawson

Audit and Risk Committee

- Mr David Jones (Chair)
- Emeritus Professor Glennda Scully

Finance and Investment Committee

- Ms Amanda Cox (Chair)
- Mr Tony Chong (Resigned September 2023)
- Dr Frank Christiansen
- Mr John Palermo
- Mr Todd Schaffer

Scientific Advisory Committee

- Professor Daniel Fatovich (Co-Chair)
- Dr Rebecca McCrackan (Co-Chair)
- Dr Tamika Heiden
- Professor Elaine Holmes
- Mr Ben Horgan
- Professor Margaret Jones
- Mr Neil Kavanagh
- Emeritus Professor Gavin Leslie
- Ms Anne McKenzie AM (Resigned June 2024)
- Associate Professor Vicki Patton
- Professor Grant Waterer

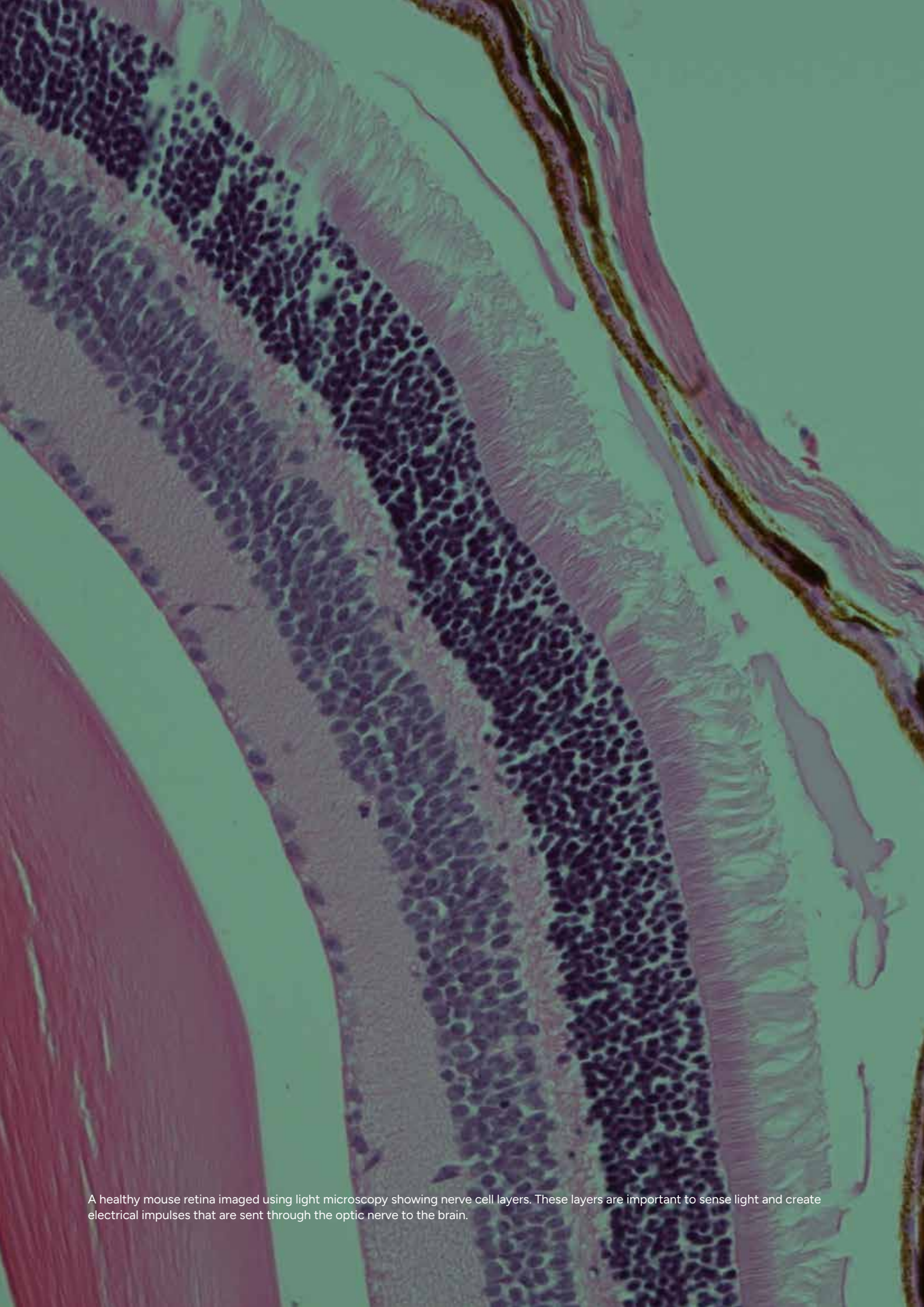
Reviewers

The Foundation would like to acknowledge those who provided their time and expertise as independent reviewers for grant funding rounds in the 2024 Financial Year.

- Professor Anne Barden
- Dr Evan Bayliss
- Professor Angus Buchanan
- Associate Professor Philip Burcham
- Professor Kevin Croft
- Adjunct Professor Rodney Dilley
- Clinical Professor Simon Dimmitt
- Ms Carla Francis
- Associate Professor Kathy Fuller
- Associate Professor Seng Khee Gan
- Emeritus Professor Roy Goldie
- Dr Tamika Heiden
- Mr Ben Horgan
- Professor Shirley Jansen
- Ms Deb Langridge
- Emeritus Professor Gavin Leslie
- Professor Julie McMullen
- Professor Yuben Moodley
- Professor Tracey Moroney OAM
- Professor John Olynyk
- Winthrop Professor Carl Schultz
- Dr Natalie Ward
- Professor Grant Waterer

Acknowledging our Partners

Our work in health and medical research is made possible with the support of our partners and funders. Collaboration is essential in research because it combines diverse expertise, resources, and perspectives, driving innovation and accelerating the discovery of life-saving treatments.



A healthy mouse retina imaged using light microscopy showing nerve cell layers. These layers are important to sense light and create electrical impulses that are sent through the optic nerve to the brain.

RPH Research Foundation®

RPH Research Foundation
PO BOX 2323, East Perth WA 6892
ABN 62 314 475 885
info@rphresearchfoundation.org.au
www.rphresearchfoundation.org.au