



menzies
school of health research



2022 Annual Report



In the spirit of respect, Menzies School of Health Research acknowledges the people and Elders of the Aboriginal and Torres Strait Islander Nations who are the Traditional Owners of the land and seas of Australia.



Our vision

To find enduring solutions to health problems that matter.



Our purpose

To achieve sustainable health improvements through excellence and leadership in research, education and capacity development.



Our values

Quality We strive for excellence and rigour in everything we do.

Integrity We are open, honest and transparent, and maintain the highest standards of governance, accountability and ethics.

Relevance We concentrate on solving problems that matter. Our work is informed by the health needs and shared priorities of the people and communities with whom we work.

Partnerships We seek to partner with communities, health and other service providers, policy-makers and other researchers.

Innovation We embrace new approaches and technologies.

Communication We maintain an ongoing dialogue with partners, stakeholders and the local and national community during the research process, from conception through to completion and translation of results.

Accountability We take responsibility for our actions and results.

Aboriginal and Torres Strait Islander people are advised that this document may contain the names and images of people who have passed away.

The graphic pattern featured in the Menzies 2022 Annual Report is from an artwork by artist Cian Mungatj McCue who was born and raised in Darwin. Cian is a descendant of the Larrakia, Yanyuwa and Mulluk-Mulluk people.

The complete artwork is replicated inside the back cover.

◀ Cover images

Top right Celebrating the launch of the AIMhi-Y app.

Lower left The 2022 SAPOT team. Photography: Barry Peter

Find out more at www.menzies.edu.au

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Who we are

We are one of Australia's leading medical research institutes dedicated to improving the health and wellbeing of Aboriginal and Torres Strait Islander peoples, and a global leader in research into tropical and life-threatening diseases. Through effective partnerships with communities across northern Australia and the Asia-Pacific region, we translate our research into real change.

Our diverse workforce fulfils key roles in health service delivery, research and training throughout Australia and across the region.

Number of staff



Number of students



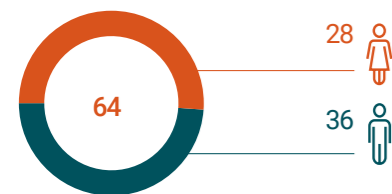
Number of Aboriginal and/or Torres Strait Islander staff



Total number of trainees



Number of Timor-Leste staff



Number of Aboriginal and/or Torres Strait Islander trainees



* Full-time equivalent



Where we work

Our headquarters are in Darwin, with offices in Alice Springs and Dili, Timor-Leste. Our work spans central and northern Australia and countries within our global neighbourhood.

- Key**
- Countries where we work
 - Headquarters
 - Offices
 - 2022 Field sites

2022 highlights

February

Given the emerging type 2 diabetes epidemic in Australia and globally, effective management strategies are needed to improve diabetes outcomes for young people. *The Lancet Diabetes & Endocrinology* published research undertaken by the Menzies Diabetes Across the Lifecourse – Northern Australia Partnership on youth-onset type 2 diabetes among Aboriginal and Torres Strait Islander young people in northern Australia.

[Read more on page 20.](#)

April

An important partnership in the work to improve public health in Timor-Leste was strengthened with the signing of a new Memorandum of Understanding (MoU) between Menzies and the Timor-Leste Ministry of Health. This new MoU means Menzies and the Ministry of Health will continue to work together over the next 3 years to build capacity within the health system for responding to infectious diseases, and to use evidence to inform health policy and practice.

[Read more on page 47.](#)

May

Dr Cassandra Wright and her team ran a study at the BASSINTHEGRASS festival on alcohol, other drugs and harm reduction. This study provided new insights into alcohol and other drug use at major events in the NT and has influenced changes in a harm reduction service delivered at the festival.

[Read more on page 49.](#)



^ Menzies' staff supporting the study Baseline in the Grass: advancing harm reduction at festivals in the NT.

May

Menzies staff took part in National Reconciliation Week 2022 events, including a discussion around the Uluru Statement from the Heart, facilitated by Dr Sean Taylor.

[Read more on page 43.](#)



^ Staff marked Sorry Day with a display in the Darwin office.

From 16-20 May, a 4-day workshop on basic histology was conducted in Timika as part of the malaria spleen study, led by Dr Steven Kho. The purchase of a new microtome (funded by a Menzies Small Grant) has now enabled histology capacity at the Timika research facility in Papua in Indonesia and is part of a long-term plan to expand research capability and professional development.

[Read more on page 46.](#)

July

Menzies' gathered in person to celebrate national NAIDOC Week. Aligning to the theme *Get Up! Stand Up! Show Up!* Menzies launched our Aboriginal and Torres Strait Islander Employment and Career Development Strategy 2022-2027.

[Read more on page 43.](#)



^ 2022 NAIDOC Week morning tea dancers.

August

As part of embedding the Territory Kidney Care (TKC) tool in business-as-usual processes at key partner sites, Menzies' renal program organised demonstrations of the TKC tool to partners, including clinicians from Wurlu-Wurlinjang Health Service, Katherine West Health Board Aboriginal Corporation, Sunrise Health Service and Miwatj Health Aboriginal Corporation. TKC Implementation Officers Dr Debbie Gillon, GP at Wurlu-Wurlinjang Health Service, and Heidi Falkner, Careplan Coordinator at Katherine West Health Board Aboriginal Corporation facilitated these workshops.

[Read more on page 23.](#)

On 12 August, the Menzies Viral Hepatitis Program hosted the Hepatitis B Colloquium in Darwin. The colloquium had a strong national turnout and there was high praise for the world-leading outcomes achieved in the Menzies' Hep B PAST project. The colloquium occurred alongside Menzies' annual Indigenous Reference Group and Investigator meetings.

[Read more on page 48.](#)

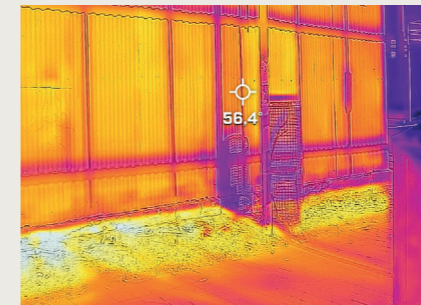


^ Professor Josh Davis, Menzies Senior Principal Research Fellow presenting at the Hep B Colloquium.

September

Menzies' researchers working across climate change focused projects delivered a presentation at the Country and Climate Yarning Circle Program of the Desert Song Festival Conference. Menzies' researchers demonstrated their commitment to exploring the impacts of heat on health in northern and central Australia, and to devising innovative ways to reduce these impacts through engagement with multiple projects. These include Air in Alice: a community response to reduce future environmental risks, Clean Energy for Healthy Environments and Lives (CE4HEAL) and Healthy Environments and Lives Network (HEAL Network).

[Read more on page 13.](#)



^ The Air in Alice project uses crowdsourced air quality and temperature data.

The Menzies' Timor-Leste office celebrated its third anniversary. Menzies staff work with the Timor-Leste Government and partners to strengthen health systems in the country with the aim of better responding to infectious diseases challenges. Large projects over 2022 focused on vaccine-preventable diseases such as measles, rubella, dengue, and COVID-19.



^ Menzies Timor-Leste staff retreat.

October

Menzies was delighted to welcome Professor Paul Kelly, Chief Medical Officer for the Australian Government Department of Health, to deliver the 2022 Menzies Oration, presenting on; *Providing the best medical advice in a pandemic, an insider's view.*

[Read more on page 50.](#)



^ Menzies Oration - Professor Paul Kelly.

The National Preterm Birth Prevention Program is a national education, quality improvement and health promotion campaign working in partnership with hospitals and health services to implement key local strategies to lower preterm birth rates and associated morbidities in Australia. With recruitment for the new Maternal Health Program now complete, the team commenced provision of educational sessions with participating hospitals and health services. The team also commenced development of a targeted health promotion campaign to prevent preterm birth and to support women, families and communities across the Top End.

[Read more on page 21.](#)

Professor Alan Cass AO received the Priscilla Kincaid-Smith Medal, Kidney Health Australia's highest accolade to an Australian citizen or resident for outstanding clinical and scientific achievement in research into the treatment of kidney disease. The Medal has been awarded 10 times since 1994 to an Australian citizen or resident for outstanding clinical and scientific

achievement in research into the treatment of diseases of the kidneys and urinary tract.

[Read more on page 36.](#)



^ Professor Alan Cass AO.

November

Menzies ran the NT Diabetes Summit in Alice Springs in collaboration with NT Health, Aboriginal Medical Services Alliance Northern Territory (AMSANT), Northern Territory Primary Health Network (NT PHN) and the Australian Government's Department of Health. Two hundred people attended in person and more than 170 joined online.

[Read more on page 50.](#)



^ Menzies supported a community day at the 2022 Diabetes Summit in Alice Springs.

December

Public health and social epidemiologist and biostatistician, Dr Abel Dadi, was named the winner of the prestigious 2022 Scopus Australia and New Zealand Researcher Award for Excellence in Outstanding Early Career Research. He received the award for publishing high-calibre and highly cited research papers on population health, maternal mental health and child health outcomes.

Reconciliation Action Plan 2020 – 2022

Menzies' Reconciliation Action Plan (RAP) demonstrates our ongoing commitment to do more and do better in addressing health inequalities and health inequities with and for Aboriginal and Torres Strait Islander peoples.

Key areas include:

Relationships

Relationships are crucial to our business of research, education, translation and advocacy. Menzies continues to strengthen and extend authentic, meaningful and long-lasting relationships with Aboriginal and Torres Strait Islander peoples, through new and ongoing collaborations and partnerships.

Respect

Respect for Aboriginal and Torres Strait Islander cultures, histories, knowledge and rights are fundamental to the way Menzies conducts its business. This is illustrated in the way we endeavour to approach, carry out and reflect on our research with Aboriginal and Torres Strait Islander peoples and the opportunities that we strive to create with them.



Opportunities

Menzies is committed to creating opportunities for Aboriginal and Torres Strait Islander people through sustainable employment and professional development. This is critical in enabling Aboriginal and Torres Strait Islander people to have direct input and leadership into their own research. We will extend our commitment to opportunities to include and preference Aboriginal and Torres Strait Islander services and business.

Governance

The governance of our Reconciliation Action Plan is about how we embark on our reconciliation journey. Through collaboration, leadership and integrity we are committed to the actions and deliverables with our RAP.

Director and Chair's message



Throughout 2022, Menzies has focused on strengthening our engagement with our partners and collaborators. For nearly 4 decades, we have worked to build and strengthen our relationships and partnerships with health services and communities across northern and central Australia, and beyond. We recognise that strong relationships are a critically important factor in addressing key health problems faced here in the Northern Territory (NT), Australia and in the broader Asia Pacific region.

Menzies is a member in 2 National Health and Medical Research Council accredited Research Translation Centres – Central Australia Academic Health Science Network (CA AHSN) and Top End Academic Health Partners (Top End Partners). These centres provide fantastic opportunities for community members, health care services, education and research organisations, and governments, to come together and do highly translational work that will make a real impact. In late 2022, Top End Partners hosted a research translation symposium which featured a panel discussion about future health directions, as well as a presentation on key research projects.

In November, in conjunction with the Northern Territory Government's Department of Health (NT Health), Menzies held a Diabetes Summit in Alice Springs. The event involved community members, health professionals, organisations and government workers converging to discuss the importance of tackling type 2 diabetes.

The group, which includes event partners – the Diabetes Across the Lifecourse – Northern Australia Partnership, Aboriginal Medical Services Alliance Northern Territory (AMSANT), Northern Territory Primary Health Network (NT PHN), NT Health and the Australian Government's Department of Health and Aged Care, will now look to progress the NT Diabetes Roadmap and consider actions to address social determinants of health.

Menzies held a number of other important events throughout 2022 including a Hepatitis B Colloquium and the annual Menzies Oration, and launched the new AIMhi-Y youth mental health app. This last event reminded us of the extraordinary contributions our younger staff are making to Menzies. Through the Biyamarr ma and Menzies-Ramaciotti Centre programs, we are engaging trainees who work across the organisation. They are incredibly valuable members of our research teams and bring new ideas, perspectives and skills to their roles and our work at Menzies. While we celebrate the work of our senior researchers who have decades of experience in their chosen areas of expertise, it is important for us to ensure the next generation is also being nurtured.

In 2022 we were delighted to welcome 3 new members to our Board – Ms Patricia (Trish) Angus PSM, Mr Nigel Browne and Professor Louise Baur AM. Each brings unique skills and perspectives to our Board and we are incredibly honoured to have them as members. We also launched the [Menzies Aboriginal and Torres Strait Islander Employment and](#)

[Career Development Strategy 2022 – 2027](#) in July. Since the launch, we have been working on the development and progression of detailed action plans to grow and develop our Aboriginal and Torres Strait Islander workforce.

Menzies' work in global and tropical health makes a real difference to the lives of people throughout the Asia Pacific region. In 2022, our researchers were recognised for their impact in the control of malaria infection in pregnant women and improvement in birth outcomes. The SAPOT Infant Study, a partnership between Menzies and the Papua New Guinea Institute of Medical Research, received the prestigious E. W. "Al" Thrasher Award.

Our work in other countries across the region, including Timor-Leste, continues to grow. We focus on research translation, building critical capability within health services and systems, and close collaboration with community, health service and government partners to improve the health of people in the region.

We thank everyone who supported and worked with us in 2022. We look forward to continuing these great partnerships in 2023 and the many years to come as we focus on finding enduring solutions to the health problems that matter.

Director
Professor Alan Cass AO

Chair of the Menzies Board
The Hon Trevor Riley AO KC

Our Board



**The Hon
Trevor Riley
AO KC
Board Chair**

Trevor was previously the Chief Justice of the Supreme Court of the Northern Territory (NT). He served on the Supreme Court for 17 years and continues as an Acting Judge of the Court. During his tenure as Chief Justice, he was outspoken about cuts to legal aid, high imprisonment rates and addressing alcohol abuse.

Trevor was appointed as Queen's Counsel in 1989, sworn in as a judge in 1999 and was the president of the NT Bar Association between 1993 and 1997.

His other roles include being a long-term Director of St John Ambulance (NT) and Chair of the AFL NT Appeals Board.



**Professor
Alan Cass AO
FAHMS**

Alan has been the Director of Menzies since 2012. He is a member of the Executive Committee for the Australia and New Zealand Dialysis and Transplant Registry, Chair of the NT Clinical Senate, a Council member for the Central Australia Academic Health Science Network and Board member of Top End Academic Health Partners.

Alan is a kidney specialist with a particular interest in the prevention and management of chronic disease and Aboriginal and Torres Strait Islander people's health. His research has focused on developing, implementing and evaluating strategies to improve health and wellbeing.

Alan has been instrumental in leading national and international clinical trials. He has focussed on conducting research to improve access to services and the provision of care to patients with low health literacy who speak different languages and have different understandings of health and illness from their healthcare providers.



