2013 Annual Report

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school of health research

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CHARLES DARWIN UNIVERSITY

The Menzies School of Health Research was established in 1985 as a body corporate of the Northern Territory (NT) Government under the *Menzies School of Health Research Act 1985*. This Act was amended in 2004 to formalise the relationship as a controlled entity of Charles Darwin University (CDU). Menzies is now a major partner of CDU, but remains controlled by its own board, has its own financial and administrative structures, and can enter into contracts in its own right.

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

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.

Front cover photo:
Jessica Young examines Jureece Roly Gibson at the Maningrida Community Health Clinic

Aleisha and Joyce from Milikapiti in the NT, a Menzies research site

TABLE OF CONTENTS

CHAIRMAN'S INTRODUCTION

Professor Simon Maddocks, Chair of Menzies

I first joined the Menzies School of Health Research Governing Board in 1995, as the nominated representative of the Menzies Foundation. I never imagined that I would still be on this Board some 19 years later, let alone that I would be fortunate enough to become its Chair.

There have been many highlights throughout this association. I remember an early board meeting where we made a visit to a fledgling building site and strolled out across a bare concrete slab. This foundation was to be Menzies' iconic headquarters, the John Mathews building. Coming full circle, I recently had the opportunity to take the current board on a similar visit to Menzies' two new state-of-the-art buildings.

A commitment to delivering research excellence and a dedicated staff body has seen Menzies grow from strength-to-strength throughout my years.

A decade ago, I also had the opportunity to contribute to negotiations to integrate Menzies into a new tertiary institution being created in the Northern Territory named Charles Darwin University (CDU). Who would have imagined then, that I would go on to eventually be named that University's third Vice-Chancellor.

I have had the honour of working with some amazing and very dedicated people throughout my association with Menzies. From Directors, researchers, technical and support staff, clinicians and scientists, all of quite outstanding talent, to Board members from across Australia, university and community leaders, politicians and students alike; all have contributed to the very important ethos and fabric that make Menzies such a successful and highly respected institution, and one that is unsurpassed anywhere in what it does and delivers.

Whilst I have a few regrets in stepping down now as the Board Chair, the nice thing for me is that I get to remain involved, albeit in a different capacity in my new role with CDU.

It has been my absolute privilege to be associated in a very small way with everything that Menzies stands for and delivers. Thank you for this wonderful opportunity and I look forward to seeing Menzies' continued future successes.

DIRECTOR'S MESSAGE

In the past year the federal government indicated its commitment to a new engagement with Aboriginal and Torres Strait Islander people and commenced discussion leading towards a White Paper on the development of Northern Australia. These issues are at the heart of all Menzies research, education and training. We will need to take an active role in contributing to these very important national discussions.

Menzies had a good year in 2013. Key achievements include continued success on the national and international research stage, the development of our new world-class facilities and expansion of critical partnerships, which continue to underpin our capacity to deliver pioneering research.

In 2013, Menzies was awarded federal funding for 11 competitive grants and fellowships by Australia's peak body supporting health and medical research, the National Health and Medical Research Council (NHMRC).

Professor Alan Cass, Director of Menzies

Menzies outperformed the nation's top universities and medical research institutes in terms of the success rate of our grant applications. With 38 per cent of our applications being funded, we doubled the Australian average success rate.

We continue to work to improve our research quality, with the fundamental aim being to strengthen the potential for our research to make an impact. In 2013, a Menzies project was again recognised as one of Australia's ten best research projects.

The project, 'Tackling preventable diseases: improving rotavirus vaccines', was recently profiled in the NHMRC publication, *Ten of the Best Research Projects 2013*.

The passing of the great Australian educator and musician, Dr M Yunupingu, was a sad day for our nation. Dr Yunupingu's achievements will continue to inspire the work of people across the country who seek to 'Close the Gap' in Indigenous disadvantage.

Dr Yunupingu's passing at too young an age is a stark reminder that as a nation we still have so much to do to improve health for Indigenous Australians.

Our research efforts seek to understand the causes of health disparities and the drivers of inequitable access to care in order to improve access and health outcomes. This mandate is very real at Menzies and can be illustrated through the projects we delivered during 2013, which include:

- Launching our new Indigenous cancer research centre of excellence, DISCOVER-TT, to lead a nationally coordinated and integrated effort to improve cancer prevention, diagnosis and treatment.
- Unveiling the fourth wave of data collection for the Aboriginal Birth Cohort study, the longest study of Aboriginal people in Australia. The study, which involves almost 700 children born in the mid-1980s, hopes to identify early people most at risk of developing chronic diseases and help target intervention strategies.
- Delivering the federally commissioned Sentinel Sites Evaluation, a comprehensive evaluation of the $805 million Indigenous Chronic Disease Package (ICDP). The evaluation was undertaken to inform ongoing refinements in design and implementation of the ICDP, with the view to maximise the potential benefit to Indigenous communities across the country.
- The Centre for Childhood Development and Education (CCDE) conducted nationwide consultations on Indigenous suicide prevention for the Australian Government Department of Health and Ageing, to inform the development of a national Indigenous suicide prevention strategy. The subsequent release of the national strategy represents an important contribution to reducing the distressingly high rates of Indigenous suicide around Australia.

Our world-class Global and Tropical Health Division continues to undertake critically important research in more than 20 countries across the Asia-Pacific region. In a long line of achievements for the division, Menzies researchers working with national partners have been pioneering new treatment options for preventing recurrent malaria and these studies are influencing public health policy.

Despite our success in securing research grants, we work in a tight external financial environment. Our fundraising team based in Melbourne continue to explore new and exciting fundraising opportunities among the high level corporate and philanthropic community. Closer to home, strategic opportunities are being explored through renewed engagement with Territory industry and organisations.

I would like to extend a personal thanks to our key supporters and the many people who quietly donate funds to Menzies each year. I thank you for your ongoing support, which makes an enormous difference to people's lives and is so crucial to driving our research and innovation.

The 2013 Menzies Oration, delivered by the first Indigenous member of the House of Representatives, Ken Wyatt, was a great opportunity to hear his vision for improving Indigenous affairs and communicate our interest in working with Ken and other key political figures to improve Indigenous futures.

Professor Barney Glover ended his highly productive five-year term as Vice-Chancellor of Charles Darwin University (CDU) in December 2013. Professor Glover strongly supported a closer and deeper working relationship between Menzies and CDU.

We look forward to exploring new opportunities for collaboration with incoming Vice-Chancellor, Professor Simon Maddocks. Professor Maddocks has a deep understanding of Menzies though his role on our governing board, which he has chaired for the past nine years.

Our two new buildings, one on the CDU campus and an upgrade to our existing facility at the Royal Darwin Hospital, create capacity for future growth in our workforce and feature state-of-the-art clinical, interactive teaching and learning spaces. These world-class facilities will equip our staff to continue their vital work for years to come.

Our new website has been designed to bolster and better illustrate the collaborative approach to Menzies research and features integrated navigation and enhanced access to Menzies' award winning researchers and their projects.

In finishing, I must make special mention of the remarkable staff and students who make up our Menzies family. We have the knowledge, experience, relationships in place, and above all, a passionate commitment to improving the health of Indigenous Australians and other people across our region.

WHO WE ARE AND OUR VISION

The Menzies School of Health Research is Australia's only medical research institute dedicated to improving Indigenous health and wellbeing.

We have a 28-year history of scientific discovery and public health achievement.

Our work addresses critical issues such as mental health, nutrition, substance abuse, child health and development, as well as chronic diseases such as cancer, kidney disease and heart disease.

We also lead global research into life-threatening illnesses in the Asia-Pacific, such as malaria and tuberculosis.

We endeavour to break the cycle of disease and to reduce health inequities in Australia and the Asia-Pacific region, particularly for disadvantaged populations.

Our mandate is to seek enduring solutions to problems that matter; the kind that when tackled, have the potential to make an immense difference to the quality of lives both here and abroad.

WHAT WE DO

We set our sights on fostering excellence and leadership in scientific research and education.

Menzies works at the frontline, partnering with over 60 Indigenous communities across Northern and Central Australia and countries in our region to create resources and grow local skills.

Our talent pool comprises over 400 staff, including many award-winning researchers from around Australia and the region.

We gain strength through partnership, and we collaborate broadly with communities, policy makers, governments, health service providers and organisations, and other researchers.

We strive to increase the capacity of health service providers, clinicians and researchers to help them deliver better services based on evidence about what works, and what doesn't.

We're committed to educating future researchers. We deliver research and professional training, and we engage a growing number of Masters and PhD students.

MENZIES FUNDING

Menzies is a major partner of Charles Darwin University and we are largely funded through competitive research grants.

Increasingly, however, philanthropic and corporate funding is becoming crucial to help drive our research and sustain our ability to develop innovative, evidence-based solutions.

Justin Redford and Noeline Galarla from the Maningrida Community Education Centre with Menzies' Claire Addinsall

WHERE WE WORK

Menzies' headquarters are in Darwin, with offices in Alice Springs, Brisbane, Melbourne and Timika (Indonesia).
Our work spans Central and Northern Australia and developing countries within our global neighbourhood.

GLOBAL SITES

- Afghanistan
- Bangladesh
- Bhutan
- Cambodia
- China
- Democratic People's Republic of Korea
- Ethiopia
- Indonesia
- Lao People's Democratic Republic
- Kiribati
- Malaysia
- Myanmar
- Nauru
- Nepal
- Pakistan
- Philippines
- Republic of Korea
- Solomon Islands
- Sri Lanka
- Tanzania
- Thailand
- Timor Leste
- Tuvalu
- Vanuatu
- Vietnam

See page 16 for full map of global sites

NEW WEBSITE UNVEILED

In July 2013 Menzies launched a redeveloped website.

The website has been designed to boost and better illustrate the collaborative approach Menzies undertakes with communities, policy makers, health service providers and other researchers to improve outcomes for disadvantaged people across our region.

The website features integrated and intuitive navigation and enhanced access to Menzies' award-winning researchers and their projects. Additional features of the new website include:

- Interactive achievements timeline illustrating Menzies' history and achievements over 28 years
- Integrated researcher profiles incorporating current research projects, a top 10 publications list and news tabs
- An online resources portal to equip families, communities and health care providers with the latest in educational health resources
- Education and training pages for health professionals to further their studies and enhance their career opportunities in public health
- Find an expert database outlining fields of media expertise
- A secure and easy to use donation page for donors and friends of Menzies to support the critical research being undertaken at Menzies.

To view the new website visit www.menzies.edu.au

MENZIES EXPANDS WITH ICONIC NEW BUILDINGS

Menzies is finalising works on its iconic $47 million building project.

New premises at Charles Darwin University (CDU), the Royal Darwin Hospital (RDH) campus, and an upgrade to the existing John Mathews Building (JMB), will create capacity for significant growth for Menzies to continue its vital work for generations to come.

The project's contemporary design will enable Menzies to support the Australian Government's objective of providing world-class research facilities that integrate with improved clinical care and health workforce training.

The ecologically sound buildings, jointly funded by the Australian Government, the Northern Territory Government and CDU, will deliver across both campuses over 5000m^2 of new space with a refurbishment to JMB's floor space of 3800m^2.

CHARLES DARWIN UNIVERSITY

The new $17.5 million research and administration building on CDU's Casuarina campus will provide teaching facilities, clinical space, a conference room, tutorial rooms and office working accommodation for up to 180 staff. The clinic room will support research into child developmental and educational outcomes.

Across both sites the improved ability to conduct clinical trials and the improved training facilities will enable Menzies to better engage with its online and remote student base.

ROYAL DARWIN HOSPITAL

The $29.5 million works at RDH include reinstatement of a portion of the research laboratory, provision of additional clinical and office working accommodation for up to 266 staff. The extension provides dedicated spaces to undertake research, education and associated support elements such as executive, conference rooms and a 200 person auditorium.

Retaining its location at RDH will allow Menzies' world-renowned researchers to continue to work alongside some of the Territory's most innovative and progressive clinicians.

RESEARCH HIGHLIGHTS: CHILD HEALTH

When it comes to health, first impressions count – none more so than those made on a young life.

Unfortunately, many Indigenous children face chronic ear infections, respiratory problems, skin sores and other health issues in their earliest years, which not only impact on a child's health, but also affect their ability to grow, develop and learn.

Menzies research continues to investigate how we can improve the health of Indigenous children so they can have the best start in life.

EASING THE PAIN OF SKIN SORE TREATMENT

Skin sores are common in children in remote communities. Now, children with skin sores in remote communities will no longer have to endure painful intramuscular injections of the antibiotic LA Bicillin for treatment.

Supported by the National Health and Medical Research Council (NHMRC), the Menzies Skin Sore Trial Team used a randomised controlled trial to demonstrate that the oral antibiotic, Bactrim, was just as effective at treating skin sores as LA Bicillin, providing clinicians with an alternative pain-free treatment. These results will be in the updated edition of the remote health treatment manual.

The trial's findings were well received in the studied communities during feedback visits in late 2013.

HISTORIC STUDY ENTERS ITS FOURTH WAVE

The oldest and largest study tracking the health of Aboriginal Australians entered its fourth wave of data collection during mid-2013. The Aboriginal Birth Cohort (ABC) study includes 686 Aboriginal people born between 1987 and 1990 recruited at birth, and they have previously had comprehensive health checks at 11 and 18 years.

The study aims to identify early those most at risk of developing chronic illnesses including diabetes, heart and kidney disease and to target intervention strategies at the appropriate age.

The study team is currently travelling to over 40 urban and remote communities across the Top End and offering participants a comprehensive health check. The team is supported by the NHMRC and Darwin Honda.

ANTIBIOTIC TREATMENT HALVES RESPIRATORY EPISODES IN INDIGENOUS CHILDREN WITH CHRONIC LUNG DISEASE

The Menzies Respiratory Health Team participated in the world's first multicentre randomised trial to examine the treatment of Indigenous children with chronic suppurative lung disease.

Working with New Zealand colleagues, the NHMRC-supported study found that children who received 12 to 24 months of one-weekly doses of the antibiotic, azithromycin, versus placebo, had a 50 per cent reduction in acute respiratory episodes.

The results of this study are being incorporated into Australian and New Zealand treatment guidelines and will impact on clinical care around the world.

GENOME SEQUENCING BOLSTERS RESPIRATORY HEALTH

Whole genome sequencing has revealed chinks in the armour of an important respiratory bacterial pathogen.

The Child Health Laboratory Group has completed the mammoth task of sequencing the entire genome of 97 strains of non-typeable *Haemophilus influenzae*, a pathogen that commonly causes ear and lung infections in Indigenous children.

Analysing this bacterium's DNA has already led to the development of an improved bacterial diagnostic test and provided important insights into the effectiveness of current vaccines.

The group will continue to expand its genomics program, alongside immunological and microbiomic studies, to improve understanding of the biological basis of ear and lung infections in Indigenous children, leading to improved therapies and vaccines.

Sabine Sprenger examines Naomi Bachu's ears at an event held at Millner Primary

CASE STUDY: TACKLING EAR DISEASE IN REMOTE COMMUNITIES

Menzies researchers are looking at ways to maximise the protection of infants and young children in remote Indigenous communities from the many bacteria that cause ear disease.

Combinations of vaccines, including a schedule commencing at one month of age, are being evaluated in two clinical trials in remote communities. The child health research nurses provide additional health checks and all vaccinations, as well as training in the diagnosis, treatment and management of otitis media.

"During our visits, families have the opportunity to see their baby's eardrum on the video. Parents receive information about the impacts of ear disease on hearing loss and their child's listening and learning, how to prevent and treat ear infections, and the potential of this vaccine trial to improve ear health," trial coordinator Nicole Wilson explains.

"The additional resources provided by the research team's regular visits have created a collaborative approach to coordinate child health checks, with improved timeliness of vaccination a very positive benefit of research participation."

If the study shows the combination vaccine schedule to be superior, relevant policy may need to be adapted for infants living in high-risk populations.

HIGHLIGHTS: RHDAUSTRALIA

Rheumatic heart disease (RHD) is preventable, yet Australia has the highest recorded rate in the world. Indigenous people are up to eight times more likely than non-Indigenous people to be hospitalised, and nearly 20 times more likely to die from the disease. Indigenous children aged five to 14 years are the most vulnerable.

RHDAustralia is the National Coordination Unit for the Australian Government's Rheumatic Fever Strategy. Established by Menzies in 2009, RHDAustralia coordinates control programs to prevent, diagnose and manage RHD and acute rheumatic fever (ARF).

SHARING INNOVATION, KNOWLEDGE AND EXPERIENCE

A two-day RHDAustralia conference showcased technological innovation to prevent and treat RHD, discussed how health workers can engage Indigenous communities to reduce the burden of RHD and delivered research insights into RHD in pregnancy, disease genetics and the quest for a group A streptococcal vaccine.

At an educational seminar for Indigenous health workers and students, expert clinicians outlined strategies for the prevention and management of RHD in Indigenous communities.

Dr Bo Remenyi presents at the RHDAustralia conference

EDUCATION AND TRAINING RESOURCES

RHDAustralia continued to promote and disseminate to clinicians *The Australian guideline for prevention, diagnosis and management of acute rheumatic fever and rheumatic heart disease (2nd edition).*

The guideline is the main source of information for all aspects of RHD management, prevention and control across Australia. Derived iPad, iPhone and Android applications were downloaded 1107 times in 2013.

RHDAustralia's endorsed and accredited e-learning modules continue to educate the health workforce of best-practice approaches to ARF and RHD. In 2013, 229 people completed the self-paced modules.

The ARF RHD guideline app for iPhone

RHEUMATIC HEART DISEASE RESEARCH AT MENZIES

RHDAustralia strives to translate research into practice and has important links with a number of Menzies RHD research projects.

PREVENTING FUTURE EPISODES OF ARF AND RHD

Regular injections of penicillin prevent repeat episodes of ARF and stop the development of RHD, but it can be difficult ensuring clients receive these injections.

Working with health centres in up to 10 remote communities, the project is developing, implementing and evaluating tailored activities that aim to increase adherence to the injections. If successful, the results could help health centres throughout Australia improve care for community members with ARF and RHD.

IMPROVING CARE AND OUTCOMES IN PREGNANCY

The increased cardiac demands of pregnancy can severely, or even catastrophically, impact the health of women with RHD.

Working with over 300 sites across Australia and New Zealand, the project will deliver recommendations to better manage RHD in pregnancy, aiming to improve care and outcomes for mothers and their babies.

ELUCIDATING THE LINK BETWEEN GENETICS AND RHD

Researchers are collecting saliva DNA samples from 1500 Indigenous people, 500 with RHD and 1000 without, to determine if a person's genetic makeup increases susceptibility to the disease.

In 2013, 530 participants were recruited through community consultations. Enrolment will be completed in 2014.

RESEARCH HIGHLIGHTS:
CENTRE FOR CHILD DEVELOPMENT AND EDUCATION

Launched in 2011, the Centre for Child Development and Education (CCDE) endeavours to identify the social, biological and educational factors that influence the wellbeing and future life opportunities for both Indigenous and non-Indigenous children.

The past year has been one of consolidation for CCDE as it continues to establish itself as a centre of excellence in child development and education.

The passing of CCDE's patron, Dr M Yunupingu, was an occasion of great sadness, but his achievements and commitment to improving outcomes for Indigenous youth will continue to inspire the centre's researchers.

NATIONAL CONSULTATIONS ON INDIGENOUS SUICIDE PREVENTION

In 2013, CCDE conducted large scale consultations on Indigenous suicide prevention for the Australian Government Department of Health and Ageing and reviewed the national and international literature for the development of a national Indigenous suicide prevention strategy.

In partnership with the National Aboriginal Community Controlled Health Organisation (NACCHO), CCDE consulted with over 500 people in all capital cities and in regional and remote locations in each state, and received 50 written submissions.

The subsequent announcement of the $18 million National Aboriginal and Torres Strait Islander Suicide Prevention Strategy represents an important contribution to reducing the distressingly high rates of Indigenous suicide around Australia.

AMA INDIGENOUS HEALTH REPORT CARD

Researchers at CCDE played a key role in the production of the 2012–2013 Australian Medical Association's (AMA) Aboriginal and Torres Strait Islander Health Report Card, an initiative launched in 2002 that seeks to raise the profile of Indigenous health issues.

The report card entitled, *The Healthy Early Years – Getting the Right Start in Life*, emphasises the fact that the early years of a child's development lay the foundation for lifelong health and wellbeing.

The AMA Report Card presents an ideal opportunity to raise public, professional and political awareness of the importance of ensuring that young children have adequate access to the health, family and education services that enable healthy development.

CASE STUDY: 'LET'S START' NURTURES PARENT-CHILD RELATIONSHIPS

The 'Let's Start' Parent-Child program is a therapeutically oriented parenting program that seeks to build the confidence of Indigenous parents and help them develop strong relationships with their children as they begin the transition to school.

Michelle Woody, one of the program's many local implementation officers (LIOs) explains the benefits for children and parents.

"I have seen lots of good changes in children, they listen more to their parents. They are stronger together, listen and respect each other more."

In December 2013, LIOs from Pirlangimpi, Wurrumiyanga, Peppimenarti and Belyuen participated in early childhood development training in Darwin, addressing key themes such as the importance of play and play-based activities for their work with parents and young children.

Taniesha and Michelle Woody with the Let's Start program in the Tiwi Islands

"I really enjoyed coming into town for the training. I felt valued as part of the team and I hope we can come in for more training to talk about families in the community," explained one participant.

RESEARCH HIGHLIGHTS: EPIDEMIOLOGY AND HEALTH SYSTEMS

The disease burden borne by Indigenous Australians is significantly higher than that carried by the mainstream Australian population.

Menzies' Division of Epidemiology and Health Systems seeks to reduce the burden of chronic disease. The team's research focuses on the effectiveness of Australia's health care systems and the influences of social and physical environments.

The ultimate aim of the division's research is to improve the survival and quality of life of Indigenous people.

INDIGENOUS CANCER CENTRE OF EXCELLENCE UNVEILED

Until now cancer has been a low priority on the Indigenous health agenda, despite the disease accounting for a greater number of deaths each year than diabetes and kidney disease.

The Centre for Research Excellence in Discovering Indigenous Strategies to improve Cancer Outcomes Via Engagement, Research Translation and Training (DISCOVER-TT) will build an evidence base through innovative, high quality, priority-driven, and applied health services research.

The Centre aims to reduce disparities in the treatment and survival of Indigenous Australians with cancer.

DISCOVER-TT brings together key researchers, health professionals and consumer advocacy groups from across Australia, and is actively promoting the translation of research knowledge into Australian public health policy and practice.

NATIONAL 'CLOSING THE GAP' EVALUATION DELIVERED

A three-and-a-half-year evaluation of Australia's largest single investment in Aboriginal and Torres Strait Islander health was successfully concluded by Menzies' Epidemiology and Health Systems Division in mid-2013.

The Sentinel Sites Evaluation (SSE) was a comprehensive assessment of the $805 million invested in the Indigenous Chronic Disease Package – more commonly known as the 'Closing the Gap' program in health. Over the course of the evaluation, Menzies produced a series of reports for the Commonwealth Department of Health and Ageing, and equivalent reports for 24 major sites throughout Australia.

The final report attracted substantial media interest and the evaluation has been cited in several national policy documents, including a national health workforce review and the Australian National Preventive Health Agency's *State of Preventive Health 2013* report.

STUDY TO IMPROVE CANCER FUTURES

Aboriginal and Torres Strait Islander people experience great disparity throughout the cancer journey when compared to other Australians. There are many factors that impact on the journey of Indigenous cancer patients.

Studying the patterns of care and quality of life of Indigenous people with cancer will provide in-depth knowledge about the experiences and understanding of cancer and treatment choices of Indigenous and non-Indigenous cancer patients and health professionals' perspectives about Indigenous and non-Indigenous cancer patients.