**Richard
Ryan AO
Board
Co-Treasurer
(December 2022)**

Richard is director of a number of public and government boards including the Northern Territory Treasury, the Australian Government Solicitor's Advisory Board and the Adelaide Festival.

He is the Chair of Editure. Richard has previously been the Chair of Auspep Holdings, the Deputy Chancellor of Charles Darwin University (CDU), a member of the NT Treasury Corporation Advisory Board and the Attorney General's Audit and Risk Management Advisory Board.

A recipient of the Australia Day Honours on 3 occasions, he was made a member of the Order of Australia in 1989 for Services to the Community and was made an Officer of the Order of Australia in 1998 for Services to Indigenous People.



**Rowan
Johnston
Board
Co-Treasurer**

Rowan is a Sydney-based corporate advisor and is the managing director of C42 Consulting, a private advisory firm.

He previously spent almost 30 years as an investment banker and corporate advisor with Greenhill & Co. Australia (formerly Caliburn) and Deutsche Bank in Australia and Hong Kong.

Rowan continues to advise a range of private and public sector clients on corporate and financial issues, including equity capital markets, and has advised a range of Australian and overseas governments and their agencies on strategic, infrastructure and financial matters.



**Leanne
Liddle
Deputy Chair**

Leanne is the Director of the Aboriginal Justice Unit in the Northern Territory Government's Department of the Attorney-General and Justice, and the driving force behind the Northern Territory's Aboriginal Justice Agreement.

She is an Arrernte woman born and raised in Alice Springs. She was the first Aboriginal policewoman in South Australia (SA) where she worked for 11 years as a senior constable in police stations in Adelaide and remote SA.

Leanne has held several senior public service roles, including in South Australia. She has also worked on the international circuit for the United Nations and currently sits on the Royal Flying Doctors Service (RFDS) board.

Leanne was the 2022 NT Australian of the Year recipient.



**Professor
Scott Bowman
AO**

Scott is the Vice-Chancellor and President, Charles Darwin University (CDU). He joined CDU in 2021 with considerable university leadership experience having served as Vice-Chancellor and President of Central Queensland University (CQU). For over a decade, his vision and leadership helped transform CQU into one of Australia's largest and most engaged regional universities.

Professor Bowman joined Western Sydney University following his retirement as Vice-Chancellor and President of CQU in 2019. Previous leadership positions include at Western Sydney University, James Cook University, Charles Sturt University, and the University College of St Martin (Lancaster University) Lancaster, United Kingdom.

In 2019 he was appointed as an Officer of the Order of Australia (AO) for his significant contributions to higher education, training and regional Australia.



**Ken
Davies
PSM**

Ken Davies was appointed to the role of CEO of the Department of Territory Families, Housing and Communities in September 2020. Prior to this, Ken has held a number of senior positions within the Northern Territory Government.

Ken is the Chair of the Children and Families Standing Committee. He is a member of the Menzies Risk and Audit Committee, and was appointed the Deputy Chancellor of the Charles Darwin University in January 2021.

Ken has degrees in education and public sector management. He was awarded a Public Service Medal in January 2020 for outstanding service to children and families. In 2022, Ken was recognised as an Institute of Public Administration Australia (IPAA) National Fellow for having made outstanding contributions to public service and to IPAA.



**Patricia
Angus PSM**

Trish is a Jawoyn woman from Katherine, Northern Territory, residing in Darwin for the past 30 years.

Trish's early career included work as a registered midwife and nurse, including at public hospitals, an Aboriginal community-controlled health service, community health clinics and the Royal Australian Air Force.

Before retiring in 2012 Trish held senior executive positions within the NTG's departments of Health, Housing, Local Government, Regional Services, Aboriginal Affairs and Community Services. For her service to public sector policy and Aboriginal programs and services Trish was awarded the Public Service Medal at the 2013 Australia Day Awards. Since retiring Trish and has served on a number of committees, boards, advisory councils and panels.

Our Board



Nigel Browne

Nigel is a descendent of the Larrakia and Wulna peoples. He is the CEO of the Larrakia Development Corporation and has held senior roles at the corporation since 2006 and is a Director with The Healing Foundation and the Aboriginal Area Protection Authority (NT).

Previous professional roles include Crown Prosecutor (ODPPNT), Aboriginal Lands (SFNT), and Policy Adviser (Chief Minister's Office). Nigel has held board and committee positions including the North Australian Aboriginal Justice Agency, NT Law Society, the Northern Australia Indigenous Reference Group, Darwin Harbor Advisory Committee, Aboriginal Tourism Committee (Tourism NT), Judicial Council on Cultural Diversity and the Northern Australia Advisory Council.

In August 2011, Nigel was announced as the National Indigenous Legal Professional of the Year. He is also a member of the Australian Institute of Company Directors.



Professor Louise Baur AM FAHMS

Louise is Chair of Child and Adolescent Health at the University of Sydney, holds a conjoint appointment as Professor in the Sydney School of Public Health and is a National Health and Medical Research Council Leadership Fellow (2022-2026).

She is also a consultant paediatrician at the Children's Hospital at Westmead, Sydney, and former Head of Weight Management Services.

Louise is President of the World Obesity Federation (2022-2024). Her previous leadership roles include the Governing Board of the Sydney Children's Hospitals Network, World Vision Australia and the Australian Academy of Health and Medical Sciences (FAHMS). In 2010, Louise was made a Member of the Order of Australia (AM) for services to medicine and the community.



Our research impact

Project Assistant and Consumer Engagement Officer of Menzies Renal Program, Niamah Walters.

Research investigates increased asthma risks

Childhood asthma is a global problem and particularly common in Australia. In young children, viral-triggered wheeze is common but mostly resolves by school age. This isn't always the case.

Infants hospitalised with bronchiolitis are a group at risk of developing preschool wheeze that will continue as school-age asthma. Preventing the development of wheeze in preschool children would have major health benefits, but currently no preventive therapies have been effective. That's where Menzies' researchers come in.

The 'Oral bacterial lysate to prevent persistent wheeze in infants after severe bronchiolitis' study is a randomised placebo-controlled trial. Recruitment began in Darwin in November for the study, which is looking at what medication can help. Broncho-Vaxom is a capsule of inactive microbes/bacteria

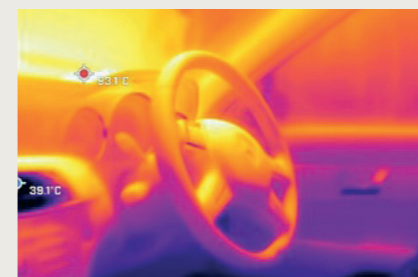
(bacterial lysates) that stimulates the immune system. Bacterial lysates may also increase the body's natural defences and prevent the development of wheeze and/or asthma.

The project is investigating whether giving Broncho-Vaxom for 10 days per month for 2 years could stop the progression of recurrent wheezing and asthma. The model of treatment is being examined among 778 infants admitted to hospital with bronchiolitis. This study is funded by the Medical Research Future Fund (MRFF) and is being undertaken in Darwin, Brisbane, Melbourne, Sydney and the Gold Coast, and in partnership with the United Kingdom. Professor Anne Chang is leading the study with Menzies researchers, Dr Gabrielle McCallum, Professor Peter Morris, Professor Stephanie Yerkovich and Associate Professor Robyn Marsh.



Recruitment for the childhood asthma study began in Darwin in 2022.

Climate change research heats up



Surface temperatures inside a car soar above 90°C on a hot day in the Menzies car park in Alice Springs.

The Menzies' climate change team is working with communities across central Australia to respond to current and emerging heat-related health risk challenges. Records show around 100 days each year see temperatures greater than 35°C in central Australia.

It is forecast that this will only worsen, with more frequent and intense warm spells projected into the future. This makes it important to ensure there are measures in place to help people adapt.

The team, led by Dr Supriya Mathew, presented various climate change projects at the County and Climate Yarning Circle Program at the Desert Song Festival in September, including findings from a citizen science project that has recruited over 50 citizen scientists in Alice Springs.

The team also talked about their partnership with other Australian universities and the Indian Institute of Technology, Madras, on the Clean Energy for Healthy Lives and Environment (CE4HEAL) project. The project promotes the health benefits of using solar energy in remote communities in central Australia and rural villages in South India.

OpT In to vitamin B research findings

Menzies published the findings of the 5-year Optimum Thiamine Intervention randomised controlled trial in April 2022.

Thiamine (Vitamin B1) is essential for converting food into energy and maintaining nerve, muscle and heart function. Poor thiamine intake or excessive alcohol use (which inhibits thiamine absorption) can lead to thiamine deficiency and Wernicke-Korsakoff Syndrome (WKS).

Symptoms include thinking, memory, and movement impairments which, if left untreated, can result in permanent disability or death. Thiamine replacement therapy (intravenous or intramuscular) dramatically improves symptoms. However, until now, no clinical trials had ever been done to determine the best thiamine dose to treat or prevent WKS.

The Optimum Thiamine Intervention (OpT In) study was a 5-year randomised controlled trial. The study compared 3

different thiamine doses for patients symptomatic of WKS and those with a history of alcohol and nutritional risk factors, who were therefore at risk of WKS.

Participants completed tests of brain function (neurological and cognitive assessments) upon admission and following their randomly assigned doses of thiamine replacement therapy.

The study found no difference between the 3 study doses for either the symptomatic or the at-risk groups. If these findings are replicated in other randomised trials, this would support a lower recommended dose regimen and to healthcare cost savings.

The study found that treatment of alcohol-induced WKS should be patient-focused. Awareness of other complicating factors that may impact thiamine replacement, such as magnesium deficiency, sepsis, or other metabolic disturbances, is essential.



Skills for Life increases suicide prevention expertise

More than 1,000 students and teachers from remote Northern Territory (NT) schools have assisted in implementing the Skills for Life resilience program in 2022. The program aims to build the resilience of students as a contribution to youth suicide prevention, which is a critical concern for remote NT communities.

The Skills for Life research team worked with schools to provide information to parents about the program. With the support of the schools, the team evaluated the program using data gathered from the students and their classroom teachers. The team developed methods to assist students to complete

questionnaires detailing life stressors they had experienced, their psychological wellbeing, emotional and behavioural symptoms and resilience. The interview process was an important learning process for students.

Analysis of the resultant data demonstrated that the 2 measures of psychological and socio-cultural resilience are valid concepts. The data found that psychological resilience is activated as students experience distress in dealing with the many challenges they face – teasing, bullying, exposure to violence, suicidal behaviour and other stressors – but that it is critical for them to have supportive social relationships



Implementing the Skills for Life resilience program.

and resources to reduce distress and associated risks. In 2022, Skills for Life was also evaluated in secondary schools across far north Queensland.

Zoonotic malaria addressed through One Health approach

The multidisciplinary One Health project, 'Evaluating zoonotic malaria transmission and agricultural land use in Indonesia (ZOOMAL)', led by Associate Professor Matt Grigg, brings together more than 45 diverse investigators from institutions in Australia, Indonesia, and the United Kingdom.

The project has made significant headway during 2022, with the different study components comprising of large, local research teams commencing their field work in over 8 sites across North Sumatra and North Kalimantan.

Integrated activities include geospatial modelling of environmental change, longitudinal mosquito trapping, monkey and mammal audio and camera

trapping, and social science activities to understand agricultural/forestry land use. Australian investigators, including Menzies' A/Prof Grigg, Dr Kamil Braima and Dr Sunny Sanderson, have made regular site visits since June 2022, with over 6,000 participants now enrolled in the major human health facility surveys, supported by a new project manager, Rebecca Reagan. Dr Angela Devine has also been involved, leading the large integrated economic cost analysis of febrile illness.

The project continues to vigorously pursue local scientific capacity building and collaboration initiatives. These include training of local health facility staff and laboratory staff on molecular detection protocols, primate monitoring



^ Mosquito larvae sample collection in North Kalimantan

and entomology vector surveillance techniques. Exciting preliminary results and engagement with the Indonesian Government's Ministry of Health have influenced recent adoption of the monkey parasite *P. knowlesi* into national malaria reporting systems.



^ Mosquito larvae in rubber tapping bowl made from a coconut shell, north Sumatra.

High trust leads to better health outcomes



The Maternal and Early Childhood Sustained Home visiting (MECSH) program in the Northern Territory (NT) has been running for a number of years and evaluated by staff at Menzies.

The 2022 phase of the evaluation of the MECSH program saw the development of an extensive analysis of the program's implementation by our staff. The evaluation collected de-identified health information for eligible women and children to analyse outcomes in maternal and child health care.

Menzies' MECSH team also interviewed parents in the Katherine and East Arnhem regions and practitioners from the Aboriginal Community Controlled Health Services (ACCHS). Their research

identified many areas of emerging good practice in nursing and social care based on high levels of trust between practitioners and parents.

Through interviews with parents, Menzies' team discovered how the MECSH program provides women and their families with social, emotional, and parenting support. This led to the identification of some improvements to help strengthen training, resources and guidance to support MECSH teams. The evaluation findings were fed back to the ACCHS, NT Health and their implementing partners so they can refine the local MECSH program.



Antimicrobial guidelines launched

The National Antimicrobial Guidelines were launched in Timor-Leste in November 2022. Menzies' Timor-Leste team has supported the Hospital Nacional Guido Valadares specialists and the Ministry of Health (MoH), who have led the development of the second edition of Antimicrobial Guidelines for the country – available in English, Tetun and Spanish. The guidelines have also been supported by the World Health Organization (WHO) in Timor-Leste.

This edition of the guidelines will be utilised by doctors, pharmacists and nurses at Hospital Nacional Guido Valadares and the district referral hospitals to guide appropriate use of antimicrobials. They are designed to help improve patient outcomes and reduce the impact of antimicrobial resistance.

At the launch, Menzies' team, along with the National Health Laboratory, presented on the advanced microbiology testing available, and the resistance patterns of bacteria in the country.



▲ Launching the Timor-Leste Antimicrobial Guidelines 2022.

New Centre of Research Excellence announced for Menzies

Improving access to primary health care is crucial to improving health outcomes for residents of remote communities, especially Aboriginal and Torres Strait Islander people.

In 2022, the National Health and Medical Research Council (NHMRC) announced funding for a new Centre of Research Excellence (CRE) based at Menzies. The CRE for Strengthening Health Systems in Remote Australia (CRESTRA) is engaged in a broad research platform led by Prof John Wakeman in Alice Springs.

Residents of remote Australian communities have experienced a decline in access to primary health care in remote areas over the past several years, which CRESTRA will investigate. Many remote NT clinics are offering reduced primary health care services or have closed because of lack of staff, especially in central Australia. This has resulted in increased pressures on NT hospitals and emergency departments, and increased costs. Menzies prides itself on responding



to current, relevant health issues through innovative approaches and meaningful partnerships and this program of works will look at how to respond to these issues.