More than 300 Indigenous and non-Indigenous patients have completed the quantitative survey. To date, more than 50 Indigenous and non-Indigenous cancer patients and health professionals have participated in qualitative interviews.

Feedback of results to participating hospitals and health providers is integral to this Queensland study. Menzies will use the results to develop, implement and evaluate strategies to improve the patient's journey to achieve optimal and culturally appropriate care for Indigenous people with cancer.

HEALTH PROMOTION CQI ON THE WORLD STAGE

Nikki Percival was invited to present her work, on the application of continuous quality improvement (CQI) to health promotion in Indigenous primary health care, at a World Health Organization (WHO) consultation on strengthening infrastructure to promote health in Manila, the Philippines.

Nikki and a small group of passionate health promotion advocates (located in research, health care and policy settings) have developed a suite of tools and resources to support health promotion quality improvement, and continue to advocate its use across Australia. In 2014, the team will work with the Northern Territory Department of Health to develop a model for the widespread implementation of this package.

CASE STUDY: NETWORK ILLUMINATES INDIGENOUS CANCER

Professor Alan Cass, Gail Garvey, Christine Potter, Pat Anderson and Professor Ian Olver

The National Indigenous Cancer Network (NICaN), of which Menzies is a key partner, encourages and supports collaboration around Indigenous cancer research and delivery of services to Indigenous people with cancer, including their carers and families.

"NICaN is a critical part of the translation of Indigenous cancer research into practice," explains senior research fellow, Associate Professor Gail Garvey.

"It's a network and online resource that makes sure that what's known about cancer in Indigenous Australians is available for use by people with cancer, as well as their families, practitioners, policy makers and researchers."

CASE STUDY: TRAINING A SPOTLIGHT ON IMPLEMENTATION

A joint project focused on improving the delivery of Indigenous health programs was recently completed by Menzies, La Trobe University and the Lowitja Institute.

Project leader, Jenny Brands, explains the background to the project: "Money, effort and time are sometimes wasted by the ineffective implementation of new programs."

"Our project gathered evidence about strategies and tools to enhance the implementation of programs in Indigenous health settings, potentially helping to 'Close the Gap' more rapidly."

Jenny Brands workshopped the tools with stakeholders in various states and territories during 2013, and co-presented a workshop in Adelaide with Dr Malcolm King, director of the Canadian Institute of Aboriginal People's Health.

Collaborative project leader, Jenny Brands

RESEARCH HIGHLIGHTS:
WELLBEING AND PREVENTABLE CHRONIC DISEASES

Menzies' Wellbeing and Preventable Chronic Diseases Division seeks to advance the health of Indigenous Australians by researching the causes, prevention and treatment of chronic disease, and translating the results into practical solutions.

Our research examines the many environmental factors that shape behaviour over the life course and contribute to the development and progression of chronic disease. We strive to inform policy and practice through conducting 'real world' research that demonstrates the most effective solutions to chronic disease.

STUDY PROBES BRAIN FUNCTION IN HEAVY ALCOHOL USERS

Chronic alcohol use rapidly reduces levels of thiamine (vitamin B1), resulting in brain dysfunction known as Wernicke-Korsakoff's Syndrome.

Menzies researchers investigated nutrient levels and cognitive abilities of patients with heavy alcohol use from the Alice Springs Hospital. Because of high dose thiamine treatment policies and high readmission rates, no patient was found to be thiamine deficient. Nevertheless, 37 per cent were deficient in magnesium, which is an important co-factor for thiamine utilisation. Furthermore, low levels of magnesium were correlated with poor cognitive performances.

The results may be relevant to not only alcohol affected patients in hospital, but also to those entering residential rehabilitation or receiving outpatient treatment.

TRIALLING HEALTHY EATING STRATEGIES IN REMOTE COMMUNITIES

The Menzies Nutrition Team recently introduced the SHOP@RIC trial to 20 remote community stores located throughout the Northern Territory.

During the six-month trial, fruit and vegetables, water and diet soft drinks will be discounted by 20 per cent. In half of the communities these reductions will be accompanied by an in-store education strategy promoting the healthier options.

As the main provider of food for remote Australians, community stores provide a unique opportunity to assess healthy eating strategies. The SHOP@RIC trial will help to identify cost effective interventions to improve nutrition in remote Indigenous communities.

WORKING COLLECTIVELY TO BRING GOOD FOOD TO ALL

Establishing a sustained healthy eating environment was the aim of the Good Food Systems study, a four-year partnership between the Menzies Nutrition Team and four remote Aboriginal communities.

The partnership included anyone in the community who was interested in or involved in the availability or distribution of food. Led by a local Aboriginal community member and supported by an external facilitator, the multi-sector group worked collectively to develop a framework and tools to support health-promoting behaviour change.

The study enhanced the ability of the communities to make decisions regarding food and helped to equip them with the knowledge and tools to implement a healthy eating environment.

DRAMATIC DECLINE IN PETROL SNIFFING

A Menzies report has revealed markedly lower levels of petrol sniffing in Aboriginal communities where low aromatic fuel has been introduced.

Petrol sniffing in 15 such communities fell by over 80 per cent in just seven years, from 546 sniffers in 2005–07, to 160 in 2008, to 97 in 2011–12.

While the overall trend is welcome, petrol sniffing remains a problem in a number of communities, reinforcing the need for a continued commitment to the regional rollout of low aromatic fuel.

The report is part of a larger, ongoing study of the impact of low aromatic fuel in Aboriginal communities conducted in partnership with Bowchung Consulting Pty Ltd.

CASE STUDY: REDUCING EXPOSURE OF BABIES TO SECOND-HAND SMOKE

Exposure to second-hand smoke remains the most preventable risk factor for respiratory infections in babies and children.

Menzies tested whether a family-based program, delivered by Aboriginal community workers, could reduce new babies' exposure to second-hand smoke and so reduce respiratory infections.

"We worked with Danila Dilba in Darwin and researchers in Auckland working with Maori families," said head of Menzies' Tobacco Control program, Associate Professor David Thomas.

"While we did not find that the program reduced exposure to second-hand smoke and respiratory infections, the good news is that most families already reported rules banning smoking in their homes and cars."

Menzies have developed web-based resources and an app for health staff to use to talk with families about second-hand smoke.

Venetta Nalorman with her boys Aldrick and Alan James in Maningrida

RESEARCH HIGHLIGHTS: GLOBAL AND TROPICAL HEALTH

A Menzies vaccine trial field site in Vietnam

Menzies' Global and Tropical Health Division partners with health research organisations and institutions across the Asia–Pacific to improve the research, skills and governance capacity of regional partners. A major focus here is the treatment and elimination of malaria, tuberculosis, pneumococcal disease, rheumatic fever, melioidosis and child malnutrition.

In tropical North Australia, research focuses on *Staphylococcus aureus* and *Streptococcus pyogenes*, bacteria that cause skin disease, melioidosis and infectious diseases including *Acinetobacter*, influenza and hepatitis B.

GLOBAL AND TROPICAL HEALTH RESEARCH AREAS AND PARTNERS

TACKLING SKIN DISEASE IN THE TOP END

Working with the Wellcome Trust Sanger Institute, the Menzies Skin Team has used whole genome sequencing to describe two new species of *Staphylococcus*. This deepens our understanding of the basic biology of this important pathogen.

The team also reviewed four years of invasive staphylococcal infections in children and found that infections often resulted in deep abscesses in the lungs and bones, with MRSA (antibiotic-resistant *S. aureus*) common. The team was able to make recommendations to the Royal Darwin Hospital clinicians to use antibiotics active against MRSA when patients initially present with these syndromes.

Lastly, the team is studying the transmission of *S. aureus* between renal dialysis patients to determine whether strains originate from the skin or the nose. Preliminary results indicate that nasal carriage of *S. aureus* is unconnected with *S. aureus* skin infections, suggesting that skin infections are directly transmitted. The results of this study will inform infection control practices to reduce invasive bloodstream infection.

WHOLE GENOME SEQUENCE AND EXPOSURE EVENTS LEAD TO NEW INSIGHTS INTO MELIOIDOSIS

The Darwin Prospective Melioidosis study is in its 24th year and continues to provide new insights into how the bacteria causing melioidosis result in such a diversity of infections. Whole genome sequencing has shown how the bacterium can adapt to survive within humans by changing its genetic code.

This has major implications for future melioidosis diagnostics, therapeutics and vaccines. Exposure events, leading to both asymptomatic infection and severe disease, have been defined and further insights provided into clinical aspects of melioidosis.

ASSESSING THE RELIABILITY OF TESTS FOR STIs IN CHILDREN

When a child tests positive for a sexually transmitted infection (STI), it is generally assumed that sexual abuse has occurred. This is a particularly sensitive issue in remote Indigenous communities in the Northern Territory.

By studying the STI agents found in health clinic bathrooms, where the diagnostic urine tests are conducted, Menzies researchers determined the likelihood of a positive test occurring through contamination. The team concluded that the probability of any one urine sample being contaminated was very low, but not zero.

These findings emphasise the importance of testing duplicate samples and of obtaining urine samples from young children in uncontaminated environments.

INCREASING BLOOD SUPPLY TO REDUCE ORGAN DAMAGE IN MALARIA

With their Indonesian and Malaysian partners, the Malaria Team has identified new mechanisms of disease in severe malaria. Using near-infrared resonance spectroscopy in people with severe falciparum malaria, they found that reduced blood supply to vital organs is not only due to parasite obstruction, but also to an inability of blood vessels to open up in compensation.

The team also undertook the first clinical trial of L-arginine in severe malaria, an agent that increases nitric oxide and therefore blood supply to vital organs. Trials of higher doses of L-arginine continue in Bangladesh.

Blood spots from cross-sectional surveys conducted in central Jiangsu and Hainan provinces of China

CASE STUDY: NOVEL TREATMENT TO FIGHT TB

Measurement of nitric oxide in exhaled breath in a person with tuberculosis

Menzies researchers working in Indonesia have uncovered a link between low levels of the gas nitric oxide in the lungs of tuberculosis (TB) patients and a reduced ability of the body to fight the deadly disease.

Dr Anna Ralph, the key investigator on the project says, "These findings pave the way for new nitric oxide-based treatments for TB and are a particularly welcome breakthrough considering the emergence of antibiotic-resistant strains."

"Working in partnership with Malaysian colleagues in Sabah, Malaysia's hardest-hit TB hotspot, we will trial new treatments for TB patients, including an inhaled agent to boost lung nitric oxide," Dr Ralph said.

CASE STUDY: IMPROVING NUTRITION ACROSS BORDERS

Building capacity and a knowledge base for developing countries to use targeted interventions to improve nutrition outcomes has underpinned the creation of a range of tools and training developed by Menzies nutrition projects.

"Malnutrition continues to be a major issue for developing countries in our region, especially in Timor Leste," explains Nutrition Team leader, Heather Grieve.

"In Timor Leste, nutrition staff have been trained in delivering a nutrition and food security course developed in partnership between The Fred Hollows Foundation and Menzies," she said.

Nutritionists from the Ministry of Health in Timor Leste have also been involved in the development of the Nutrition Critical Appraisal Tool, which allows nutrition stakeholders to prioritise nutrition interventions, according to their situation, and assess and plan nutrition programs using best-practice and evidence-based approaches.

Mana Epifania Deolinda Marques, Ministry of Health Timor Leste, with a course participant and midwife in Laclabur sub district

PUBLICATIONS – FEATURED

At the Menzies School of Health Research, our researchers are committed to conveying their research findings to a wide audience. In 2013, Menzies researchers published over 209 publications, including 167 peer-reviewed articles (these are preliminary data). This ensures our research is effectively translated, leading to better outcomes for Indigenous and non-Indigenous Australians, as well as disadvantaged populations in our global neighbourhood. Below is a selection of highlighted publications from 2013.

Valery PC, Youlden DR, Baade PD, Ward LJ, Green AC, Aitken JF (2013). Cancer survival in Indigenous and non-Indigenous Australian children: what is the difference? Cancer Causes Control 24(12): 2099–2106.

This is the first time that researchers have compared national childhood cancer survival rates of Indigenous and non-Indigenous Australian children. Indigenous children are 36 per cent more likely to die within five years of a cancer diagnosis than non-Indigenous children.

Condon JR, Garvey G, Whop LJ, Valery PC, Thomas D, Gruen R, Cunningham J (2013). Aboriginal and Torres Strait Islander Australians and cancer. Cancer Forum 37(1): 28–30.

It is increasingly evident that inequalities exist for Indigenous people with cancer. Here we reviewed current literature for risk factors, screening, diagnosis, treatment, survival, as well as palliative care.

Douglas NM, Lampah DA, Kenangalem E, Simpson JA, Poespoprodjo JR, Sugiarto P, Anstey NM, Price RN (2013). Major burden of severe anemia from non-falciparum malaria species in Southern Papua: a hospital-based surveillance study. PLoS Medicine 10(12): e1001575.

This analysis of 250,000 patients found that vivax malaria is a major contributor to severe anaemia and death in young children, and identified the importance of recurrent episodes of malaria in causing severe anaemia. These findings highlight the importance of control strategies that target all malaria parasites, not just *Plasmodium falciparum*.

Ralph AP, Yeo TW, Salome CM, Waramori G, Pontororing GJ, Kenangalem E, Sandjaja, Tjitra E, Lumb R, Maguire GP, Price RN, Chatfield MD, Kelly PM, Anstey NM (2013). Impaired pulmonary nitric oxide bioavailability in pulmonary tuberculosis: association with disease severity and delayed mycobacterial clearance with treatment. The Journal of Infectious Diseases 208(4): 616–626.

The lungs of Indonesian patients with TB produce low levels of the TB-killing molecule, nitric oxide (NO), and the amount of NO that a patient can produce determines how quickly TB organisms are killed after they start treatment. Treatments that increase the lungs' ability to produce NO may have a role in combination with regular TB antibiotics, particularly as resistant strains emerge. A clinical trial of an inhaled agent to boost lung NO will commence shortly.

Tong SY, Sharma-Kuinkel BK, Thaden JT, Whitney AR, Yang SJ, Mishra NN, Rude T, Lilliebridge RA, Selim MA, Ahn SH, Holt DC, Giffard PM, Bayer AS, Deleo FR, Fowler VG Jr (2013). Virulence of endemic nonpigmented northern Australian Staphylococcus aureus **clone (clonal complex 75,** S. argenteus**) is not augmented by staphyloxanthin. The Journal of Infectious Diseases 208(3): 520–527.**

An unusual variant of staph, *Staphylococcus argenteus*, is common in Aboriginal populations in the Top End and lacks the pigment that makes staph a golden colour. We determined that this variant is less virulent than other staph and that the golden pigment may be less important for causing disease than previously thought.

Price EP, Sarovich DS, Mayo M, Tuanyok A, Drees KP, Kaestli M, Beckstrom-Sternberg SM, Babic-Sternberg JS, Kidd TJ, Bell SC, Keim P, Pearson T, Currie BJ (2013). Within-host evolution of Burkholderia pseudomallei **over a twelve-year chronic carriage infection. mBio 4(4): e00388-13.**

Using whole genome sequencing we showed how the bacterium that causes melioidosis can adapt to survive within humans by changing its genetic code. This has major implications for future melioidosis diagnostics, therapeutics and vaccines.

McRobb E, Kaestli M, Mayo M, Price EP, Sarovich DS, Godoy D, Spratt BG, Currie BJ (2013). Melioidosis from contaminated bore water and successful UV sterilization. The American Journal of Tropical Medicine and Hygiene 89(2): 367–368.

Using DNA sequence typing, two cases of melioidosis were linked to an unchlorinated domestic bore water supply. UV treatment of this water eradicated *Burkholderia pseudomallei* and is recommended for households where individuals may be at a heightened risk of contracting melioidosis.

Douglas NM, Simpson JA, Phyo AP, Siswantoro H, Hasugian AR, Kenangalem E, Poespoprodjo JR, Singhasivanon P, Anstey NM, White NJ, Tjitra E, Nosten F, Price RN (2013). Gametocyte dynamics and the role of drugs in reducing the transmission potential of Plasmodium vivax**. The Journal of Infectious Diseases 208(5): 801–812.**

This paper from antimalarial clinical trials in Thailand and Indonesia highlights that preventing *Plasmodium vivax* relapses from the dormant liver stages is critical in reducing the transmission of the parasite.

Maple-Brown LJ, Brimblecombe J, Connelly PW, Harris SB, Mamakeesick M, Zinman B, O'Dea K, Hanley AJ (2013). Similarities and differences in cardiometabolic risk factors among remote Aboriginal Australian and Canadian cohorts. Diabetes Research and Clinical Practice 100(1): 133–141.

This study reports that although Aboriginal Australians and Canadians share very high rates of chronic conditions, these two populations display striking differences in body build. Consequently, waist or waist-hip ratio are the preferred measures of obesity to identify cardiometabolic risk.

Brimblecombe J, Ferguson M, Liberato SC, O'Dea K, Riley M (2013). Optimisation modelling to assess cost of dietary improvement in remote Aboriginal Australia. PLoS One 8(12): e83587.

No information exists on the cost of dietary improvement for Indigenous people in remote Australia. Modelling a 12-month cross-section of population-level purchased food, we showed that large shifts in diet in remote Aboriginal Australian populations are needed to achieve national nutrition targets.

Brimblecombe J, Maypilama E, Colles S, Scarlett M, Dhurrkay JG, Ritchie J, O'Dea K (2014). Factors influencing food choice in an Australian Aboriginal community. Qualitative Health Research 24(3): 387–400.

We gathered detailed accounts of mostly older people's views on food in one remote Aboriginal community to help build a better understanding of diet and food behaviour. Access to traditional food, knowledge of the contemporary food system and food affordability were key factors that people said shaped current eating patterns in their community.

Cairney S, O'Connor N, Dingwall KM, Maruff P, Shafiq-Antonacci R, Currie J, Currie BJ (2013). A prospective study of neurocognitive changes 15 years after chronic inhalant abuse. Addiction 108(6): 1107–1114.

This is the first prospective longitudinal study to demonstrate that in the absence of lead encephalopathy, specific cognitive and neurological impairments arising from chronic inhalant abuse (i.e. petrol sniffing) are completely reversible with 15 years' abstinence.

Valery PC, Morris PS, Byrnes CA, Grimwood K, Torzillo PJ, Bauert PA, Masters IB, Diaz A, McCallum GB, Mobberley C, Hare KM, Chang AB (2013). Long-term azithromycin for Indigenous children with non-cystic-fibrosis bronchiectasis or chronic suppurative lung disease (Bronchiectasis Intervention Study): a multicentre, double-blind, randomised controlled trial. The Lancet Respiratory Medicine 1(8): 610–620.

Bronchiolitis is one of the most common acute lower respiratory tract infections in infants. This paper outlines a multicentre study conducted in the Top End, Central Australia, Torres Strait and Auckland.

Smith-Vaughan HC, Chang AB, Sarovich DS, Marsh RL, Grimwood K, Leach AJ, Morris PS, Price EP (2013). Absence of an important vaccine and diagnostic target in carriage- and disease-related nontypeable Haemophilus influenzae**. Clinical and Vaccine Immunology 21(2): 250–252.**

This is the world's first report on nontypeable *Haemophilus influenzae* (NTHi) variants lacking an important vaccine and diagnostic target. This finding has large potential significance as it will alter the targets for PCR detection of NTHi and affect the production of new vaccines.

www.menzies.edu.au/publications

RESEARCH IMPACT IN THE COMMUNITY

Beyond its commitment to research excellence, Menzies sets its sights on solutions – using our research findings to kick-start and sustain positive change.

Formally, this is known as 'knowledge translation': the exchanges, synthesis and ethically sound allocation of knowledge, derived from research, to advance services and products, strengthen the health care system, and ultimately, improve health.

This snapshot captures just a few of the many areas in which Menzies' knowledge has been transformed into practical, tangible outcomes.

APP TO INCREASE INDIGENOUS ENGAGEMENT IN MENTAL HEALTH ISSUES

Although Indigenous adults are more than twice as likely to experience emotional distress as their non-Indigenous counterparts, their engagement with health services is low.

The new AIMhi Stay Strong iPad app hopes to promote engagement and wellbeing by looking at strengths, worries and the goals or changes people would like to make, in a visually engaging and interactive format.

The Stay Strong iPad app is currently being trialled with selected Northern Territory primary health care providers, with an anticipated public release by the end of 2014. Training and support will be provided to service providers using the app over the next three years.

A screen shot of the AIMhi Stay Strong iPad app

The Menzies AIMhi Stay Strong iPad app

'COUGH PATHWAY' DRAMATICALLY REDUCES CHRONIC COUGHS

Guidelines developed by the Child Health Respiratory Team have slashed the duration of chronic cough from an average 16 weeks to just four weeks.

A standardised clinical management pathway has the potential to reduce the morbidity of chronic cough, unnecessary costs and adverse effects of medications used, as well as encourage early referral of children with chronic lung disease.

In a world first, the team collaborated with four other Australian centres to manage 272 children with a chronic cough (duration longer than four weeks). The researchers devised a child-specific 'cough pathway' which comprised guidelines detailing better ways to diagnose and manage chronic cough in children.

Those children managed in accordance with the cough pathway recovered much more rapidly than those who received standard care. This cough pathway is now in use and will be incorporated into children's cough guidelines around the world.

Menzies' 'Do you cough?' resource package

WHO TO INCORPORATE MALARIA GUIDELINES

The World Health Organization (WHO) is reviewing its international treatment guidelines of malaria in light of a report led by Menzies' Professor Ric Price.

Professor Price, coordinator of the clinical module of the WorldWide Antimalarial Resistance Network, analysed clinical data from almost 80,000 patients to spearhead a report addressing improved dosing strategies of dihydroartemisinin-piperaquine (DP), an anti-malarial drug commonly used in Asia and Africa.

Although the current DP regimen generally results in excellent patient recovery, young children are at higher risk of treatment failure, perhaps as a result of insufficient dosing.

This finding has important global public health consequences for tackling recurrent malaria in vulnerable infants, a situation driving anti-malarial drug resistance. The report has been presented to the WHO, recommending that an increased dose in children should be studied further.

CULTURALLY APPROPRIATE CANCER FACT SHEETS

The Epidemiology and Health Systems Division, in partnership with a clinical advisory group, an Indigenous consultation group and Cancer Council Australia, has developed culturally appropriate cancer fact sheets for Indigenous cancer patients and their families.

The first five of these brochures, *Chemotherapy*, *Surgery*, *Radiotherapy*, *What is cancer?* and *Understanding cancer talk* are now in use throughout Australia via state-based cancer councils.

The fact sheets are available via the resources portal on the Menzies website at www.menzies.edu.au/page/Resources

The Menzies and Cancer Council's Indigenous cancer fact sheets

CAPACITY BUILDING

As well as fostering skills internally, Menzies forges relationships with communities and groups, both locally and in the Asia-Pacific, to deliver courses, qualifications and training.

Our aim is to go beyond the role of the traditional researcher, thereby building the capacity and skills of those with whom we work.

TACKLING RHD IN THE PACIFIC REGION

The Pacific Rheumatic Heart Disease (RHD) Prevention and Control program helps ministries of health in Nauru, Kiribati, Tuvalu and the Solomon Islands develop RHD prevention programs.

Despite challenges, including natural disasters and communication difficulties, the program has made significant progress in the areas of data collection, management and reporting, health worker training and enhanced disease surveillance.

By mid-2014, more than 4000 children will have been screened using portable echocardiography, over 400 health workers trained, and national registers and systematic changes introduced to improve service delivery for patients. Baseline burden of disease data are now available for all four countries.

A young Solomon Islands boy participates in the RHD Prevention and Control program

Anne Dairiyi and Moira Munra with Menzies nutrition resources in Palumpa

BUILDING INDIGENOUS CAPACITY IN NUTRITION

Opportunities to better understand nutrition and the nutritional content of foods were just some of the highlights for a group of community-based Indigenous nutrition graduates.