CRESTRA will spend the next 5 years working to co-design solutions to key remote health service delivery challenges and build research capacity in central and northern Australia. This includes increasing the capabilities of remote services to engage in and conduct research that meets their priorities. The partnership with remote health services and communities builds on

Menzies' efforts to collaborate and engage those directly affected by health problems.

The 3 key questions CRESTRA has been established to address are: how to achieve a stable and sustainable remote health workforce; how to efficiently and equitably fund the true costs of remote health service delivery; and how to achieve service integration and coordination for the many people living in remote areas with complex chronic disease.

Updates on the Centre's work will be available through Menzies' website.

Vitamin D could help babies breathe better

Acute respiratory infections are the most common cause of hospitalisation for Aboriginal and Torres Strait Islander children in the Northern Territory (NT).

Several years ago, Menzies' research showed that infants with lower vitamin D levels at birth were more likely to be hospitalised with an acute respiratory infection during their first year of life. An evaluation of several randomised clinical trials has suggested that vitamin D supplementation can reduce the risk of acute respiratory infection by over 20 per cent.

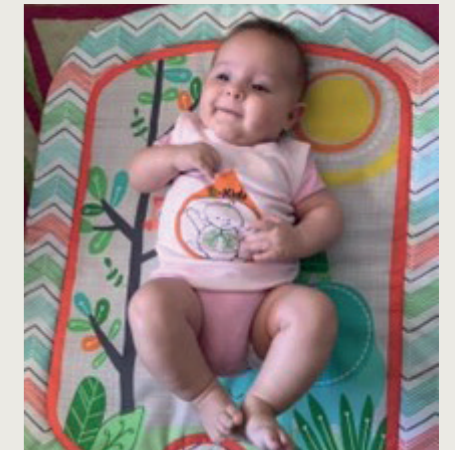
This prompted a new Menzies study, D-Kids-Vitamin D supplementation to prevent respiratory infections among Aboriginal and Torres Strait Islander children in the NT. The randomised controlled trial has been investigating vitamin D supplementation during pregnancy and early infancy, and the incidence of infant acute respiratory infections.

This year saw the team pass the halfway mark in the 5-year study, looking at whether daily vitamin D supplementation given to mothers from 32 weeks' gestation until birth, and their infants until 4 months,

reduces the incidence of acute respiratory infection in under one-year-olds.

The National Health and Medical Research Council funded study has been taking place at sites across the Top End and central NT, including Darwin, Palmerston, Danila Dilba Health Services, Tiwi Islands, Wadeye, Gunbalanya and Alice Springs.

Menzies' staff have recruited more than 180 mother-infant pairs for the study which could see perinatal vitamin D supplementation help reduce the high burden of early-onset acute respiratory infection.



Locals graduate from the Hearing for Learning Initiative



Aboriginal and Torres Strait Islander children have the highest reported rates of middle ear infection (90 per cent throughout early childhood) and burst eardrums (between 10 per cent and 18 percent) in the world.

All types of otitis media cause hearing loss which can affect speech and language development, poor school readiness, and can lead to educational disadvantage or behavioural problems.

The Hearing for Learning Initiative is working to turn that around. The goal of the 5-year community-based workforce enhancement study is to reduce the prevalence of middle ear disease and hearing loss among Aboriginal children in the NT. Fixing the problem can improve quality of life and help children thrive in their community.

Menzies' qualified nurse trainers are rolling out the 6-week training program,

workplace integration and 6-monthly refresher training across 20 Northern Territory rural and remote communities.

Through the initiative, enhanced ear and hearing health care services can be delivered by local Ear Health Facilitators who live in each community, know the families and speak local languages.

To date, training has been successfully delivered to 50 trainees in 14 communities.

"I never thought I could get this certificate, my kids will be so proud of me," said participant Marlee Bryce.

The trainees reported that their levels of confidence, knowledge, and skills increased after the training, from 6 per cent to 80 per cent (eg, hearscreen) and 12 per cent to 90 per cent (otoscopy and tympanometry). Performance evaluations by the trainers across 7 elements also showed at least 82 per cent of trainees achieved high competency and 42 per cent or more achieved very high competency in their preparation, client relationship, results review, and health promotion.

Reducing the risk of relapse in areas with two different species of malaria (*falciparum* and *vivax*) - a randomised controlled trial (PRIMA)

In 2022, Menzies' researcher Associate Professor Kamala Thriemer completed the PRIMA trial with researchers from Indonesia, Bangladesh and Ethiopia.

The trial assessed the effect and safety of using a radical cure to treat *Plasmodium falciparum* malaria. The study aimed to see if this treatment reduced the risk of subsequent infection with *Plasmodium vivax* malaria.

In the Asia Pacific region, East Africa and the Americas, malaria is mostly caused

by the 2 species: *falciparum* and *vivax*. Unlike *falciparum*, *vivax* can remain in the liver for weeks or months after an acute infection, only to reactivate later and cause disease. The World Health Organization recommends treatment with primaquine to kill parasites in the liver, which is referred to as a 'radical cure'. But this is only recommended for patients who have *vivax* malaria.

In this study researchers showed that giving radical cure treatment to patients with *falciparum* malaria can reduce the

risk of relapse 5-fold. This means that expanding the recommendation for radical cure to include patients presenting with *falciparum* malaria, would have significant clinical and public health benefits. However, the effect was larger in some areas than in others and the potential benefit would vary between these areas. This means that expanding the current indication for radical cure to include patients presenting with *falciparum*, has significant clinical, public health and operational benefits, but these will vary between endemic settings.

Closing the gap closer to home



In 2022, in an extension of the evaluation of the Maternal and Early Childhood Sustained Home visiting (MECSH) program in the Northern Territory (NT), Menzies worked with 3 Aboriginal Community Controlled Health Services (ACCHS) and the NT Government.

The work saw the creation of new, contextually relevant resources. These supported the development in home visiting programs and maternal healthcare from pregnancy through to 3 years. The work was done as part of the Close the Gap: Antenatal and Early Childhood Sustained Home Visiting Resource Development Project.

"The power of the partnership approach between research and implementation is that we are able to look at practice outcomes and

understand the clients' and the practitioners' needs to support improvements in training and resources as the program evolves in different sites," said Principal Research Fellow Associate Professor Kayli Wild.

The research has identified the need to adapt existing MECSH resources to suit the NT's diverse contexts.

It also highlighted the lack of information and support on parenting for Aboriginal dads in remote areas.

That's not all – it unearthed the need for more contextually relevant resources on parenting for mothers, and more partnerships with Aboriginal families.

^ The MECSH program provides support for families through pregnancy until a child is 3-years-old.

"Developing resources where we see gaps is a huge priority for us from a research translation perspective," said A/Prof Wild.

"We are now working with practitioners, the health organisations and community groups to co-develop a suite of new resources for the program that are based on the parenting strengths and realities faced by families in remote communities," A/Prof Wild said.

Diabetes resources for youths by youths

A new study by the Diabetes Across the Lifecourse – Northern Australia Partnership published in 2022 highlighted the experiences of Aboriginal and Torres Strait Islander youth living with type 2 diabetes (T2D).

Diabetes in pregnancy can predispose children to a higher risk of T2D and diabetes-related complications. The Northern Territory has the highest rates of youth-onset T2D (YT2D) internationally. As YT2D is an emerging condition, health systems do not have well-established pathways and approaches for managing it effectively.

The study looked at understanding the perspectives and experiences of young people, with insights informing the development of age-appropriate and culturally safe approaches to diabetes management.

Menzies' findings showed that despite participants' family histories of T2D, young people still experience social stigma due to their diagnoses. Many faced challenges managing YT2D and comorbidities and reported a need for more support and accessible diabetes information.

"We must work with young people and their communities to reduce diabetes stigma, broaden social supports and consider the delivery of health information in youth-friendly environments," said senior author Associate Professor Renae Kirkham.

In 2022, the Menzies team behind the study began translating their research into co-designed enhanced models of care with young people, their communities and health professionals.

✓ Youth Type 2 Diabetes team.



Ask the Specialist Plus: communication and cultural safety training

Ask the Specialist Plus is a unique communication and cultural safety package designed specifically for Northern Territory (NT) healthcare providers.

Piloted at Royal Darwin Hospital and implemented at Flinders NT Medical School in 2022, it is delivered to growing numbers of NT healthcare providers.

The training uses the award winning Ask the Specialist podcast as a catalyst for conversations about improving communication between patients and providers.

The podcast was developed by Menzies' researchers Dr Vicki Kerrigan and Stuart Yiwarr McGrath with Top End Health Service, the NT Aboriginal Interpreter Service, and Aboriginal leaders, Larrakia Elder Aunty Bilawara Lee, Tiwi Elder

Pirrawayingi Puruntatameri, Yolngu leader Rarrtjiwuy Melanie Herdman and Kriol and Burarra interpreter Bernadette Nethercott from the NT Aboriginal Interpreter Service. Evaluation of the podcast found that healthcare providers experienced epiphanies about delivering cross-cultural care, and changed their practice, as a result of listening to the podcast.

Research which began in 2022 has been exploring the impact for patients.

Risk of mental health hospitalisations 10 times higher in vulnerable youths

During 2022, Menzies' staff completed a project to understand the compounding risks for mental health among adolescents known to child protection and youth justice services. Findings were reported on the association between child maltreatment, juvenile offending and mental illness hospitalisation during adolescence.

Menzies' researchers have been focusing on links between youth mental health, the child protection and juvenile justice systems and increased hospitalisation rates.

The research team led by Professor Steven Guthridge works closely with the Northern Territory Government's (NTG) agencies to provide evidence which supports improved education, social and health outcomes for young Territorians. The research takes a life course approach, exploring the important factors that influence developmental pathways for young people.

The study looked at the de-identified information of nearly 15,000 adolescents aged 10 to 17 years in the NT. It found that rates of mental health-related hospitalisation jumped in adolescents as the level of child protection and youth justice involvement increased. There was a more than a 10-fold greater risk of hospital admission for a mental illness in young people who experienced out-of-home care and youth detention compared to their peers who had no record of involvement.

The research was prompted by the 2017 Royal Commission and Board of Inquiry into the Protection and Detention of Children in the Northern Territory which recommended research to better understand the over-representation of Aboriginal young people in both child protection and youth justice systems.

"The study provides evidence of the level of an often, unmet need for mental health support," said Prof Guthridge.

"It reinforces the importance of trauma-informed and therapeutic services for this vulnerable group of young people."

Maternal health campaign helps Top End families

The National Preterm Birth Prevention Program is a national education, quality improvement and health promotion campaign. It sees Menzies' staff partner with hospitals and health services to implement key local strategies. These strategies aim to lower preterm birth rates and associated morbidities in Australia.

Administered by the Women and Infants Research Foundation Limited (WIRF), funded by the Commonwealth Department of Health and implemented across Australia, the program provides face-to-face and digital educational and coaching sessions. It also carries out session evaluations, social messaging and data collection from participating hospitals and health services.

In 2022, the research team worked closely with communities, NT Health, Aboriginal health service partners and stakeholders across the Darwin, Tiwi Islands and East Arnhem regions. This led to the development of a targeted health promotion campaign to prevent preterm birth and support women, families and communities across the Top End.

Vaccinations to improve infants' ears

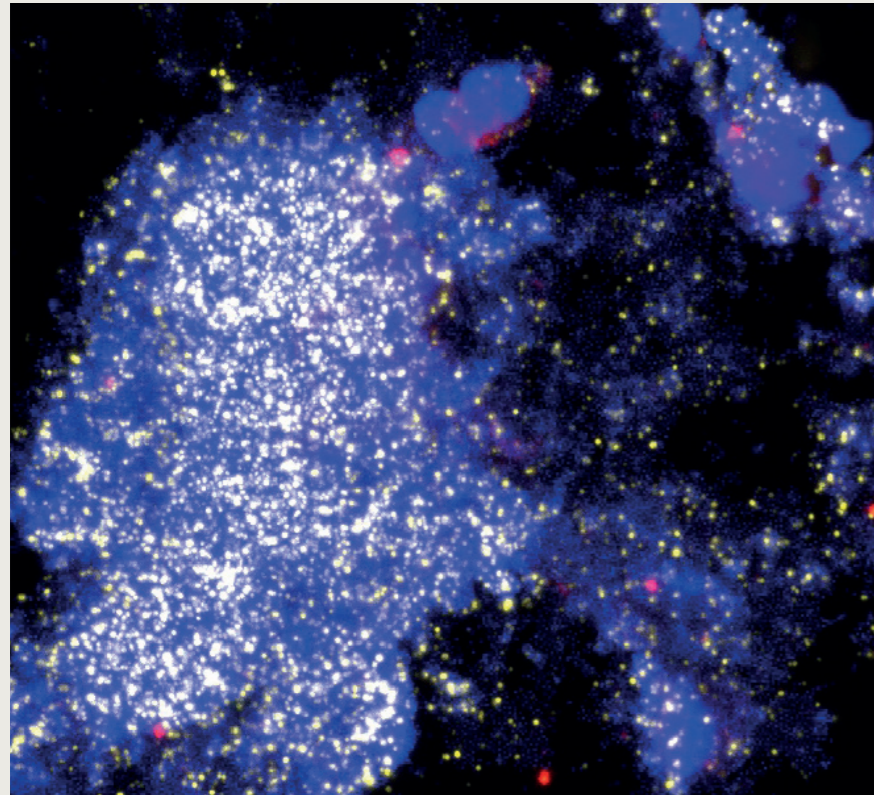
A study across northern Australia is investigating whether vaccinations can reduce otitis media, or middle ear infections. The team has been testing 2 different pneumococcal conjugate vaccines. The vaccines have the potential to eliminate major serotypes of Streptococcus pneumonia and almost all strains of Haemophilus influenzae.

Vaccinating and preventing early onset and persistent otitis media reduces conductive hearing loss and educational disadvantage in Aboriginal and Torres Strait Islander children in remote areas of northern Australia. In 2022, the research

team provided timely vaccinations, general health checks and parental guidance for over 400 infants. Families learned about ear and hearing problems of their babies, of the importance of timely vaccination, and how health services can assist.

At the end of the project, researchers will better understand the selective pressures on microbiology post-vaccination. This will inform vaccination schedule policies, as well as contribute to vaccine development that better targets otitis media pathogens.

Study examines how organisms evade antibiotics in children's lungs



^ Bacterial slime - called a biofilm - shown under a microscope.

The Paediatric Respiratory Microbiome Program progresses understanding of the organisms (bacteria and viruses) that cause persistent chest infections in children.

The team uses novel methods to study these diseases. This includes detecting the DNA of organisms and using microscopy techniques. One of the projects in this research program is the Protracted Bacterial Bronchitis (PBB) Breath Study. Children with PBB have long-standing moist cough which can progress to permanent lung damage. In this study, breath samples are tested to find and validate volatile metabolite 'biomarkers'; essentially, signatures revealing which specific organisms are present in the

lungs of children with chronic wet cough. These signatures will be explored regarding their association with clinical outcomes.