Participants were required to collect dietary intake data and participate in nutrition training sessions as part of both the Certificate II in Child Health Research and the Statement of Attainment Level IV for the core unit 'Provide nutritional guidance for specific health care.'

Eleven and 25 people, respectively, successfully completed the courses, which aimed to build research skills of people in communities and develop an IT skill set relevant to nutrition software and databases.

Mark Mayo shows workshop participants in Miri, Sarawak, how to secure soil samples

INFECTIOUS DISEASE EDUCATION IN MALAYSIA

Over the past year, members of the Global and Tropical Health Division have continued their capacity building activities in Sabah and Sarawak, Malaysia. Their focus has been to enhance research capacity in infectious disease areas, including malaria, melioidosis, tuberculosis and meningitis.

In September 2013, the Melioidosis Team conducted a three-day workshop in Miri, Sarawak for 60 participants, including physicians, public health officers, nurses and veterinarians. Training focused on various aspects of melioidosis, such as clinical management, laboratory diagnosis, environmental investigation, veterinary melioidosis and public health management.

The workshop was funded by the Australia-Malaysia Institute—Australian Government Department of Foreign Affairs and Trade, after Yuwana Podin, a Menzies PhD student, secured a grant to undertake capacity building.

In Sabah, Menzies and the Queen Elizabeth Hospital Clinical Research Centre have helped to create the Infectious Diseases Society of Kota Kinabalu, Sabah. The society runs several research projects with Menzies and last year hosted the inaugural Borneo Infectious Diseases conference.

Menzies also assists the society with research, governance and financial capacity.

RESPIRATORY HEALTH COLLABORATION

The Respiratory Health Team, with collaborators from around Australia, New Zealand and the USA, was funded by the National Health and Medical Research Council (NHMRC) as a Centre of Research Excellence in Lung Health.

In collaboration with the Queensland Children's Medical Research Institute in Brisbane, three Indigenous scholars are being supported to complete their higher degrees. In addition, two scholars are being funded to pursue their research interests in lung health.

E-LEARNING MODULES TO BRING CQI LEARNING TO THE COALFACE

Menzies has been developing e-learning modules to bring continuous quality improvement (CQI) to the forefront of health improvement initiatives. Health care staff and managers based throughout Australia will soon have access to Menzies' One21seventy's CQI online learning modules.

Over the past two years, One21seventy project officer, Alison Laycock, has worked with a dedicated steering committee of primary health care CQI leaders and practitioners to develop a set of six online modules.

The modules provide primary health care workers with opportunities to develop a sound understanding of CQI principles and processes, One21seventy resources and how they can be used to improve Aboriginal and Torres Strait Islander health outcomes. This exciting initiative was funded by the Lowitja Institute.

MENZIES AWARD RECIPIENTS

Research divisions awards

Global and Tropical Health

- Professor Bart Currie won the 2013 Charles Darwin University (CDU) Library Open Access Award for having the most publications in CDU eSpace, the university's institutional open access repository
- Evan McRobb, PhD student, won the Becton Dickinson (BD) Award from the Australian Society for Microbiology (ASM). The BD Award is nationally recognised and will financially support Evan to attend and present at the ASM annual meeting in Melbourne, July 2014
- Dr Steven Tong won an Australian Society for Antimicrobials (ASA) Travel Award to present his research titled, 'Whole genome sequencing of ST239 – MRSA and the influence of within-host clouds of variation' at the ASA annual meeting in Sydney, February 2013
- Dr Steven Tong was named the winner of CDU's 2013 Vice-Chancellor's Award for Exceptional Performance in Research: Early Career Researcher category for his work into golden staph, hepatitis B and influenza
- The National Health and Medical Research Council named the Menzies project, 'Tackling preventable diseases: improving rotavirus vaccines', as one of the country's ten best research projects for 2013. This project, led by Professor Ross Andrews, investigated the effectiveness of a vaccine to prevent severe diarrhoea in children.

Wellbeing and Preventable Chronic Diseases

- Professor Alan Cass was recognised for his contributions to kidney health and advancing Indigenous health, winning the Australian and New Zealand Society of Nephrology (ANZSN) 2013 TJ Neale Award at their annual meeting in Brisbane, September 2013
- Dr Jaqui Hughes was named NT National Aborigines and Islanders Day Observance Committee (NAIDOC) Person of the Year for 2013
- Lawurrpa Maypilama, long-serving Indigenous researcher and educator, was awarded an honorary doctorate from CDU, October 2013.

Child Health

- Professor Anne Chang received the 2013 Research Medal from the Thoracic Society of Australia and New Zealand (TSANZ) in recognition of her outstanding contributions to the advancement of knowledge in respiratory medicine and her demonstrated sustained excellence in the field of lung health research.

TRAILBLAZER OF ABORIGINAL HEALTH HONOURED WITH MENZIES MEDALLION

The founder of the longest and largest study of Aboriginal people in Australia has been named as the recipient of the 2013 Menzies Medallion.

Associate Professor Sue Sayers, a long-serving Darwin paediatrician, was presented with the award in recognition of her outstanding contributions to improving Aboriginal health for more than 20 years.

From 1987–1990, she recruited 686 Aboriginal babies born at Royal Darwin Hospital and launched the Aboriginal Birth Cohort (ABC) study.

In presenting the award, Menzies founding director, Professor John Mathews AM, said Dr Sayers had left an indelible mark on the landscape of Aboriginal health.

"Her important results have been fed back to the Aboriginal communities involved, as well as being published in academic literature."

2013 Menzies Medallion recipient, Associate Professor Sue Sayers and Professor Alan Cass

EARLY CAREER RESEARCHER AWARD: STEVEN TONG

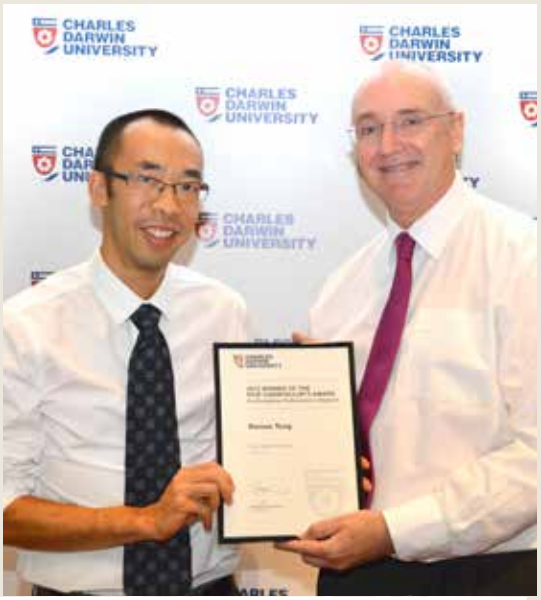
"The burden of infectious disease is high in Indigenous populations in Northern Australia and patterns of disease differ compared to elsewhere in Australia and the rest of the world," says Dr Steven Tong, winner of the 2013 Early Career Researcher Award – part of CDU's Vice-Chancellor's Award for Exceptional Performance in Research.

"My research proposes to deepen our understanding of infectious diseases such as that due to *Staphylococcus aureus* (golden staph), hepatitis B and influenza, by applying cutting-edge technologies to answer clinically relevant questions."

A senior research fellow with research interests in infectious diseases affecting Indigenous people, the award recognised the quality of Steven's peer-reviewed literature, his capacity to attract research income, and the end-user impact of his research.

"Ultimately, I hope to prevent transmission of infections, improve vaccine strategies and find better targets for treatment."

"Winning the Early Career Researcher Award continues to drive me to uncover fresh facts to determine the public health importance of such findings, and then pursue interventions to improve health outcomes."



Dr Steven Tong was presented his award by CDU Vice-Chancellor, Professor Barney Glover

Fellowships

- Dr Julie Brimblecombe – Future Leader Fellowship, the Heart Foundation: 'Impact of a price discount on food spending and cardiovascular health in remote Aboriginal Australia'
- Professor Anne Chang – NHMRC Practitioner Fellowship: 'Improving children's respiratory health through better evidence and knowledge'
- Professor Joan Cunningham – NHMRC Senior Research Fellowship: 'Social and system determinants of Indigenous health: closing the gap in outcomes for Indigenous Australians with cancer'
- Dr Kim Hare – NHMRC Early Career Fellowship: 'Effects of antibiotics, vaccines and environment on the population biology of bacterial respiratory pathogens in Australian Indigenous children – a synthesis of studies'
- Dr Matt Stevens – NHMRC Early Career Fellowship: 'Public health approaches to gambling and smoking in the Aboriginal and Torres Strait Islander population'
- Dr Steven Tong – NHMRC Career Development Fellowship: 'Clinical and genomic aspects of *Staphylococcus aureus* and other infectious diseases in Northern Australia'.

Internal Awards

- The 2013 Menzies Medallion was presented to Associate Professor Sue Sayers in recognition of her long-term commitment to improving Aboriginal health, in particular through the Aboriginal Birth Cohort (ABC) study
- The 2013 Ryan Family Prize was awarded to Irene O'Meara for her outstanding contributions to the Child Health Division, including the Skin Sore trial and the Pneumum Maternal Pneumococcal Vaccine trial
- The 2013 Val Asche Prize was awarded to Zeina Hayes (Graduate Diploma in Public Health) and Rachel Conn (Master of Public Health) for academic excellence
- The inaugural Harry Christian Giese – Research into Action Award was won by Gabrielle McCallum. Gabrielle will use the award to accelerate the widespread adoption of procedures to improve the management of Indigenous children with respiratory illnesses.

CASE STUDY: ROTAVIRUS VACCINE PROJECT RECOGNISED AMONG NATION'S BEST

Chief investigator, Professor Ross Andrews

A Menzies project investigating the effectiveness of a vaccine to prevent severe diarrhoea in children has been profiled in the National Health and Medical Research Council's (NHMRC) publication, *Ten of the Best Research Projects 2013*.

Rotavirus is the most common cause of severe diarrhoeal disease in infants and young children globally.

Chief investigator, Professor Ross Andrews, said the recognition highlighted an important body of work in improving vaccines for infectious diseases.

"Understanding which factors influence immune responses to rotavirus vaccines is likely to bring us closer to improved immunisation strategies against this disease."

Over a two-year period, nurses at the Royal Darwin Hospital and Alice Springs Hospital identified children who were admitted to hospital with acute gastroenteritis.

The research showed that vaccination for rotavirus reduced the risk of gastroenteritis by 50 to 60 per cent.

The research team will now shift focus to identify how existing rotavirus vaccines can be delivered more effectively for Aboriginal children.

CASE STUDY: HEALTH ADVOCATE RECEIVES HONORARY DOCTORATE

Long-serving Indigenous researcher and educator, Dr Lawurrpa Maypilama, has been awarded an honorary doctorate by Charles Darwin University (CDU).

A Doctor of Letters, *honoris causa*, was conferred in recognition of Dr Maypilama's outstanding contribution and leadership in Aboriginal health research with Menzies.

Lawurrpa has been an integral part of several Menzies nutrition projects focusing on integrating traditional Indigenous knowledge and ways of knowing to build strong nutrition, health and spirit.

Lawurrpa also played a key role in establishing the Yalu' Marnggithinyaraw Centre at Galiwin'ku, a centre using traditional Yolngu clan structures of governance and management to promote physical, spiritual and emotional health of Yolngu people.

Dr Lawurrpa Maypilama with her Doctor of Letters at CDU's end-of-year graduation ceremony

EDUCATION AND TRAINING

The Education and Training Team is the focal point for learning and training in health research and public health. During 2013, the team negotiated several new challenges contributing to improved research training for community-based researchers and support for research training for the growing cohort of higher degree research (HDR) students.

A highlight for 2013 was the implementation of the vocational education and training (VET) sector consultancy report recommendations. This has consolidated the work conducted across Menzies, culminating in the appointment of Jodi Phillips as the inaugural training coordinator.