In 2022, the team published the first report of biofilms in respiratory samples from children with PBB and bronchiectasis. Biofilms are a specialised form of microbial growth that protects the bacteria from antibiotics. The results of the study may explain why some children's infections continue even after they are treated with antibiotics.

The work received widespread national and international media coverage, including being featured on the Royal Australian College of General Practitioners' website.

More ear checks for improved health

The Deadly Ears in Deadly Hands Trial has been looking at whether extra ear examinations can lead to better treatment and improved health outcomes in 2022.

The research has compared routine care to having an additional ear examination to inform ear health discharge planning, coordinated by an Aboriginal ear health practitioner. The comparisons have examined whether the second option increased adherence to the treatment recommended, as well as improved health outcomes.

As part of the Deadly Ears in Deadly Hands Trial, the team ran a pilot study from May to November 2022. It tested the feasibility of the screening criteria for the trial. It also looked at the logistics of conducting a post-hospital discharge survey with participants' carers. Findings from the pilot study led to significant changes to the protocol of the main trial.

✓ The Deadly Ears in Deadly Hands team are supporting culturally safe ear and hearing care.



PETAL branches out to Timor-Leste

The Preventing acute lower respiratory infections (PETAL) study is a multi-centre, double-blind, randomised controlled trial. It aims to determine whether using an antibiotic called azithromycin (compared to a placebo) given weekly for 6-12 months improves the clinical outcomes of under 2-year-olds hospitalised with an acute lower respiratory infection.

In 2021, the trial has been undertaken in Darwin, Australia and Auckland, New Zealand and was extended to Dili, Timor-Leste in 2022. The Timor-Leste Ministry of Health supported the expansion of the trial.

This research is helping to maximise health outcomes for young Australia and New Zealander Indigenous and Timorese children and to inform local, national, and international guidelines, and contribute to policy development.

✓ The PETAL study underway in Timor-Leste.



Giving Aboriginal Health Services the tools for better kidney care



^ Territory Kidney Care Informatics Nurse, Paula Kamler; Registered Nurse, Helen Richards; General Practitioner, Dr Debbie Gillen; Registered Nurse, Kennedy Murangandi; General Practitioner Dr Sarah Hurley; Registered Nurse, Velma King; Senior Medical Officer, Natasha Pavlii; Pharmacist (Diabetes Educator), Jaimee Anderson; PHC Systems Manager, Hector Luis Certeza; AHP, Shanika King and Registered Nurse, Kayne Jansen.

Territory Kidney Care (TKC) is a clinical decision support tool that integrates primary and tertiary, government and non-government health information for patients at risk of kidney disease.

TKC has led to more complete and comprehensive patient data, resulting in improved care. The Aboriginal and Community Controlled Health Services partnering in the program can access TKC for clinical care. To date, there have been varying levels of engagement with the tool.

In 2022, through a Medical Research Future Fund (MRFF) Rapid Applied Research Translation grant, Menzies improved uptake, feedback and engagement. This was done by embedding TKC Implementation Officers into 4 health services. The Implementation Officer role is focused on entrenching TKC into business-as-usual processes at the Wurli-Wurlinjang Health Service, Central Australian Aboriginal

Congress, Miwatj Health Aboriginal Corporation and Katherine West Health Board Aboriginal Corporation. The TKC Implementation Officers act as conduits between Menzies' Renal Program and health services. The Implementation Officers facilitated access, training, support and feedback.

As a result, employing TKC Implementation Officers has been key to enabling continuous quality improvement processes, informing reporting requirements such as the identification of preventable clinical events and enhancing the functionality of TKC for clinical care. A crucial component of this work was establishing workflows between primary and tertiary services. This allowed the effective implementation and utilisation of clinical decision support in TKC. By increasing the uptake of the TKC tool, Menzies has created efficiencies in clinical care to improve patient outcomes in remote areas.

Menzies Timor-Leste staff tackle infectious diseases



▲ Menzies Timor-Leste team collecting data for the National Seroprevalence Survey in Dili Municipality for the ARIA-RISE project.

Menzies has been working with the Timor-Leste Government and partners to strengthen health systems in the country to better respond to infectious diseases challenges. The third anniversary of Menzies establishing an official office in Timor-Leste in September 2022 provided an opportunity to celebrate many achievements.

Menzies and the Timor-Leste Ministry of Health (MoH) have been working on a large project looking into vaccine preventable diseases such as measles, rubella, dengue, COVID-19 and Hepatitis B – with the aim of understanding the level of immunity to vaccine preventable diseases in Timor-Leste.

The research is conducted through the ARIA-RISE project, which works in partnership with the MoH, the National Health Laboratory (NHL), and the National Centre for Immunisation Research and Surveillance (NCIRS). Financial support is provided by the Australian Government Department of Foreign Affairs and Trade (DFAT).

Co-lead of Menzies Timor-Leste projects Associate Professor Joshua Francis said he hopes the research will help guide the development of vaccine policy over the coming months and years.

“During 2022, Timor-Leste saw one of the worst outbreaks of dengue that it’s seen in many years, and so, in response to that, Menzies worked with the Timor-Leste Ministry of Health and the World Mosquito Program in Australia, to look at the possibility of a new strategy to address dengue in Timor-Leste.

This new strategy involves using a bacteria called Wolbachia which infects mosquitoes,” he said.

“When a mosquito carrying dengue becomes infected, it is then unable to pass on the disease, which should result in an overall reduction of dengue in Timor-Leste.”

The project is a good example of how research can be taken and used to inform best practice in developing strategy to help reduce the burden of infectious disease.

“Three years ago, much of our work was concentrated in Dili, but with the help of all our supporters we’re excited to see the work expand further afield, in many municipalities across Timor-Leste,”

said A/Prof Francis.



▲ Menzies Timor-Leste ARIA-RISE team collecting data.

Communication the key to better healthcare

The Communicate Study is a partnership aimed at supporting culturally safe healthcare for Aboriginal and Torres Strait Islander patients to ensure better health outcomes. Now in its eighth year, the dynamic Communicate study team has forged collaborations with NT Health, NT Aboriginal Interpreter Service (AIS), National Accreditation Authority for Translators and Interpreters (NAATI) and Aboriginal community leaders in the Top End.

The Communicate Study works with 6 hospital-based interpreters at the Royal Darwin Hospital (RDH), who speak Yolngu Matha, Maung, Murrinh-Patha, Kunwinjku and Kriol, and have experience working with patients in and out of hospital. During 2022 the project expanded from Royal Darwin Hospital to Palmerston, Katherine and Nhulunbuy.

Throughout the year, the interpreters attended 10 health education sessions delivered by RDH-based doctors. Topics covered psychiatry and anaesthetics, blood transfusions and rheumatic fever, and included visits to emergency and intensive care units. Interpreters Elah Yunupingu, Georgina Gellet, Shannon Paddy, Beatrice Jacky and Arlu Brown were recognised for their fantastic work with Certificates of Achievement.

Menzies’ Communicate Study research assistant, Dr Leah Ginnivan, helped coordinate health training for the RDH Aboriginal interpreters during 2022.

In December, the RDH interpreter team delivered a 2-hour online professional development session to Aboriginal and Torres Strait Islander language interpreters around Australia, presenting on rheumatic heart disease, and other heart conditions with a focus on interpreting these concepts to unwell patients.

This project seeks to respond to the fact that the majority of the people hospitalised in the NT are Aboriginal. The Communicate Study is part of the work Menzies is doing to position the Northern Territory as a leader in cultural safety.



▲ Left to Right: Shannon Paddy, Beatrice Jack, Elah Yunupingu, Georgina Gellet, Patricia Paterson, Arlu Brown.



▲ Left to Right: Trish Paterson, Georgina Gellet, Shannon Paddy, Leah Ginnivan, Elah Yunupingu, Arlu Brown, Beatrice Jacky.

Adapting international clinical trials during COVID-19 and beyond

Significant disruptions to travel due to the COVID-19 pandemic had massive impacts on the conduct of clinical trials.

Researchers from Menzies actively engaged in global health clinical trials had to rapidly respond to this context to allow trials in low- and middle-income countries to continue to be viable. Such trials traditionally relied on in-person visits for training, monitoring and capacity building.

Menzies researcher, Associate Professor Kamala Thriemer and her colleagues, together with collaborators

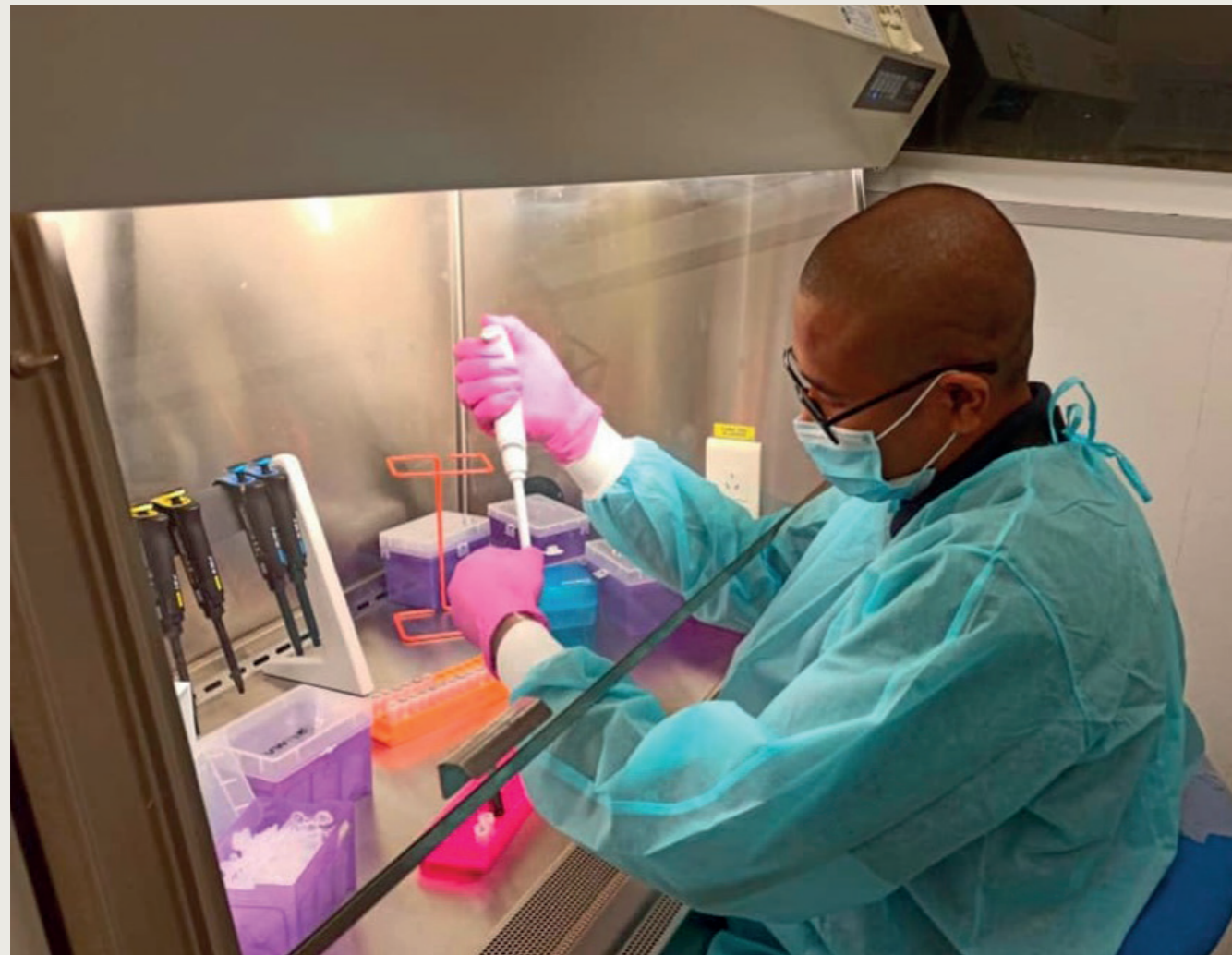
from Ethiopia, Bangladesh, Indonesia, Pakistan, Nepal, Cambodia and Papua New Guinea (PNG), made rapid adaptations to their ongoing and planned trials.

They moved training online, including practical laboratory type sessions, moved in-person monitoring to remote monitoring, and developed a more localised network of clinical trial monitors, using hybrid models adapted to the needs, and identified risks, at differing sites.

These adaptations have offered many

advantages beyond making clinical trials feasible during the COVID-19 pandemic. These advantages have included expanded engagement and networking across different trial and study sites, a significantly reduced carbon footprint and reduced costs.

Menzies worked with partners in a range of countries, including Timor-Leste, to assist countries with their COVID-19 responses



Two Hearts Beat training

During 2022, training for the Two Hearts Beat study commenced, with the aim of improving heart health care for pregnant women with a high risk of developing Rheumatic Heart Disease (RHD).

Health workers were trained to perform a brief, focused heart ultrasound to screen for RHD, using hand-carried ultrasound equipment as part of routine antenatal care. The ultrasound images are reviewed by a cardiologist using a cloud-based viewing platform to confirm any diagnosed RHD cases. Any women diagnosed are integrated into an RHD cascade of care, allowing them to access RHD guideline-based management.

In October, cardiologist and PhD student, Dr James Marangou, and technical adviser and cardiac sonographer, Alex Kaethner, trained 6 GP-obstetricians in Katherine to use the hand-carried ultrasound to perform brief heart scans to detect RHD. The training included a combination of theory and practical scanning and is part of a larger body of work to develop an accredited RHD heart ultrasound screening certificate with the Australasian Society of Ultrasound in Medicine.



The Two Hearts Beat study has now been integrated into the Medical Research Future Fund (MRFF) NEARER SCAN study, led by Associate Professor Joshua Francis, Dr Jennifer Yan and

Dr James Marangou, that will evaluate the implementation of non-expert heart ultrasound screening for children and pregnant women at high risk of the RHD in the Top End, Pilbara and Timor-Leste.

10 days training leads to 95 per cent RHD detection rate

Menzies' researchers are tackling rheumatic heart disease (RHD) from different angles in efforts to reduce illness and deaths from this condition. In the Recardina study, researchers engaged with remote communities in Australia and Timor-Leste to see if rheumatic heart disease could be diagnosed on a heart scan done by laypeople with only 10 days of training. They found definite RHD could be identified 95 per cent of the time. This is an important step towards a reliable way of picking up RHD easily in the

Community setting, to make sure people can start the right treatment before they develop symptoms or complications. In another study, researchers focused on RHD prevention, starting with environmental health. The End RHD Communities project employed community members to share knowledge about acute rheumatic fever (ARF) prevention, support families to report and repair faulty health-

hardware including showers, and help people navigate the healthcare system, especially if they developed skin sores or a sore throat - the precursors to rheumatic fever and RHD.

Infection rates did go down and rheumatic fever rates fell after 3 years, but only by a small amount, highlighting the success of this model but the need for larger-scale changes to further reduce infection risks, such as household crowding.



Our people

Menzies-Ramaciotti Centre and Biyamarr ma trainees and alumni celebrate the AIMhi-Y app launch at NT Parliament House.

Organisational structure

Senior Executive Team

Professor Alan Cass AO Director			
Brendon Douglas Deputy Director Strategy	Dr Sean Taylor Deputy Director Indigenous Leadership and Engagement	Mark Mayo Associate Deputy Director Indigenous Leadership and Engagement	Tegan Ryan Chief Operating Officer

Research

Global and Tropical Health Professor Anna Ralph	Child Health Professor Anne Chang AM	Centre for Child Development and Education Professor Gary Robinson	Wellbeing and Preventable Chronic Diseases Professor Tricia Nagel / Associate Prof Gillian Gorham
Malaria, TB and Other Regional Endemic Diseases	Respiratory Health	Preventing Suicide and Self-Harm	Mental Health and Wellbeing
Regional Health System Strengthening	Maternal Health	Evaluation of Child and Family Health and Social Services	Tobacco Control and Housing
Global Women's and Children's Health	Immunisation	The Child and Youth Development Research Partnership	Nutrition
Tropical and Emerging Infectious Diseases	Ear Health	Strong Parents and Children	Diabetes
Viral Hepatitis	Childhood Anaemia	Resilient Youth	Cancer Epidemiology
Rheumatic Heart Disease	Life Course	Population Health and Wellbeing	Renal
Tobacco	Polymicrobial Research		Rural and Remote Health Services
Alcohol and Other Drugs	International Child Health		
	Child Health Laboratory		
	Housing and Hygiene		
	Indigenous Medicinal Plants		

Education, Training and Pathways

Higher Degrees by Research Associate Professor Heidi Smith-Vaughan	Postgraduate and VET studies Dr Sharon Chirgwin	The Ramaciotti Regional and Remote Health Sciences Training Centre
Master by Research	Postgraduate Coursework Programs	HealthLAB
Doctor of Philosophy	Vocational Education and Training	
Honours Program		

Professional Services

Executive Support	Development	Research Administration	Data Management
Finance	Biyamarr ma	Communications, Media and Marketing	Research Quality
Human Resources	Work Health and Safety	Information Technology	Ethics Office
Legal Services	Facilities and Operations	Governance and Risk	Laboratory Science
			Biostatistics

Organisational structure as at 31 December 2022

Biyamarr ma

Menzies Aboriginal and Torres Strait Islander Biyamarr ma team work alongside colleagues to sustain a culturally safe organisation, empower Aboriginal and Torres Strait Islander voices, and maximise opportunities for Aboriginal and Torres Strait Islander peoples.

Biyamarr ma plays a key role in the development, implementation, monitoring, reporting, and evaluation of organisational strategies and initiatives that relate to Aboriginal and Torres Strait Islander employment, career development and training, reconciliation, and cultural awareness. The team also facilitates the Biyamarr ma Traineeship Program.

Menzies' traineeships and pathways

Menzies has a strong focus on engagement, training, and development of people in the regions we work, by providing pathways, programs and initiatives to increase the health workforce and develop future leaders.

Menzies continues to increase the Aboriginal and Torres Strait Islander health workforce and values the contribution that Aboriginal and Torres Strait Islander peoples bring to the organisation, through ways of knowing, being and doing.

Biyamarr ma traineeship program

Menzies aims to provide entry-level employment opportunities for Aboriginal and Torres Strait Islander people located in the Northern Territory.

The entry level program is a traineeship at the Certificate III level and linked to a relevant discipline to their placement. The traineeship is undertaken through full-time employment at Menzies over 12 months.

Menzies is committed to increasing the Aboriginal and Torres Strait Islander health workforce and values the contribution that Aboriginal and Torres Strait Islander people bring to the organisation, such as Aboriginal and Torres Strait Islander knowledge, ways of knowing and doing, and a stronger representation of views.

Menzies supports the trainees through mentoring, coaching, and a mapped career pathway for future employment.



▲ Ashanti Berry and Jaylene Friel graduating from the Biyamarr ma traineeship program.

2022 Biyamarr ma graduates

- Ashanti Berry (Certificate III in Business)
- Jaylene Friel (Certificate III Business, Certificate II in Community Health Research)

2022 Biyamarr ma trainees

- Porsche Cahill
- Royce Ramsamy
- Shenea Tipungwuti-Edwards
- Tamara Norris-Addo

The Ramaciotti Regional and Remote Health Sciences Training Centre

Over the past 3 years the Ramaciotti Regional and Remote Health Sciences Training Centre (Menzies-Ramaciotti Centre) has continued to grow and expand training opportunities in health careers with local and Aboriginal and Torres Strait Islander youth from regional and remote parts of the Northern Territory (NT).

In partnership with Charles Darwin University (CDU), the Centre has delivered science, technology, engineering, and mathematics (STEM) outreach activities to Aboriginal and Torres Strait Islander senior school students from across the NT through the Bidjipidji School Camp program. In 2022, the Centre actively engaged primary school students through National Science Week events and visits to local schools. These engagements connect young Territorians with Menzies-Ramaciotti Centre mentors so they can see the various pathways into health that are possible in the NT.

Leveraging its unique position within the education and training landscape of the NT, the Centre enabled the transition of youth from school programs such as the Stars Foundation, Clontarf Foundation, and Indigenous Allied Health Australia's (IAHA) National Aboriginal and Torres Strait Islander Health Academy into training pathways at Menzies.

Youth in health pathways were supported to undertake training and career development opportunities, including microcredentials through the Menzies-Ramaciotti Centre, and a range of Vocational Education and Training (VET) qualifications and undergraduate degrees with Australian higher education providers.



▲ Menzies-Ramaciotti Centre Program Manager Michael Johnston, Trainee Royce Ramsamy, Laboratory Trainer Kelly McCrory, Co-lead Mark Mayo, Undergraduate Trainee Jayde Hopkins, Co-lead Dr Kalinda Griffiths, and Trainee Porsche Cahill at Menzies.

The Centre engaged 2,596 students in training and career development opportunities in 2022. This was a more than 60 per cent increase from 1,597 students in 2021. It offered training to school-based work experience students,

undergraduate staff and students, volunteers in vocational placements, regional and remote school students, scholarship recipients entering health pathways, as well as certificate level trainees.

HealthLAB

HealthLAB is an interactive health education and promotion lab which travels around the NT engaging with schools and communities.

In 2022, HealthLAB delivered programs to more than 1,300 participants from Darwin, Palmerston, Wadeye, Wurrumiyanga, Milikapiti, Pirlangimpi, Nhulunbuy, Yirrkala, Gunyangara, Borroloola, Nauiyu, Belyuen, and Alyangula.

With funding from the Northern Territory Government, HealthLAB's focus in 2022 was on kidney disease and type II diabetes. In collaboration with Charles Darwin University, HealthLAB launched the Health Communication in Remote Communities Digital Badge in late 2022 which is being delivered to youth across the NT. HealthLAB has also merged with the Menzies-Ramaciotti Centre to provide health communication training for the centre's youth, and to encourage NT youth into health training pathways.

Menzies Future Leaders Fellowship

Our Future Leaders Fellowship initiative has been established to support the next generation of researchers at Menzies to develop and progress their careers.

This year's Future Leaders Fellowship round provided 7 Fellowships, 3 of which targeted identified priority diversity and leadership areas with one Fellowship awarded to an early-career researcher, one to a female researcher and one to an Aboriginal and/or Torres Strait Islander researcher.

Following a peer review process, the Menzies staff awarded a Fellowship for 2023 were:

Dr Cassandra Wright

Research vision: To enhance Menzies' capacity to undertake high-quality, culturally, and contextually appropriate alcohol research which can guide practitioners, policymakers and communities towards evidence-based and culturally safe responses to alcohol harms.

Dr Bianca Middleton

Research vision: To develop a programme of vaccine research at Menzies which promotes vaccine acceptance and uptake and evaluates strategies to reduce the burden of vaccine preventable diseases for children and adults in the Northern Territory.

Dr Thi Kim Hoang Phan

Research vision: To conduct high-quality, culturally, and contextually appropriate research that will form the basis for primary interventions to protect Aboriginal adolescents in the Northern Territory from domestic and family violence (DFV).

Dr Liam Grealy

Research vision: For sustainable housing in remote communities and homelands that is designed and adequately maintained in accordance with householder prerogatives.

Dr Elizabeth Barr

Research vision: To lead a program of high-impact research that is aligned with Menzies Vision and Core Values; incorporates Aboriginal and Torres Strait Islander knowledges and provides meaningful solutions that can be directly implemented to policy and practice.

Sian Graham

Research vision: To establish, foster and maintain a Remote Aboriginal and Torres Strait Islander Group that meaningfully represents the voice of community in all aspects of diabetes research.

Menzies Small Grants

Our Small Grants program is an internal, competitive, peer review program providing seed funding for new ideas and developing projects that will lead to sustainable research programs at Menzies.

We are pleased to continue this program with the award of \$191,630 for 5 Menzies Small Grants. The successful applicants and their projects which will be delivered in 2023 are:

Mia Miller

Examining potential harms from zero-alcohol beverages on people recovering from alcohol use disorders in the Northern Territory.

Stef Puszka

Caring for caregivers: Towards the co-design of a family-based approach to type 2 diabetes prevention and management in remote Northern Territory Aboriginal and Torres Strait Islander communities.

Dr Holger Unger

Determining the degree of infant exposure to primaquine through colostrum and transitional breast milk – opening the gateway to early postpartum radical cure to curb maternal Plasmodium vivax relapse.

Dr Angela Devine

The cost of using molecular epidemiological techniques in Indonesia.

Dr Tina Noutsos

Determining the pathophysiology of hump-nosed viper coagulopathy and thrombotic microangiopathy: a Sri Lankan prospective cohort study.

Long service awards

Our long service awards provide the opportunity to reflect on the contributions of those who have been instrumental to Menzies' development, growth and success.

Recognised in 2022 for their long-standing contributions were:



Chair of the Menzies Board, the Hon Trevor Riley AO KC and Menzies' Director, Professor Alan Cass AO, celebrated with staff at the long service awards.

Celebrating 30 years of achievements



Associate Deputy Director Indigenous Leadership and Engagement; Menzies-Ramaciotti Centre co-lead and Darwin Melioidosis team program manager, Mark Mayo.

Associate Deputy Director for Indigenous Leadership and Management, Mark Mayo has been at Menzies almost as long as the research institute has been in existence, and he's got a list of research projects, awards, successes and achievements under his belt to match his tenure.

First-hand exposure to health concerns in his local community saw Mark accept a traineeship at Menzies so he could make a difference. After completing his traineeship, Mark continued his career at Menzies developing skills in microbiology and molecular biology while obtaining a degree in science and a diploma in project management. Mark started as a lab trainee and over the years has worked his way up to become the joint Program Manager for the Darwin Melioidosis study for the past 2 decades with Professor Bart Currie.

During his time at Menzies, Mark has worked on many research projects, from malaria, melioidosis, petrol sniffing, childhood ear diseases and COVID-19 studies. This includes the long running Menzies and Royal Darwin Hospital (RDH) Darwin Prospective Melioidosis Study which aims to decrease mortality from melioidosis in the NT. When the study started in October 1989, over 30 per cent of all cases at RDH died. Today, mortality is under 5 per cent. Mark has also been involved in developing the 2020 revised Darwin Melioidosis Treatment Guideline which is used internationally, including by the United States of America's Centers for Disease Control and Prevention in its melioidosis therapy recommendations.

The discovery of 2 novel species of bacteria has led to one of them being named after Mark. The new species are part of the group of bacteria called the *Burkholderia pseudomallei* complex, which includes *Burkholderia pseudomallei* which causes the potentially fatal tropical disease melioidosis. *Burkholderia mayonis*

was discovered on Badu Island in the Torres Strait archipelago of Queensland. Mark and his family have strong cultural links to Badu Island and he was present when the new strain was collected. The naming of *Burkholderia mayonis* was proposed by his research colleagues in Queensland and the United States and was formally published in January 2022 in the prestigious journal *Applied and Environmental Microbiology* from the American Society for Microbiology.

"For more than 30 years, Mark has made a remarkable contribution to Menzies. His work as a highly skilled scientist has impacted communities across our region. Naming a new bacterial species after him was wonderful recognition of his scientific contribution," Professor Alan Cass AO said.

Mark is also a member of the Menzies Senior Executive Team. In this role, he demonstrates a positive, inclusive and collaborative model of leadership for us all to follow."

Mark said finding ways that medical innovation can be used by people in the Northern Territory to make their health and lives better is one of the most rewarding parts of his job. Contributing to global medical research and breakthroughs is another part of his work that he enjoys. Mark's work on diseases such as malaria and melioidosis, which are found in Asia, is a part of his global research interests that are important to help find solutions in countries close to us. Even so, Mark has maintained a keen focus on melioidosis



Mark Mayo with his Menzies colleagues earlier in their careers.

research within Australia and with international collaborators.

Melioidosis is caused by the bacterium *Burkholderia pseudomallei* and it can cause fevers, chest pain, weight loss, and death in severe cases. There are up to 50 cases reported across northern Australia and several deaths each year. Melioidosis is also found in the Asia Pacific region, with breakthroughs in research helping to save lives in Singapore, Vietnam and Thailand.

Mark's ongoing research into melioidosis covers many different aspects from early detection of the disease in hospital and clinical settings to understanding the environmental niche of the bacteria and the potential exposure risks to people and animals in an endemic region.

Global collaborations are an exciting part of Mark's work and Menzies has been chosen to host the next (10th) World Melioidosis

Congress in Darwin in 2024. Modelling undertaken by Menzies suggests that increasing rates of diabetes, climate change and landscape disturbance will contribute to the predicted growing numbers of melioidosis cases. Mark is also a co-lead of the Menzies-Ramaciotti Training Centre that has a focus on providing pathways for Aboriginal and Torres Strait Islander and other youth of the Northern Territory into the health workforce.

"I am grateful to have the opportunity to work in health research for such a long time, but the achievements made have always been part of a team and that includes all the people that have worked at Menzies, past and present," he said.

Research excellence

At Menzies, we recognise that our people are our greatest asset. We strive to encourage and promote excellence in research, and endeavour to build capacity to enable our people to excel in their chosen field.

2022 Asia Pacific Society of Respiriology Research Award (Ann Woolcock Award)

Professor Anne Chang AM received the 2022 Asia Pacific Society of Respiriology Research (APSR) Award (Ann Woolcock Award) for enshrining excellence in respiratory research and research translation, and for exceptional contribution made to the growth of the Asia Pacific Society of Respiriology.

Fukuchi (Respirology) 2022 Award

Professor Stephanie Yerkovich and team won the Fukuchi (Respirology) 2022 Award for the most outstanding original research papers published in Respiriology in the year preceding the APSR Congress.