Community-based researchers employed on the Childhood Anaemia-Knowledge and Resource Development project in partnership with the Building Capacity to Evaluate and Monitor Dietary Intake in Remote Communities, and the Stores Healthy Options Project in Remote Indigenous Communities (SHOP@RIC), participated in Menzies Certificate II in Child Health Research. A total of 14 certificates and two statements of attainment were issued in partnership with the Northern Territory Department of Health as the registered training organisation.

Menzies also worked with the Community Services and Health Industry Skills Council to develop the Aboriginal and Torres Strait Islander Community Nutrition and Food Security skills set, which was released in the Health Training Package in September 2013.

Kathryn Bannister joined the team in mid-2013 to lead a Fred Hollows Foundation funded project to identify and build the capacity of a cohort of prospective Aboriginal instructors, who will educate trainers to deliver the Talking about Feeding Babies and Little Kids counselling course.

NEW ONLINE PLATFORM FACILITATES STUDENTS' RESEARCH

Menzies has a large cohort of HDR students whose seminar presentations add to the academic environment. Students are supported by their supervisors, the research skills training provided by Charles Darwin University (CDU) and additional research skills training coordinated by Therese Kearns. Dr Suzanne Belton was successful in obtaining a grant from CDU to develop an online platform to enable HDR students to quickly access information about their candidature, and to communicate with others and their supervisors. Entitled 'Research Online Student and Supervisor Support' (ROSSS), the online platform was developed and trialled by members of the Education and Training Team, CDU librarians and Menzies HDR students. ROSSS will be introduced to students and CDU staff and evaluated in 2014.

Menzies higher degree research students, Asha Bowen, Evan McRobb and Michael Binks

DEVELOPMENT AND CONSOLIDATION OF POSTGRADUATE COURSEWORK AWARDS

The high standard of the CDU Master of Public Health and graduate diplomas in public health and health research continues to be recognised among peers, with students evaluating the units above the university average.

The coordination of the research development units, which are core to the Graduate Diploma of Health Research, was greatly improved with the appointment of Dr Sharon Chirgwin.

Two new units were offered in 2013, 'Clinical Trials' and 'Sexual and Reproductive Health', while development of another unit that will be offered in 2014, 'Community Development and Public Health', was also completed.

The two students who graduated with a research thesis as part of their Master of Public Health in 2013 were:

- Judith Myers: *Nutrition practices and sources of advice for families of young children from disadvantaged backgrounds*
- Leigh-ann Onnis: *Emerging trends for mental health in-patient care in the Northern Territory's Top End*.

HIGHER DEGREE RESEARCH (HDR) GRADUATES IN 2013

- Naor Haim Bar-Zeev (PhD): *The contribution of influenza and other respiratory viruses to the burden of pneumonia among Indigenous children in the Top End of the Northern Territory*
- Joshua Hanson (PhD): *Evaluation of volume status, haemodynamics and microcirculatory flow in adult patients with severe falciparum malaria*
- Jaquelyne Hughes (PhD): *The inter-relationships between body build, body composition, body fat distribution, metabolic syndrome and inflammation in adult Aboriginal and Torres Strait Islander people*
- Megan Louise Lawrance (PhD): *Legitimacy, positioning and paradigm: behind the Northern Territory's 'whole-of-government' approach to suicide prevention*

Dr Jaqui Hughes was conferred her Doctor of Philosophy during CDU's mid-year graduation ceremony

- Matthew Stevens (PhD): *Reported gambling problems amongst the Indigenous population of Australia with a focus on the Northern Territory*
- Gregory Wills (Master by Research): *At preschool and ready to learn? An assessment of prerequisite skills for reading and writing in children entering preschool in Darwin, Palmerston and rural areas.*

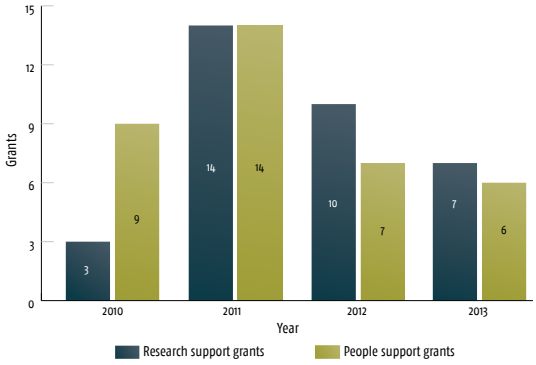
HDR SCHOLARSHIPS ANNOUNCED IN 2013

- Kym Blechynden (PhD): Ethnography of access to maternal health care in rural eastern Indonesia, Australian Postgraduate Award and Indonesian In-country Language Scholarship
- Jessica de Dassel (PhD): Improving the delivery of secondary prophylaxis for rheumatic heart disease in the Northern Territory, Australian Postgraduate Award
- Audra De Witt (PhD): Patterns of cancer care of Aboriginal and Torres Strait Islander cancer patients at the primary health care setting, Australian Postgraduate Award and Menzies PhD in Indigenous Cancer Research Scholarship
- Gwenda Gilligan (PhD): The role of Indigenous cancer survivors in improving cancer awareness and outcomes for Indigenous cancer patients, Australian Postgraduate Award
- Karen Hobday (PhD): Swallowing the pills: exploring the attitudes, barriers and beliefs of women, community members and health care workers of using misoprostol in a home setting for the prevention of post-partum haemorrhage, International Postgraduate Research Scholarship and Australian Postgraduate Award
- Jariah Kaissis (Master by Research): Rheumatic heart disease in pregnancy, Menzies Rheumatic Heart Disease Scholarship
- Mari Lashbrook (PhD): Quality of life and patient-reported outcomes of psycho-social effects experienced by Indigenous and non-Indigenous cancer patients from rural regions, following active cancer therapy – towards a paradigm shift, Postgraduate Research Scholarship
- Alice Mitchell (PhD): Aboriginal young people's experiences of rheumatic fever care from childhood to adulthood, Australian Postgraduate Award
- Pippa Rudd (PhD): Youth and children, justice and welfare, Australian Postgraduate Award
- Jessica Webb (PhD): Molecular epidemiology of *Staphylococcus aureus* and detection of antibiotic resistance and antiseptic genes in *S. aureus* isolates from remote regions of the Northern Territory, Postgraduate Research Scholarship
- Megan Whitty (PhD): Prevention of alcohol related crime and trauma: brief interventions in routine care, Foundation for Alcohol Research and Education Scholarship
- Byron Wilson (Master by Research): Linking science curriculum to career pathways for Aboriginal and Torres Strait Islander students from remote communities, CRC for Remote Economic Participation Scholarship.

RESEARCH AND EDUCATION AT A GLANCE

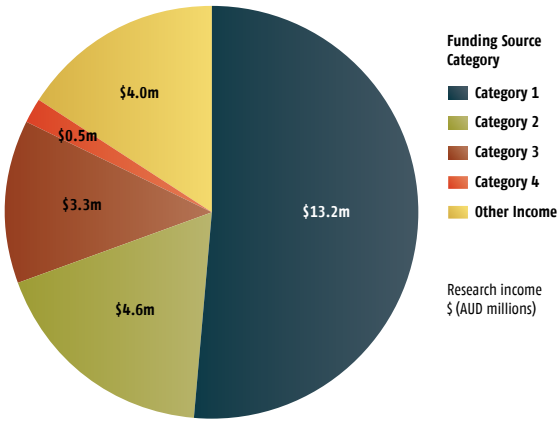
Menzies has again achieved a remarkable outcome in the Australian competitive grants space in 2013. This was highlighted by Menzies outperforming the nation's top 20 universities and the top 10 medical research institutes in terms of the success rate of our grant applications submitted to the National Health and Medical Research Council (NHMRC).

NHMRC grants awarded to Menzies, 2010–2013



Thirty-eight per cent of our grant applications were selected for funding through a highly competitive national process by NHMRC; double the Australian average success rate of 19 per cent. We received more than $9 million in project grant and fellowship funding.

Menzies research income by funding source category 2013



In 2013, a majority of Menzies' research income came from the Australian Government through competitive research grants.

Funding source categories:

Category 1 – Australian Competitive Grants

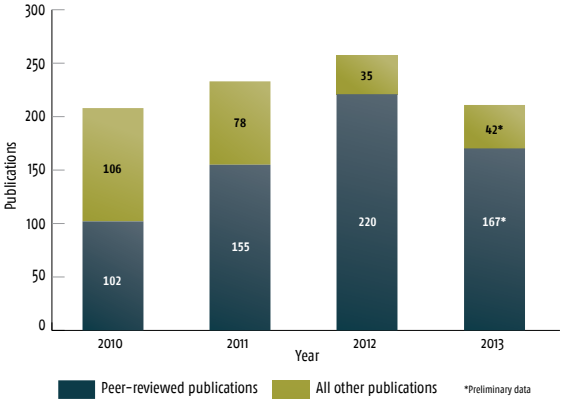
Category 2 – Other public sector income, including grants, tenders and contracts

Category 3 – Australian contracts, donations, international competitive grants and consultancies

Category 4 – Cooperative Research Centres

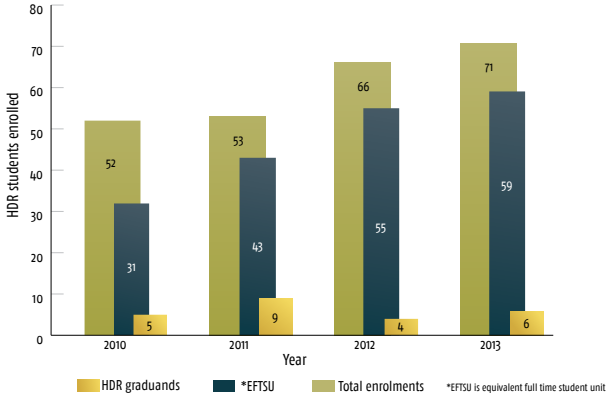
Other income – tenders and consultancies, infrastructure grants, other Australian and overseas grants.

Publications authored by Menzies' researchers, 2010–2013



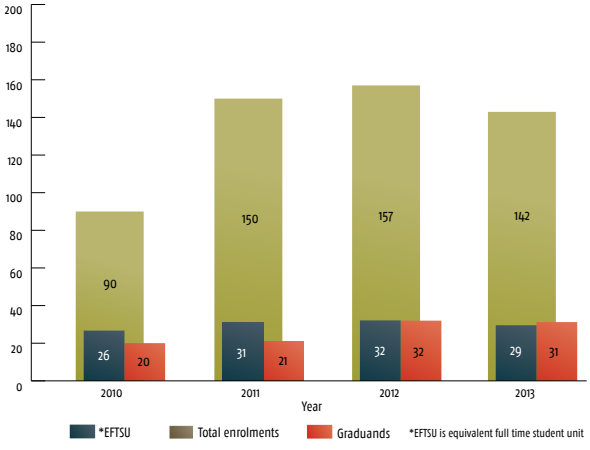
In 2013, Menzies researchers consolidated their publications output with more than 209 publications, with 167 as peer-reviewed articles.

Higher degree by research: PhD and Master Degree by Research: PhD and Master by Research enrolments and graduands



In 2013, there was a steady increase in enrolments in Higher Degree Research including a rise in international students.

Graduate Diploma, Master and Doctor of Public Health Master and Doctor of Public Health enrolments and graduands



In 2013, Menzies consolidated its recent growth in the Graduate Diploma, Master and Doctor of Public Health.

INDIGENOUS CAPACITY BUILDING

The Menzies' Indigenous Capacity Building Unit (ICBU) aims to attract, recruit and retain Indigenous staff by providing opportunities for employment, training and professional development in a culturally safe environment.

With this in mind, implementing the Aboriginal and Torres Strait Islander Employment Strategy 2010–2015 and developing the Reconciliation Action Plan were two key focus areas for the ICBU in 2013.

The overarching goal of the employment strategy is to permanently increase the number of Aboriginal and Torres Strait Islander health researchers, teachers/academics, project managers and administrators working at Menzies.

Activities in 2013 included the Indigenous Mentoring program, cross cultural training for new staff, a remote community visit to engage youth and hosting Indigenous high school students from remote communities in the Northern Territory.

RECONCILIATION ACTION PLAN

In July 2013, a Reconciliation Action Plan (RAP) working group was established to lead the development of a Menzies RAP. At a series of workshops, staff had the opportunity to discuss reconciliation and what could go into a RAP. External stakeholders were also consulted. The working party will complete the RAP in 2014.

Project officer - Indigenous programs, Linda Quall, at a RAP workshop

RHDAustralia deputy director, Claire Boardman, with students from Kormilda College

REMOTE STUDENTS VISIT MENZIES

Ten Indigenous secondary school students, with an identified interest in a career in health and science, visited Menzies as part of a Charles Darwin University-wide tour organised by the Australian Centre for Indigenous Knowledges and Education.

The students were treated to a Welcome to Country, an overview of Menzies and a bush medicine presentation from a Larrakia elder. Following the formalities, the students were shown the laboratory and enjoyed chatting with researchers over afternoon tea.

Feedback was positive with students reporting they were impressed by the passion shown for them and their learning.

INDIGENOUS MENTORING PROGRAM – PILOT

In 2013, ICBU developed and implemented a pilot study for an Indigenous Mentoring program. The program is designed to be a one-on-one mentoring relationship over a six-month period.

All Menzies Aboriginal and Torres Strait Islander employees could participate and potential mentors were provided by Human Resources. Currently, three mentees and their mentors have regular meetings.

YOUTH ENGAGEMENT STRATEGY

The Youth Engagement Strategy (YES) aims to create pathways for young Territorians into science and health careers.

An initiative developed through the Child Health Laboratory Group, the YES gap placement initiative is designed for school leavers with an interest in health research to develop a research skill set and engage youth in science.

The three successful gap year applicants for 2013 were Yuki Ruzsicska (Darwin High), Chris Wevill (Kormilda College) and Katie Montgomery-Quin (Marrara Christian College).

During their time in the lab, Chris and Yuki worked in the Child Health Division focusing on microbiology, with opportunities to do molecular work as well. This included conducting micro runs which involve plating out clinical specimens to identify and isolate specific disease-causing organisms.

NAUIYU GETS HANDS ON WITH SCIENCE

In October 2013 gap students Yuki and Chris partnered with Menzies' Indigenous Capacity Building Unit and CSIRO Education NT for an event to promote the wonders and benefits of science to St Francis Xavier Catholic School, Nauiyu in remote Daly River.

Despite it being their first visit to a remote community, Chris and Yuki relished the opportunity to deliver interactive lessons focusing on the human body and the chemical processes that occur within.

Older students were introduced to the new Pathways program, an initiative giving remote Indigenous students with an interest in a health career, the opportunity to spend a week at Menzies, taking part in various scientific events and tours and learning about a range of career pathways.

Yuki Ruzsicska and Teresita Parry from St Francis Xavier Catholic School, Nauiyu, get hands on with science

Katie Montgomery-Quin and a participant of the ABC study

KATIE JOINS FLAGSHIP STUDIES

Gap student, Katie Montgomery-Quin's work with the Preterm Kidney study saw her manage the day-to-day running of participants' progress through the month-long program, and collect and record data.

This involved finding possible candidates to participate in the study, organising start dates for specimen collection days, labelling and storage of specimens, extracting information from patients' medical charts and entering the collected data into the study database.

After seven months Katie then moved to the historic Aboriginal Birth Cohort and Top End Cohort studies. These studies required Katie to conduct spirometry and heart rate variability tests as part of a broader suite of comprehensive health checks.

MENZIES IN THE COMMUNITY

Students plate bacterial swabs

MENZIES 'SCIENCE SESH'

Menzies' major engagement event with the researchers of tomorrow was held in August as part of National Science Week. This annual event showcases some of the critical research undertaken at Menzies and seeks to inspire Year 11 and 12 students to consider a career in science and health research. More than 90 students from local high schools, including Casuarina Senior College, Darwin High School, Essington International Senior College, Marrara Christian College and St John's College, took part in workshops and experiments led by teams of researchers. Feedback was overwhelmingly positive with over 95 per cent of students saying they either 'really enjoyed' or 'enjoyed' the day.

MENZIES ORATION

Australia's first Indigenous member of the House of Representatives, Ken Wyatt AM MP, delivered his vision for Indigenous health to almost 100 people at the Menzies Oration in October. Throughout his presentation, 'Shifting the bell curve: Prioritising the need and transparency in Indigenous affairs,' Mr Wyatt urged for new and refined approaches to tackle the persistent health disparities in Indigenous populations. Focusing on how to improve efficiencies and effectiveness in service delivery models for urban, rural and remote communities, Mr Wyatt stressed that many of the answers lie in improved accountability and transparency.

Ken Wyatt delivers the 2013 Menzies Oration

From left: Professor John Mathews, Menzies Medallion recipient, Associate Professor Sue Sayers and Professor Alan Cass

WITNESS SEMINAR

The 2013 Witness Seminar retraced some of Menzies' high profile and enduring research projects and reflected on how they have impacted on policy and public health outcomes as part of the 13th biennial conference of the Australian and New Zealand Society of the History of Medicine.

Menzies' founding director and former deputy medical officer with the Australian Government, Professor John Mathews and his presentation, 'The history of Menzies: NT and national perspectives', headlined a pre-eminent line-up of speakers which included Professor Alan Cass, Professor Bart Currie and Associate Professor Sue Sayers.

The Witness Seminar also doubled as the presentation ceremony of the 2013 Menzies Medallion to Associate Professor Sue Sayers.

Professor Alan Cass, Evelyn Roth and Professor Amanda Leach officially launch BEN

CASE STUDY: CLOSE THE GAP DAY CHARITY BREAKFAST

The opportunity to hear Indigenous health experts describe the innovative ways they are closing the gap in ear and hearing health attracted almost 200 people to Menzies' inaugural Close the Gap Day Charity Breakfast on 20 March.

After a sit down formal breakfast, guests heard from leading Menzies researchers and Aboriginal health workers about the importance of good ear health.

The event also doubled as the launch of Menzies' larger than life interactive learning aid, the Big Ear and Nose (BEN).

Donations on the day alone raised more than $5000 which reached the goal of getting BEN to Indigenous children in remote communities in Wadeye and Nguiu.

The 2014 event will hope to build on the success of the inaugural event which saw government, private industry, Indigenous organisations, health professionals and the general public come together to hear how Menzies is working to close the gap.

DONORS AND SUPPORTERS

In 2013, the Development Team began building on Menzies' strong foundation of supporters, reaching out to a new community of donors and partners in Sydney and Melbourne.

Strategic events, focused on current public interest matters, were held targeting high end corporate executives from a wide range of allied industries. These events resulted in Menzies reaching new markets with commitments to Indigenous health and research and valuable corporate-community partnerships are now emerging.

Combined corporate and philanthropic income in 2013 reached an all-time high of over $800,000.

Menzies would like to thank all our donors and supporters. Your ongoing contributions make a huge difference to the health of Indigenous Australians and our Asia-Pacific neighbours.

Simon McKeon speaks about the future of health and medical research

BETTER HEALTH THROUGH RESEARCH

The scope and impact of Menzies research was highlighted to high profile corporate and philanthropic audiences at two events held in Sydney and Melbourne in August.

Former Australian of the Year and chairman of Macquarie Bank – Melbourne, Simon McKeon, presented recommendations from the Commonwealth Government's 2012–2013 *Strategic Review of Health and Medical Research—Better Health through Research*.

These events introduced the work of Menzies to over 80 new individuals and companies, firmly positioning Menzies as a thought leader in medical and health research, innovation and collaboration in Australia - and a worthy recipient of support.

THE HARRY GIESE AWARD FOR RESEARCH INTO ACTION

In 2013, the Giese family established a new annual award at the Menzies School of Health Research in memory of their late father, the Harry Christian Giese – Research into Action Award.

As devoted founding members of Menzies, the Giese family has played a significant and formative role in the establishment of our school. Researchers who are seeking to 'apply their research into measurable action' are encouraged to apply for the award.

This award celebrates Harry Giese's important and enduring legacy enabling work about which he cared deeply to be undertaken for the greatest community impact.

Inaugural winner of the Harry Christian Giese – Research into Action Award, Gabrielle McCallum

MAJOR DONORS AND PARTNERS

Menzies is grateful to the following donors and partners for their generous support in 2013:

Major donors

Andrew Prout
Ann Cole
Belinda Gibson
Bettina Cass
Brandon and Nicki Carp
Chris and John Collingwood
Diana Leeder
East Gippsland Slow Food
Edwina Menzies and Ian Albrey
Ella Stack
Ervin Vidor
Graham Blashki and Evelyn Firstenberg
Heather Henderson
Ian Marett
James Hogben
Julie Crisp
Keith Savage
Laurie Besley
Lynne Walker (MLA)
Maxine Rich
Michael Turner
NextGen Net Pty Ltd
Nick Ferris
Peter Nisbet
Ray and Margaret Wilson Foundation
Richard Ryan AO
Sitzler Pty Ltd
Susan Selwyn
Suzi Hullick
The Eke Family
The Right Worshipful The Lord Mayor of Darwin, Katrina Fong Lim
Tina McDonald
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Verity Sheperdson
Vince O'Brien
WA Hawks Supporters Club (Inc)

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Department of Health and Ageing
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Ministry of Health Timor Leste
Diana and Richard Giese
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John Lyons
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Kidney Health Australia
Korin Gamadji Institute at Richmond Football Club's ME Bank Centre
London School of Hygiene and Tropical Medicine
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Pfizer Australia Pty Ltd
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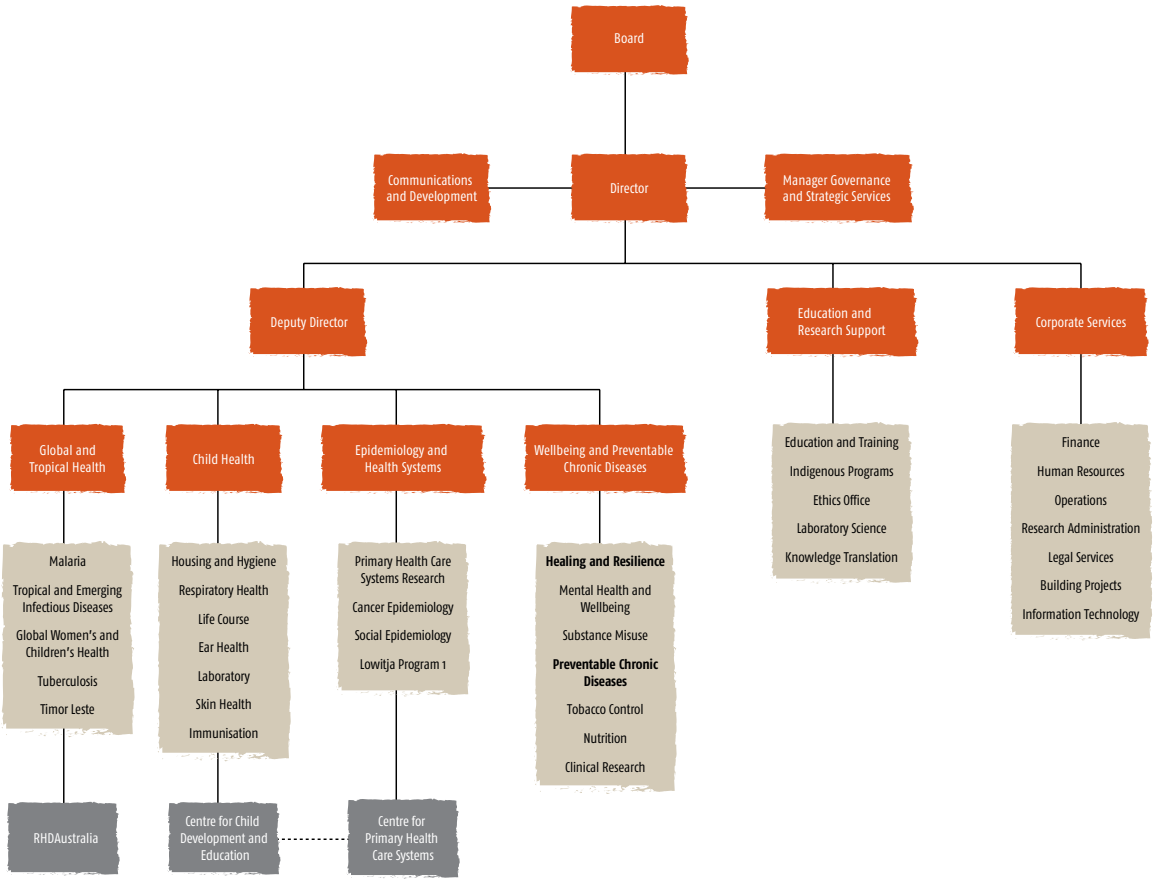
Rebecca Cooper Medical Research Foundation
Richard and Kate Russell
Royal Australian College of Physicians
Sidney Myer Foundation
Simon McKeon AO, Executive Chairman Macquarie Group (Melbourne)
St John's College
The Honda Foundation and Darwin Honda
The Royal Children's Hospital Melbourne
Transplantation Society of Australia & New Zealand
Wellcome Trust
Xavier Catholic College

ORGANISATIONAL STRUCTURE



BOARD

The Menzies School of Health Research is an independent body corporate under the control of a governing board. Menzies is also a controlled entity of Charles Darwin University (CDU).