American Society of Tropical Medicine and Hygiene Young Investigator Award

Dr Steven Kho was awarded a Young Investigator Award by the American Society of Tropical Medicine and Hygiene at their Annual Scientific Meeting in Seattle for his new discoveries on the mechanisms of reticulocyte and *P. vivax* accumulation in the spleen.

E.W. "AI" Thrasher Award

A malaria prevention project which brings together Menzies School of Health Research (Menzies) and the Papua New Guinea Institute of Medical Research won the prestigious E. W. "AI" Thrasher Award in October. A novel prenatal malaria intervention to prevent malaria and ill-health in infancy (SAPOT-I) was awarded US\$546,285 by the Thrasher Research Fund. SAPOT-I will examine how to prevent malaria and other febrile illness in infants through better prevention of malaria in pregnancy builds

on the work of the 4-year 'Sulfadoxine-pyrimethamine Plus Dihydroartemisinin-piperazine for Intermittent Preventive Treatment in Pregnancy (SAPOT)' study.



^ The SAPOT trial team.

Awards of Excellence Humanitarian award

Alex Kaethner was presented the Australasian Society for Ultrasound in Medicine's 2022 Australasian Humanitarian of the Year Award for his work on rural cardiac health and rheumatic heart disease in northern Australia, Timor-Leste and the Pacific region.

Kidney Health Australia – Kincaid-Smith Medal

Professor Alan Cass AO was awarded the Kincaid-Smith Medal in 2022. The Medal, awarded just ten times since 1994, represents Kidney Health Australia's highest accolade to an Australian citizen or resident for outstanding clinical and scientific achievement in research into the treatment of diseases of the kidneys and urinary tract.

Prof Cass was recognised for his 25+ year work in research, government advocacy, and the non-government sectors, with a particular focus upon improving the outcomes for Aboriginal and Torres Strait Islander Australians who suffer disproportionately from kidney disease. His research has laid the foundations for key improvements in health service

delivery, including in facilitating dialysis closer to country and reducing the social upheaval from such treatment while also building research capability that will continue to deliver into the future.



^ Professor Alan Cass AO receives award.

Young Tall Poppy Science Awards 2022

Dr Cassandra Wright was the Northern Territory winner of the Tall Poppy Campaign – Young Tall Poppy Science Awards 2022.



^ NT Young Tall Poppy Scientist of the Year, Dr Cassandra Wright with CDU Vice Chancellor and Menzies Board member, Professor Scott Bowman AO.

2022 Scopus Australia and New Zealand Researcher Award for Excellence in Outstanding Early Career Research

With nearly a decade of research under his belt, Dr Abel Dadi has been named the winner of the prestigious award. Dr Dadi is a public health and social epidemiologist and biostatistician. He received the award for publishing high-calibre and highly cited research papers on population health, maternal mental health and child health outcomes.

His work has had a global impact, supporting policy makers and health organisations to design maternal mental health guidelines and screening processes. Since beginning his research career 8 years ago, Dr Dadi has published more than 60 papers which have been cited more than 18,000 times. His publications address health issues in Ethiopia, Africa and internationally.



^ Dr Abel Dadi.

Alice Springs Hospital – team of the month

The Addiction Medicine team at Alice Springs Hospital won team of the month in December 2022 in recognition of the important contribution and collaboration and publication of their findings on the Optimum Thiamine Intervention randomised controlled trial.

2022 Charles Darwin University Higher Degree by Research Student Award

Dr Angela Titmuss and Dr Vicki Kerrigan received 2022 CDU HDR Student Awards in recognition of their PhDs being awarded without revision and being judged to be in the top 5 per cent of all theses by their examiners. Dr Titmuss's PhD title was *Understanding type 2 diabetes among Aboriginal and Torres Strait Islander youth in northern Australia and assessing the child health impact of maternal diabetes*. Dr Kerrigan's PhD title was: *Batji-gum dilba (Good talk medicine): Improving culturally safe communication between doctors and Aboriginal patients in the Northern Territory of Australia*.



^ Dr Angela Titmuss (top) and Dr Vicki Kerrigan (bottom) presented with their 2022 CDU HDR Student Awards.

2022 Charles Darwin University 3MT

PhD student, Kobi Schultz was awarded runner up in the 3MT (3-minute thesis) competition hosted by the University (CDU). She presented her research on improving management of bronchiectasis. Emily Bowden received third place for her research on respectful maternity care and its association with child health.

Ery Setiawan, was also selected as one of the finalists for competition, presenting his systematic review on productivity loss valuation.



^ Menzies PhD students Kobi Schultz and Emily Bowden awarded runner up and third place in the CDU 3MT Competition.

Ten of the Best

Professor Anna Ralph was recognised by the National Health and Medical Research Council (NHMRC) as being among 'Ten of the Best' NHMRC-funded researchers for her work on rheumatic fever and tuberculosis.

NT Health Professional of the Year Award

Associate Professor Jane Davies, co-lead of the Menzies Viral Hepatitis Program, received a Special Recognition award for her role in working towards better health outcomes in primary care across the NT at the Northern Territory Primary Health Network Compass Conference.

Internal awards

2022 Ryan Family Prize

The Ryan Family Prize is an annual award that recognises outstanding contributions to Menzies from individuals or groups. The winner is awarded \$3,000 for professional development and a perpetual trophy, thanks to the generosity of the Ryan family.

The winners of the Ryan Family Prize are the Play to Connect team's Local Implementation Officers, Kaylene Puruntatameri, Aileen Tiparui, and Maggie Kerinauia.

The Local Implementation Officers at Wurrumiyanga are part of an ongoing evidence-based research team who are looking at effective implementation of a parenting program.

For more than 5 years, the team based on the Tiwi Islands has worked in close collaboration with Menzies staff and local families after participating in the community-driven parenting program themselves.

The team piloted a new form of home visit support during the pandemic, supported several other Menzies projects on the Tiwi Islands, and were recently involved in 2 Menzies studies, co-authoring 2 peer reviewed papers.



^ Ryan Family prize winners (centre), Maggie Kerinauia, Aileen Tiparui and Kaylene Puruntatameri, with Carolin Stock (left) and Professor Gary Robinson (right) from Menzies' Centre for Child Development and Education.

2022 Menzies Medallion

The Menzies medallion is awarded by the Menzies Board to individuals or groups who have made a considerable contribution to health, of relevance to the Northern Territory (NT).

In 2022, Professor Joan Cunningham was awarded the Menzies Medallion for her leadership in working towards improving equity of access to healthcare for Aboriginal and Torres Strait Islander peoples and her contribution to public health as a higher degree research supervisor and mentor.



^ Professor Joan Cunningham receives the 2022 Menzies Medallion from Menzies Director, Professor Alan Cass.

Menzies Mentorship Award

In 2022, Menzies established this award to recognise the importance of effective mentorship - both formal and informal - for academic and professional staff.

The inaugural winners of the Menzies Mentorship Award were Professor Bart Currie and Dr Debbie Hall.

Professor Currie was recognised for his inclusive and collaborative approach, encouraging researchers to challenge themselves, and for his ability to bring out the best in others through his enthusiasm and work ethic. Over his 30+ year career in Darwin, he has supervised and supported over 200 students.

Dr Hall was recognised for the incredible guidance, support and leadership she offers the teams in Global and Tropical Health and across Menzies. Dr Hall was praised for fostering a positive working environment and maintaining high standards of professionalism.



^ Dr Debbie Hall and Professor Bart Currie, 2022 Menzies Mentorship Award recipients.

Val Asche Memorial Prize for Academic Excellence

The 2022 winners of the annual Val Asche Memorial Prize for Academic Excellence are:

Graduate Diploma of Health Research (GDHR) (Joint winners)

- Isobel Walker
- Paula Van Dokkum

Graduate Diploma of Public Health: (GDPH)

- Dr Matthew Roughan

Master of Public Health (MPH):

- Jessica Hagley

2022 Harry Christian Giese - Research Into Action Award

The Harry Christian Giese - Research Into Action Award commenced in 2013 in recognition of the significant and formative role that the late Harry Giese AM MBE played in the establishment of Menzies.

His important legacy is acknowledged and remembered through this Award. Both Mr Giese and his wife Nancy "Nan" Giese were resolute in their commitment to providing educational opportunities for Territorians and for their support of Menzies. This Award has been made possible through the generous support of the Giese family.

Dr Bianca Middleton was the 2022 award recipient for her project, Adaptation of the Vaccine Barriers Assessment Tool (VBAT). She proposes to use the Harry Christian Giese Research into Action Award to lead community stakeholder engagement to adapt the Vaccine Barriers Assessment Tool (VBAT) for Aboriginal and Torres Strait Islander parents and families in the Northern Territory to measure the causes of under-vaccination for Aboriginal children under 5 years.



^ Dr Bianca Middleton, 2022 Harry Christian Giese - Research Into Action Award recipient.

Master of Public Health Graduate – Ms Maria McCutcheon (supplied by Maria McCutcheon).



Education and Training

In 2022, it was a year of consolidation and challenges for our Education and Training division. Postgraduate coursework numbers remained steady, international students returned to study on campus, and COVID-19 continued to have an impact. The growing number of specialist coursework Master level awards offered by Charles Darwin University (CDU) increased individual unit enrolment, so that by the end of 2022 a total of 647 students had completed units delivered by Menzies.

Menzies celebrated 48 graduations across our 7 coursework awards in 2022 and experienced increased interest in our new Master of Public Health/Master of Health Research double master's degree which was launched in 2021, with 15 enrolled students by the end of the year.

Corrine Butler was awarded the 2022 Menzies Aboriginal and Torres Strait Islander Postgraduate Coursework scholarship, continuing her Master of Health Research journey with Menzies' Youth Type 2 Diabetes project, Co-designing a culturally appropriate youth-friendly social media campaign for Aboriginal and Torres Strait Islander young people with type 2 diabetes.

Vocational Education and Training

In 2022, there were 5 students that graduated with 10815NAT Certificate II in Community Health Research:

- 3 from the Machado Joseph Foundation
- 1 from Purple House
- 1 Menzies School of Health Research trainee.

HDR Graduates

Jemima Beissbarth, PhD

Vaccine selective pressures on the microbiology of otitis media in Aboriginal and/or Torres Strait Islander children in Northern Australia.

Victoria Kerrigan, PhD

Batji-gum dibla (Good talk medicine): Improving culturally safe communication between doctors and Aboriginal patients in the Northern Territory of Australia.

Dr Angela Titmuss, PhD

Understanding type 2 diabetes among Aboriginal and Torres Strait Islander youth in northern Australia and assessing the child health impact of maternal diabetes.

Dr Laurel Teoh, PhD

Acute asthma exacerbations and the recovery phase in children.

Dr Anna Wood, PhD

Diabetes and cardiovascular risk among Aboriginal and Torres Strait Islander women and non-indigenous women after a pregnancy complicated by hyperglycaemia: identifying strengths and gaps and improving outcomes.

Professor Bart Currie, PhD

The Darwin Prospective Melioidosis Study.

Dr Ella Meumann, PhD

Using genomics to understand the epidemiology of infectious diseases in the Northern Territory Top End.

Josie Povey, PhD

The Aboriginal and Torres Strait Islander Mental Health Initiative for Youth App Project: Developing principles of best practice in digital mental health design with Indigenous young people.

Dr Alana Gall, PhD

Exploring Wellbeing from Indigenous Perspectives

Saji Sebastian, PhD

Barriers and Facilitators to the Implementation of the Queensland Aboriginal and Torres Strait Islander Brief Intervention Training (B.strong) Program.

✓ Dr Anna Wood and Dr Angela Titmuss at their graduation.



Master of Public Health Graduates completing with a research thesis

Jiaoyang Liu

Family violence by adolescent males in Australian First Nations peoples (Aboriginal and Torres Strait Islander peoples): a scoping review.

Dr Lorraine Lydiard

Timeliness of treatment for lung cancer in the Northern Territory.

Master of Health Research Graduates completing with a research thesis

Dr Catherine Connolly

Electron microscopy in the diagnosis of chronic antibody-mediated kidney rejection in a paediatric population.

HDR Scholarships announced in 2022

Angela Rumaseb, PhD Strengthening molecular surveillance to inform on the safe and effective radical cure of Plasmodium vivax. CDUDES

Michael Johnston, PhD

The future of education equity in remote Australia. CDUDES.

Behailu Tariku, PhD

The effect of prenatal alcohol consumption and maternal mental health disorders on adverse birth outcomes, and early child development, Northern Territory Australia. Menzies Primary Scholarship.

Demeke Belay, PhD

The impact of prenatal and early life exposure on developmental outcomes children, aged from 6-to 18-years-old in Australia, Using Big Data to understand life course trajectories for young Territorians. Menzies Primary Scholarship.

✓ Dr Alana Gall at her graduation at the CDU Alice Springs campus in June 2022.

Mia Miller, PhD

The who, what and why of women's drinking. Research Training Program (RTP) Scholarship.

Yuko Matsuoka, PhD

Study of TB self-stigma in urban Zambia: A mixed method approach. Menzies Primary Scholarship.

Zhou Yu, PhD

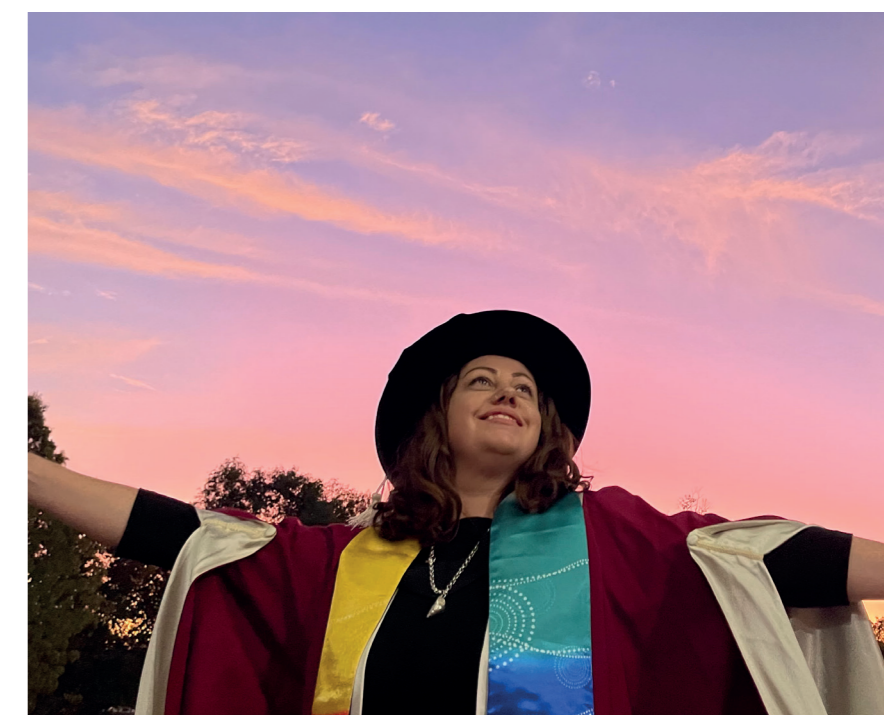
An analysis of the failure of Bhutan's radical tobacco ban policy. Menzies Primary Scholarship.