Menzies School of Health Research is required to furnish an annual report and audited financial statements to an annual general meeting, with financial results consolidated within those of CDU.

Menzies accounts are subject to audit by the Auditor-General of the Northern Territory.

Professor Simon Maddocks (Chair)
Director, Science Partnerships,
South Australian Research and
Development Institute

The Honourable Justice Hilary Hannam
Family Court of Australia,
Parramatta Registry

The Honourable Clare Martin (Deputy Chair)
Director, Clare Martin and Associates

Mr Rowan Johnston
Principal with Greenhill & Co.

Professor Alan Cass
Director,
Menzies School of Health Research

Mr Jeffrey Moffet
Chief Executive, Department of Health

Professor Sharon Bell
Deputy Vice-Chancellor,
Charles Darwin University

Mr Richard Ryan AO (Treasurer)
Director of a number of public and
government boards

Professor David Celermajer AO
Scandrett Professor of Cardiology,
University of Sydney

Mr Robert Wells
Director, Australian Primary Health
Care Research Institute
From June 2013

Professor Barney Glover
Vice-Chancellor,
Charles Darwin University

Mr Ken Davies
Chief Executive, Northern Territory
Department of Education

FINANCIAL STATEMENT

Income Statement for the year ended 31 December 2013*

	Notes	2013	2012
Income from continuing operations		**$**	$
Australian Government financial assistance	2	**43,988,402**	18,990,079
NT Government financial assistance	3	**4,979,859**	5,955,990
Fees and charges	4	**2,449,308**	1,931,691
Investment income	5	**1,738,024**	1,956,398
Consultancy and contract research	6	**6,636,005**	6,816,315
Other revenue	7	**2,798,545**	2,809,499
Total revenue from continuing operations		**62,590,143**	38,459,972
Gain on disposal of assets		**11,310**	996
Total income from continuing operations		**62,601,453**	38,460,968
Expenses from continuing operations			
Employee related expense	8	**24,007,856**	24,691,585
Depreciation	9	**292,079**	351,454
Repairs and maintenance	10	**762,041**	733,230
Impairment of assets		**-**	2,000
Other expenses	11	**13,861,044**	12,909,808
Total expenses from continuing operations		**38,923,020**	38,688,077
Operating result (deficit) from continuing operations		**23,678,433**	(227,109)
Operating result attributable to members		**23,678,433**	(227,109)

Statement of Comprehensive Income for the year ended 31 December 2013*

	2013	2012
	$	$
Operating result (deficit) for the year	**23,678,433**	(227,109)
Gain (loss) on revaluation of investments	**3,983**	(4,092)
Total Comprehensive Income (Loss)	**23,682,416**	(231,201)
Total Comprehensive Income (Loss) attributable to members	**23,682,416**	(231,201)

* To be read in conjunction with the Notes to the Financial Statements

Statement of Financial Position for the year ended 31 December 2013*

	Notes	2013	2012
Assets		**$**	$
Current Assets			
Cash and cash equivalents	12	**33,091,302**	34,890,444
Trade and other receivables	13	**2,301,238**	2,100,039
Other financial assets	14	**1,174,658**	3,042,210
Other non-financial assets	15	**311,714**	261,183
Total Current Assets		**36,878,912**	40,293,876
Non-Current Assets			
Property, plant and equipment	16	**35,007,113**	7,756,016
Other financial assets	14	**24,346**	20,363
Total Non-Current Assets		**35,031,458**	7,776,379
Total Assets		**71,910,370**	48,070,256
Current Liabilities			
Trade and other payables	17	**2,038,395**	2,487,749
Provisions	18	**3,162,777**	2,620,380
Other liabilities	19	**353,166**	33,864
Total Current Liabilities		**5,554,339**	5,141,992
Non-Current Liabilities			
Provisions	18	**290,174**	544,822
Total Non-Current Liabilities		**290,174**	544,822
Total Liabilities		**5,844,513**	5,686,814
Net Assets		**66,065,857**	42,383,442
Equity			
Reserves	20	**9,992,080**	10,988,211
Retained earnings	21	**56,073,776**	31,395,231
Total Equity		**66,065,857**	42,383,442

* To be read in conjunction with the Notes to the Financial Statements

Statement of Changes in Equity for the year ended 31 December 2013*

	Reserves (Note 20)	Retained Surplus (Note 21)	Total
	$	$	$
Balance at 1 January 2012	**15,318,889**	**27,295,754**	**42,614,643**
Profit or loss	0	(227,109)	(227,109)
Net revaluation loss on investments	(4,092)	0	(4,092)
Total comprehensive income	15,314,797	27,068,645	42,383,442
Transfers	(4,326,586)	4,326,586	0
Balance at 31 December 2012	**10,988,211**	**31,395,231**	**42,383,442**
Balance at 1 January 2013	**10,988,211**	**31,395,231**	**42,383,442**
Profit or loss	0	23,678,433	23,678,433
Net revaluation loss on investments	3,983	0	3,983
Total comprehensive income	10,992,194	55,073,663	66,065,857
Transfers	(1,000,113)	1,000,113	0
Balance at 31 December 2013	**9,992,080**	**56,073,776**	**66,065,857**

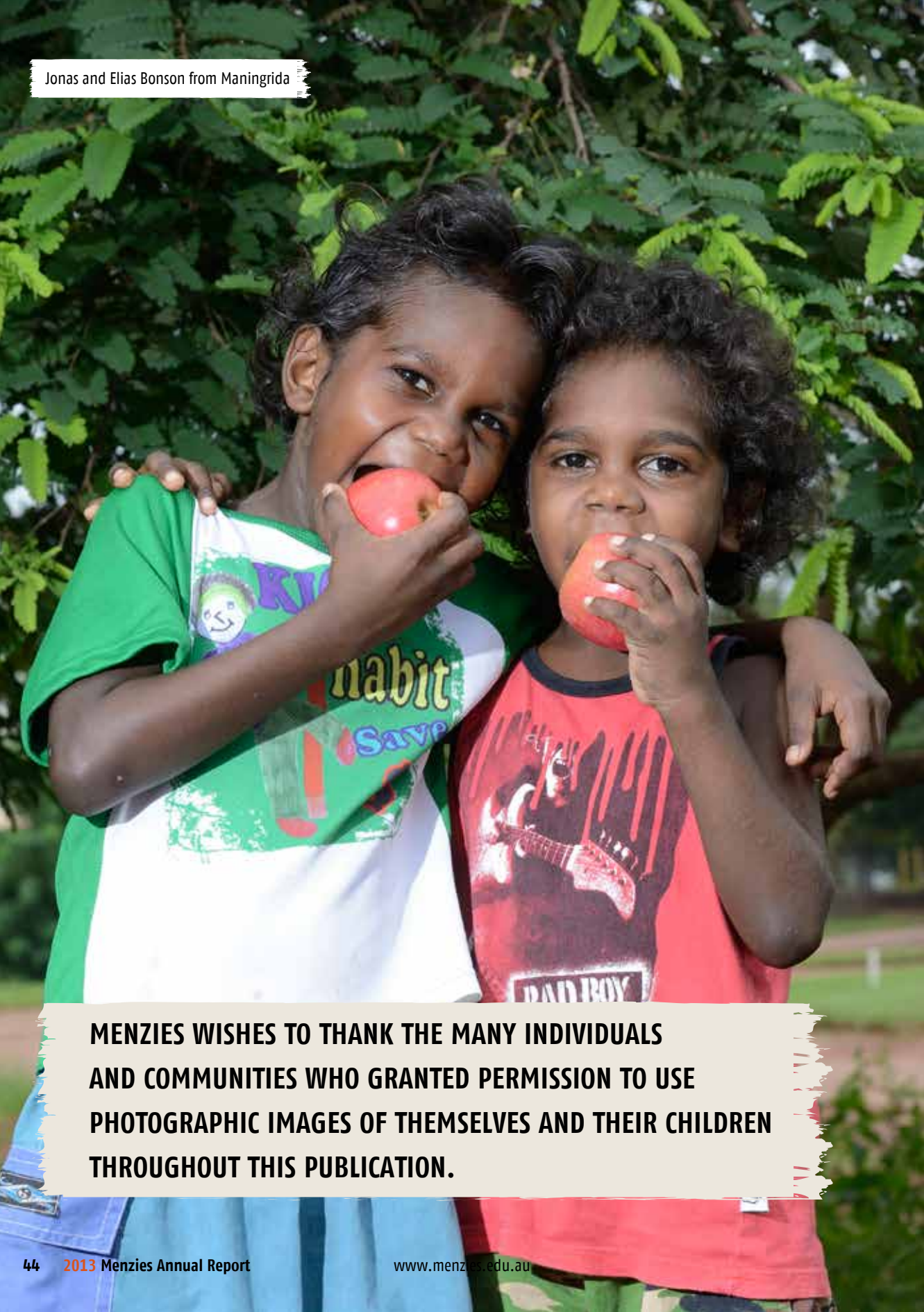
The objective of these summary statements is to provide an overview of Menzies' financial affairs for the year ending 31 December 2013. Readers may wish to obtain a copy of the full audited financial statements available upon request.

* To be read in conjunction with the Notes to the Financial Statements

Statement of Cash Flows for the year ended 31 December 2013*

	Notes	2013	2012
		$	$
Cash flow from operating activities			
Australian Government grants		**43,120,883**	19,597,770
NT Government funding		**5,002,461**	6,072,463
Receipts from student fees		**2,774,783**	2,039,361
Interest received		**1,738,024**	1,955,772
Consultancies and contract research		**7,275,835**	6,331,954
Other receipts		**4,473,516**	2,603,372
Payments to suppliers		**(14,932,673)**	(13,503,364)
Payments to employees		**(23,720,106)**	(24,695,347)
Net cash provided by operating activities	26	**25,732,723**	401,981
Cash flows from investing activities			
Proceeds from sale of plant and equipment		**22,730**	16,973
Payments for property, plant and equipment		**(27,554,596)**	(4,116,760)
		(27,531,866)	(4,099,787)
Net cash outflow from investing activities		**(1,799,143)**	(3,697,806)
Net increase in cash and cash equivalents	12	**34,890,444**	38,588,250
Cash and cash equivalents at the beginning of the year	12	**33,091,302**	34,890,444

* To be read in conjunction with the Notes to the Financial Statements



Jonas and Elias Bonson from Maningrida

MENZIES WISHES TO THANK THE MANY INDIVIDUALS AND COMMUNITIES WHO GRANTED PERMISSION TO USE PHOTOGRAPHIC IMAGES OF THEMSELVES AND THEIR CHILDREN THROUGHOUT THIS PUBLICATION.

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