Ruth Canty, PhD

A qualitative study looking at the views of NT stakeholders on smoking and tobacco endgame strategies and implications for policy. RTP Scholarship.

Allison Hinton, PhD

Health coaches supporting Aboriginal and Torres Strait Islander Australians 'On Country' with medication self-management in remote primary health care settings. Menzies Primary Scholarship.





Upai Purri dancers and Menzies staff at 2022 NAIDOC Week morning tea.

In our community

National Reconciliation Week

Through research, Menzies staff and students strive to drive change for better health outcomes for Aboriginal and Torres Strait Islander people. During National Reconciliation Week staff were encouraged to reflect on their own reconciliation journey and how they could Be Brave to Make Change, the theme for 2022.

A display at the John Mathews Building organised as part of National Sorry Day prompted reflection and conversations around the meaning of Sorry Day.

Staff also took part in a discussion on the Uluru Statement from the Heart, facilitated by Deputy Director Indigenous

Leadership and Engagement, Dr Sean Taylor. Menzies values the immense contribution that Aboriginal and Torres Strait Islander peoples have made and continue to make to our research. Menzies supports the Uluru Statement from the Heart to achieve justice, recognition and respect for Aboriginal and Torres Strait Islander peoples and a referendum to enshrine a First Nations Voice in the Constitution. We accept the invitation contained in the Statement to walk together – Aboriginal, Torres Strait Islander and non-Indigenous Australians – in a movement of the Australian people for a better future.



▲ Larrakia Man, Shaun Lee, led the National Reconciliation Week Smoking Ceremony in Darwin.

NAIDOC Week

Menzies strongly encourages and supports staff to participate in activities in recognition of NAIDOC Week.

To launch the week of activities, Menzies held a smoking ceremony and morning tea, reflected on Aboriginal and Torres Strait Islander data sovereignty through keynote address from Honorary Research Fellow, Dr Kalinda Griffiths, then enjoyed a BBQ lunch and also took part in a cultural walk.

Menzies participated in a number of community events across the week, including the Deadly Cup Carnival, the Jak Ah Kit Memorial NAIDOC Golf Day, the Family Fun Day at the Casuarina pool, and the NAIDOC Week march. Menzies also supported the Darwin NAIDOC Ball.

During NAIDOC Week, Menzies launched our Aboriginal and Torres Strait Islander Employment and Career Development Strategy 2022-2027, demonstrating Menzies' strong and continuing commitment to building our Aboriginal and Torres Strait Islander workforce.



▲ Dr Kalinda Griffiths, Dr Sean Taylor, Diane Walker, Mark Mayo and Tegan Ryan at the launch of the Menzies Aboriginal and Torres Strait Islander Employment and Career Development Strategy 2022-2027, with artwork by Norma Chindanpee Benger.

There was also an opportunity to acknowledge Menzies' various Advisory Groups and Committees, as well as those who have led, collaborated on and participated in studies, including the Australian First Nations Reference group

for Child Health, the Diabetes Across the Lifecourse; Northern Australian Partnership – Aboriginal and Torres Strait Islander Advisory Group, the INFERR Study: Top End Medicinal Iron Study and Advisory Group.

Menzies HealthLAB

Throughout 2022, Menzies HealthLAB delivered its popular interactive health education program to communities around the Northern Territory (NT).

Impacted by biosecurity orders and the inability to travel in the first 6 months of 2022, HealthLAB adapted and focused on the provision of tailored health messaging to youth living in remote communities. Collaborating with teachers and schools previously visited by HealthLAB, the team compiled health education packages with activities for school-aged youth which were delivered to schools in Borroloola, Timber Creek, Wurrumiyanga, Ramingining and Robinson River.

HealthLAB was thrilled to recommence face-to-face health promotion in June, with more than 1,300 participants



▲ Taking part in Menzies HealthLAB activities.

engaging in health promotion activities through to December 2022.

National Science Week 2022 was once again packed with HealthLAB activities. The team engaged with

hundreds of Territorians in Darwin and Palmerston community spaces. In a new partnership with Miwatj Health Aboriginal Corporation, National Science week events were run together in Nhulunbuy, Yirrkala and Gunyangara.

With support from the Northern Territory Department of Health, Menzies HealthLAB commenced the provision of the unique interactive health education, targeting kidney health, to the Top End West communities of Wadeye, Belyuen, Nauiyu, Wurrumiyanga, Pirlangimpi, Milikapiti, Peppimenarti and Nganmariyanga.

In addition, at the invitation of communities and schools, HealthLAB also held sessions in Darwin, The Tiwi Islands, Borroloola, Nauiyu, Belyuen and Groote Eylandt.

Tiwi community work recognised

For over 5 years, Tiwi ladies Kaylene Puruntameri, Aileen Tiparui and Maggie Kerinauia have worked in close collaboration with visiting Menzies practitioners and researchers to deliver a parenting program for families and children in remote Aboriginal communities.

All were initially mothers participating in the Centre for Child Development and Education's Let's Start and Play to Connect parenting program themselves, before progressing to employment with Menzies as local Tiwi Implementation Officers. They have co-facilitated workshops, provided individualised home visit support to families, collected data regarding family issues and provided recommendations to the community board. The trio maintain ongoing dialogue with the Menzies visiting practitioners, Traditional Owners, community stakeholders and service providers.



▲ Play to Connect Tiwi Implementation Officers, Aileen Tiparui, Maggie Kerinauia and Kaylene Puruntameri.

During the COVID-19 pandemic an adapted delivery model was piloted to support families through home visits by the local Tiwi team. Parents have highly valued the leading role of the local Tiwi team in addressing and supporting their needs through this time when many other services had been withdrawn.

Kaylene, Aileen and Maggie have demonstrated knowledge, commitment and determination which is central to supporting Tiwi families. Their work on the programs to maintain sustainable health and community improvement was recognised with their 2022 Ryan Family Prize award.

Helping families to breathe easy

In July 2022, the Centre of Research Excellence (CRE) in preventing and managing bronchiectasis, especially in Aboriginal and Torres Strait Islander children (AusBREATHE) held their annual meeting in Darwin.



▲ Alice and Paige from Nhulunbuy.

Attendees from Melbourne, Perth and Brisbane joined Menzies researchers for a 3-day meeting.

The AusBREATHE CRE aims to reduce the burden of bronchiectasis by conducting clinical research (informed by novel technologies and strategies) to both prevent and better manage bronchiectasis, supported by synthesis of evidence and translation into practice and policy.

The meeting allowed the research team to share updates and plan further research activities. A highlight of the meeting was a parent session where several parents attended and shared their bronchiectasis stories. Understanding the priorities of parents is important to all the members of the AusBREATHE CRE.

As shared by one participant, "I would firstly like to acknowledge the time the research team puts into each project – it is amazing. As we live remotely, making contact regularly in person and managing the clinics has not been easy or not possible during COVID, but the team has been exceptionally supportive (having gone above and beyond)!"

As a family unit, we have always been willing to participate in research to allow for new medical/clinical findings to be explored in the hope to better support our own children's health outcomes as well as other children who may be diagnosed. We are under no illusion to think that all research leads to a new or breakthrough outcomes, however, believe strongly that research is essential, even if only to rule out options."

Working together to tell the diabetes in pregnancy story

Aboriginal and Torres Strait Islander communities experience a high burden of diabetes and related conditions. People are getting diabetes at increasingly young ages, with more and more women affected before and during pregnancy.

Looking after diabetes during pregnancy has potential benefits across generations, improving health outcomes for the woman and her baby.

As part of the Menzies-led Diabetes across the Lifecourse: Northern Australia Partnership, Dr Matt Hare is working with community members and health services across Northern Australia to develop educational videos to help improve understanding and management of diabetes in pregnancy.



▲ Menzies partnered with community members and health organisations in several regions to film stories about diabetes and staying healthy, including during pregnancy.

In September 2022, Dr Hare and the film crew spent a week working with Katherine West Health Board Aboriginal Corporation to film stories in Kalkarindji, Timber Creek and Yarralin (pictured). The team have also filmed in the Torres Strait, central Australia and Darwin;



in each case working with local health services and community members to ensure the videos are culturally appropriate and impactful. They look forward to launching these videos in 2023 with multiple language versions available.

Youth Health Summit

In April 2022, Biyamarr ma graduates Ashanti Berry and Jaylene Friel were invited by the Association of Alcohol and other Drug Agencies NT (AADANT) to present the outcomes from the 2021 Youth Health Summit.

They spoke at the Darwin Convention Centre along with many other organisations. The quality of their presentation saw them invited to speak at other conferences.



▲ Jaylene Friel and Ashanti Berry at the AADANT Conference in Darwin.

Malaria workshop in Papua, Indonesia



▲ The 4 day histology workshop was held in Indonesia.

In May, a 4-day workshop on basic histology was conducted in Timika, Papua, Indonesia as part of the malaria spleen study led by Steven Kho.

The workshop was provided by Mrs Nur Ita from the Eijkman Institute in Jakarta and comprised intensive skills development in spleen tissue preparation, cutting and various staining techniques. The purchase of a new microtome (funded by a Menzies Small Grant) has now enabled histology capacity at the Timika research facility and is part of

a long-term plan to expand research capability and professional development.

These new skills are already being used by Timika technicians to examine infection of human spleens by malaria parasites using Giemsa-based staining, through an ongoing collaboration with Indonesian partners, Papuan Health and Community Development Foundation and Exeins Health Initiative.

Following Menzies' discovery of a major hidden malaria parasite reservoir in the spleen, the team is now developing a novel microscopy reference for splenic parasites to aid future research in splenic malaria. Using histological and immunohistochemical techniques, Dr Steven Kho and his team are also investigating the spleen as a novel niche for red blood cell production in human malaria. This project will be the first time that red blood cell production is shown to occur outside the bone marrow in any human infectious disease, providing seminal knowledge advancements in basic red blood cell biology and human malaria.

SORTing out tuberculosis in the Asia-Pacific region

From August 2022, the Zero TB Yogyakarta Program delivered the Structured Operational Research (SORT-IT) course for tuberculosis (TB) clinicians, researchers and administrators.

The work was carried out as part of the capacity-building activities within Department of Foreign Affairs and Trade (DFAT) and funded by the Papua New Guinea & Indonesia for the Micro Elimination of TB (PRIME-TB) project. This is a collaboration between the Burnett Institute and Menzies, with implementation partners in Papua New Guinea and Indonesia.

The trainees and participants of the SORT-IT course included 4 PRIME-TB project partners and collaborators from Timika. They were supported by Menzies team members, Dr Chris Lowbridge, Trisasi Lestari and Christa Dewi.

The SORT-IT program provides simultaneous training and operational research experience. Participants are mentored through the operational research process from research development to peer-reviewed publication.



▲ SORT-IT training sessions.

New MoU with Timor-Leste Ministry of Health

An important partnership in the work to improve public health in Timor-Leste was strengthened with Menzies and the Timor-Leste Ministry of Health (MoH) signing a renewed Memorandum of Understanding (MoU) in March. This new MoU means Menzies and the MoH will continue to work together over the next 3 years towards new scientific evidence, health information and data, which will inform the development of new policy.

Timor-Leste's Minister of Health Dr Odete Maria Freitas Belo said Menzies is an internationally recognised health research institute which has developed close ties over the years with many health professionals and the Timor-Leste MoH. "In this regard, I wish to continue on the path of strengthening the excellent partnership and cooperation arrangements between our two institutions by renewing an ongoing Memorandum of Understanding, with the expectation of seeking Menzies expertise in order to help us gather much needed scientific evidence to guide policy and decision-making to controlling communicable diseases in Timor-Leste,

while also strengthening our human resource capacity in providing medical care as well as preventing infectious disease," Minister Belo said.

Timor-Leste Project Lead, Associate Professor Joshua Francis was grateful for the opportunity to work alongside the MoH and spoke of the clear commitment to tackling infectious diseases and improving health in Timor-Leste. "Through the COVID-19 pandemic, Timor-Leste has demonstrated the impact of effective partnerships between laboratory, public health and clinicians in combating health challenges. Using research as a tool, and focusing on building local capacity and leadership, it is possible to apply the same principles to combating other infectious diseases like TB, HIV, dengue and childhood pneumonia" A/Prof Francis said.

Director of Menzies, Professor Alan Cass AO, said establishing an office in Timor-Leste in 2019 has been mutually beneficial. "Our presence in Timor-Leste has helped our efforts to plan, engage and conduct our research



▲ Menzies Timor-Leste team meets with the Timor-Leste Ministry of Health.

while also being better equipped to support and build the capacity of local staff. By working together, we are able to better understand the needs of Timor-Leste and develop programs of work and research which address high priority needs of the community and health service partners. It demonstrates our commitment and means we can fully realise our deep partnership with Timor-Leste," he said.

Menzies' projects in Timor-Leste are designed to build capacity in clinical, surveillance and laboratory settings, emphasising the importance of the health system working together to improve response to infectious diseases at both the individual patient and the public health level.

Menzies researchers lead global event

Dr Cassandra Wright and PhD student Sarah Clifford co-convoked the major Australasian conference on alcohol and other drugs with Peter Burnheim, Executive Officer of the peak body for alcohol and drug services, the Association of Alcohol and other Drug Agencies NT (AADANT).

The conference in Darwin ran over 4 days in October 2022 and welcomed more than 700 professionals from the alcohol and drug sector across the NT, Australia, New Zealand and abroad.

Their program saw strong representation from Aboriginal and Torres Strait



▲ Dr Cassandra Wright and Sarah Clifford at the 2022 Australasian Professional Society on Alcohol and other Drugs (APSAD) Conference in Darwin.

Islander speakers, and topics highly relevant in the Northern Territory, including minimum unit pricing policies, alcohol harm reduction programs, self-determination in alcohol policy, fetal

alcohol spectrum disorders (FASD) and alcohol and other drugs (AOD) programs delivered by Aboriginal Community Controlled Health Services. Dr Wright and Mr Burnheim then went on to run the inaugural NT Alcohol Harm Reduction Summit later that week in Darwin, attended by NT policymakers, clinical AOD practitioners, prevention advocates and people with lived experience.

The Summit was documented in a report which outlined strong support from attendees for new wraparound care models and managed alcohol programs among other initiatives.

Partnership Approach to Sustainably eliminating chronic Hepatitis B in the Northern Territory

The Northern Territory (NT) is leading the way nationally in meeting specified Australian targets for the diagnosis engagement with care and treatment, for patients with Hepatitis B. It's all thanks to the work of Associate Professor Jane Davies and her team at Menzies.

In the NT, the percentage of patients diagnosed (measured by the proportion of patients with a serocode recorded in their medical records) is 92 per cent compared to the national target of 80 per cent. The proportion of patients living with hepatitis B engaged in care (measured by those who have had a blood test for viral load) is 78 per cent versus the national target of 50 per cent. Meanwhile, the proportion of patients in the NT on treatment is 22 per cent compared to the national target of 20 per cent.

Through true collaborative partnerships the Hep B PAST project has exceeded the National strategy targets towards eliminating Hepatitis by 2030. Key factors to this success are information delivered in Aboriginal and Torres Strait Islander languages, systematic delivery of care on Country and having the Aboriginal health workforce at the centre of the collaborative clinical team.

Tailoring training packages for the NT setting has been an extremely important component in achieving positive research outcomes. The 'Managing Hepatitis B, Training for Aboriginal Health Workforce' course has been delivered throughout the NT to over 170 people.

Each course is evaluated through pre and post questionnaires and found knowledge, attitudes and practical skills were increased and sustained.



▲ Menzies' Senior Research Principal Research Fellow, Professor Josh Davis, presents at the Menzies Hep B Colloquium.

The course was found to be acceptable and appropriate, with one participant saying, "it was the most culturally safe training I have ever had". Another participant stated that the new knowledge is "putting power back into the community".

The co-design and evaluation of the course led to a conceptual process model for the development of culturally safe training with the aim to increase sustainability and translation of this research. The findings of this course can be used to guide the design of future health education for Aboriginal and Torres Strait Islander health professionals. The course model has been successfully transferred to other

health issues in the Northern Territory, including COVID-19.

Menzies held our Managing Hepatitis B for Aboriginal Health Workforce Training from 25-26 May and welcomed Aboriginal health workers from all over the NT, including Gunbalanya, Katherine, Wurrumiyanga, Alice Springs and Wadeye.

Menzies also hosted the Hep B Colloquium in Darwin on 12 August. This had a strong national turnout, and there was high praise for the world-leading outcomes from Menzies' Hep B PAST project. The colloquium occurred alongside the hepatitis team's annual Indigenous Reference Group and Investigator Meetings.

Grass roots alcohol research

Dr Cassandra Wright and her team ran a study at a major Northern Territory (NT) festival – BASSINTEGRASS – on alcohol, other drugs and harm reduction. The data collection team included researchers and trainees from Menzies, University of New South Wales (UNSW), Charles Darwin University (CDU) and Flinders.

The study provided valuable data from more than 500 festival attendees on alcohol and drug use and safe event environments, with the data analysed to help identify what keeps people safe at festivals and similar events. The study found that a lower proportion of festival attendees in the NT reported intention to use illicit drugs (12 per cent) compared to similar studies in NSW (30 per cent) and Victoria (24 per cent). By comparison, alcohol was heavily consumed, with half of patrons consuming 7 or more standard drinks and one quarter consuming more than 10 standard drinks. Survey

respondents described experiencing a range of alcohol-related harms, with more than 20 per cent drinking more alcohol than they planned, 37 per cent reporting spending more than they planned and more than 20 per cent reporting overheating and heatstroke, along with a range of other harms on a spectrum of severity.

The study found strong support for harm reduction initiatives such as the new peer-based care service DanceWize, which operated at the festival. The findings suggest strong patron support for further harm reduction initiatives such as pill testing. The study documented just under 11,000 patron interactions between peer educators and festival patrons.

It provided operational recommendations to improve the service in future, many of which have been incorporated into the provision of the service for 2023.



▲ Menzies' staff supporting the study Baseline in the Grass: advancing harm reduction at festivals in the NT.

International Conference for Plasmodium vivax Research (ICPvR)

Menzies co-hosted the 8th International Conference for Plasmodium vivax Research (ICPvR) in April 2022.

ICPvR 2022 brought together online nearly 400 global experts involved in *Plasmodium vivax* malaria research. Building on the previous 7 ICPvR conferences, ICPvR 2022 covered a range of topics including the global burden and epidemiology of vivax malaria, recent advances in the understanding of vivax pathology and pathogenesis, new understandings of vivax biology, vaccine development, and progresses in improving treatment options. It also included transmission studies, new advances in diagnostics and genomic epidemiology, as well as themes on implementation, access and policy.

For the first time in the history of the conference delegates met online, increasing access for researchers from malaria endemic countries.

Conference co-chair A/Prof Kamala Thriemer said the event gave her team the chance to showcase their research.

"The conference was a great opportunity to showcase the breadth of work the Menzies' malaria team is doing," she said.

Northern Territory Diabetes Summit

In collaboration with NT Health, Aboriginal Medical Services Alliance Northern Territory (AMSANT), Northern Territory Primary Health Network (NT PHN) and the Commonwealth Government's Department of Health, Menzies ran the NT Diabetes Summit in Alice Springs in November 2022.

There were 200 people in attendance in the Northern Territory (NT) and more than 170 registered online from across Australia and internationally. Many high-level policy makers attended including CEOs of NT Aboriginal Community Controlled Health Services, NT Health Chief Executive, the NT Department of Chief Minister and Cabinet, and NT Health Regional Executive Directors.

The Minister for Indigenous Australians Linda Burney presented to the summit, with attendees contributing via group workshops to the development of several NT Health strategies. As a result of this event, the Fred Hollows Foundation, Diabetes Australia, and Obesity Coalition have been in contact to advocate further on diabetes and social determinants of health, and Menzies is working with NT Health and all partners to develop a NT Roadmap for Diabetes.



Participants gather at the NT Diabetes Summit in Alice Springs.

Every year Menzies holds an annual Oration as a public lecture to inspire meaningful discussions on topics related to our work.

In October, staff were delighted to welcome Professor Paul Kelly, Chief Medical Officer for the Australian Government Department of Health, to deliver the 2022 Menzies Oration.

Prof. Kelly's presentation was titled: Providing the best medical advice in a pandemic, an insider's view and was well attended by Menzies staff, Menzies patron, Her Honour, the Honourable Vicki O'Halloran AO and friends of Menzies.

Menzies' Director, Professor Alan Cass AO, presenting at the 2022 Menzies Oration.



Menzies Hepatitis B Project Manager, Melita McKinnon and Professor Paul Kelly at the 2022 Menzies Oration.



Professor Simon Maddocks, Companion of Menzies Award Recipient with Her Honour the Honourable Vicki O'Halloran AO, The Administrator of the Northern Territory and Craig O'Halloran at the 2022 Menzies Oration.



Our donors and supporters

Dr John Hargrave's bequest

Dr John Hargrave AO, MBE served the people of the Northern Territory (NT) and the Islands of Timor and Flores for his entire working life of 45 years. His is an exemplary story of humble service, constant innovation, and empowerment of patients and colleagues.

In his lifetime he led a successful campaign to eliminate leprosy from the people of the NT. He introduced reconstructive surgery, microsurgery,

and hand surgery. He pioneered a computer assisted public health database. He started and supported effective Aboriginal Health worker training and identified, mentored, and saw many colleagues go on to highly effective careers.

He learnt sections of multiple Aboriginal and Indonesian languages to communicate with his patients and colleagues. In his later working years, he used the same quiet, effective supportive

methods to establish an ongoing reconstructive surgical program in the islands of Timor and Flores, just to the north of Darwin.

Dr Hargrave, who died in Tasmania in August 2020 at the age of 89, provided a generous bequest totalling \$1,469,874 in 2022. This will enable Menzies to continue his legacy of working with Aboriginal and Torres Strait Islander peoples in the pursuit of improved health and life outcomes and equity.



△ Dr John Hargrave AO, MBE in Timor-Leste.

Bridging the Gap Foundation



△ Funding supported HealthLAB to visit schools. When travel was restricted they co-designed health education packages.

Bridging the Gap Foundation (the Foundation) was established by Menzies to support and fund initiatives to address the gap between Aboriginal and Torres Strait Islander and non-Indigenous people's health and education opportunities and outcomes.

The Foundation's end of financial year fundraising campaign raised \$25,000 to support the Menzies-Ramaciotti Centre and this was combined with a very generous donation of \$200,000 from the Ryan and Flynn families. These contributions are in support of the Menzies' pathway project, which is aimed

at building a local Aboriginal and Torres Strait Islander health workforce.

The Foundation continued to support the HealthLAB program with donations during the year of more than \$100,000, including from the HV Mackay Trust, Nutra Organics and MAYA Youth in Performing Arts. This enabled the HealthLAB team to continue its work in Darwin and Palmerston and remote Territory communities including Borroloola, Alyangula, Belyuen, Tiwi, Yirrkala, Nhulunbuy and Nauiyu.

This funding supported HealthLAB to develop co-designed health education packages to send to remote schools

and teachers around the NT. These were developed in response to COVID-19 related biosecurity measures which restricted travel to communities in the first half of 2022.

Menzies' projects supported by the Foundation include Indigenous traineeships, Stay Strong, the Menzies-Ramaciotti Centre, HealthLAB and Hearing Health.

Ear Health, Mental Health and Diabetes projects were featured in the Foundation's Christmas campaign, which increased awareness, engagement and support for these important projects.

Major donors and partners

We are grateful to the following major donors and partners for their generous support in 2022:

Barlow Foundation	Maple-Brown Family Foundation	Australian Government
Bridging the Gap Foundation	Medibank Health Research Fund	The Ray and Margaret Wilson Foundation
Edwards Lifesciences Foundation	Medtronic Australia	The Vera Friedman Foundation
Edwina Menzies & Ian Aubrey	Northern Territory Government	Charles Darwin University
Dr John Hargrave		

Major contributions*

\$2 136 955

*Major contributions are recorded as consultancy and contract research in the presentation of the Menzies financials

Donations

\$155 673

Total

\$2 292 628

Our
financials

Financial summary

Total revenue

\$54 746 500

National Health and Medical Research
\$14 652 173



Investment income
\$1 346 607



Other Australian Government Agencies
\$8 381 605



Consultancy and contract research
\$12 338 841



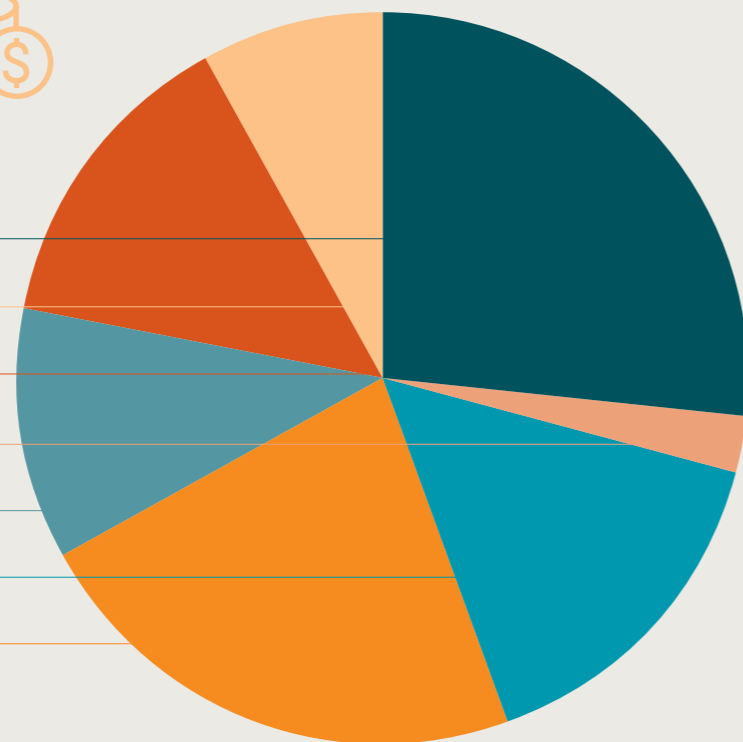
NT Government funding
\$6 131 645



Other revenue
\$7 525 434



Fees and charges
\$4 370 195



Total expenses

\$50 630 593

Employee related expense
\$27 659 164



Direct research and other costs
\$21 551 903



Depreciation
\$566 387



Repairs and maintenance
\$853 139

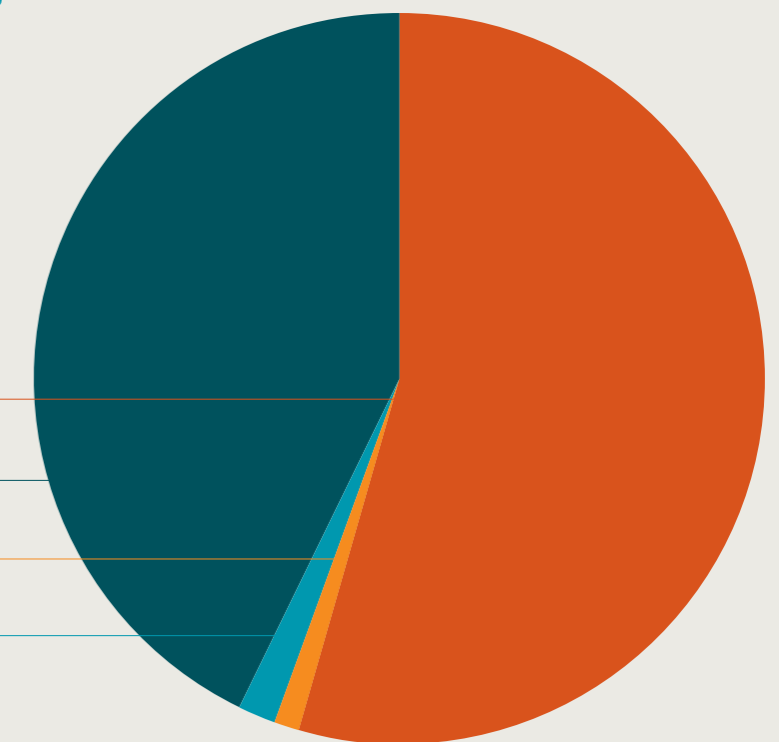


55% Employee related expense

42% Direct research and other costs

1% Depreciation

2% Repairs and maintenance



We thank the many individuals and communities who granted permission to use photographic images of themselves and their children throughout this publication.



The graphic pattern featured in the Menzies 2022 Annual Report is from an artwork by artist Cian Mungatj McCue. Born and raised in Darwin, Cian is a descendant of the Larrakia, Yanyuwa and Mulluk-Mulluk people.

This piece symbolises the NT, the different regions, landscapes and people. The top part of the piece represents the Top End and has used linework

reminiscent of artwork from across the Top End. It is blue to represent saltwater. The green part of the piece symbolises savanna, grasslands and freshwater waterways. The big circular element to the right of this section is reminiscent of a dried water lily pod, but has been created in a style to represent human cells. The orange part of the artwork is moving south towards stone and desert

country. The red parts represent the Red Centre and has been created in a style similar to dot art from the region. The orange and red parts of the piece have been created in a style symbolic of blood cells and it also represents the heart of the Territory.



For the purposes of this document, "Indigenous" refers to Australia's Aboriginal and Torres Strait Islander peoples.

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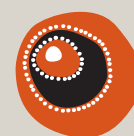
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