

# SAHMRI Annual Report

## 2019





A segment from SAHMRI's  
Inaugural Reconciliation  
Action Plan (RAP) 2018-2020  
Artwork *Karrawirra Pari* by  
Allan Sumner

## Acknowledgement of country

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The South Australian Health and Medical Research Institute (SAHMRI) acknowledges the Kurna People as the Traditional Custodians of the Adelaide region, where our buildings are located.

We recognize the Kurna peoples' cultural, spiritual, physical and emotional connection with the land. We honour and pay our respects to Kurna elders, both past and present, and all generations of Kurna people, now and into the future.

We acknowledge the other Traditional Owners who live across South Australia, where SAHMRI research may be conducted.





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**Professor Steve Wesselingh**  
SAHMRI Executive Director



# Letter from the Executive Director

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As I sat down to write this letter, reflecting on 2019, I felt an incredible sense of pride. It was a significant year – perhaps our most significant to date – as we strive to achieve SAHMRI’s goal of conducting medical research with greater impact for the greater good.

We presented our new self to the world in 2019 with a rejuvenated theme structure to better reflect our research and translational strengths and better enable the internal and external collaborations that are at the core of SAHMRI.

The new structure was decided after consultation with SAHMRI staff and partners, focusing on scientific integrity while promoting a sense of belonging for our community and maintaining language that is accessible to the public.

We believe our new vision better captures our vision for the future of health and medical research and the health care system - to create and deliver optimised precision health care solutions for all Australians.

Our four research themes are: SAHMRI Women and Kids, Aboriginal Health Equity, Precision Medicine and Lifelong Health. You’ll be able to learn a lot more about our themes and the programs, groups and projects that sit within them, in this Annual Report.

Our new structure also includes Research to Impact – a collection of groups that live SAHMRI’s commitment to translating scientific discovery into tangible benefits for our communities. This includes our Health Policy Centre, our registries and clinical trials platforms, our consumer engagement arms and our business units including development and entrepreneurship.

Another goal of our restructure was to champion SAHMRI’s commitment to equality and development opportunities. We are incredibly proud to be increasing the visibility of the next generation of research leadership, to have achieved gender equity at the Deputy Director level, to have eight of our 17 research programs led by women and five of those 17 programs led by researchers who identify as Indigenous Australians.

SAHMRI continues to grow our revenue streams, particularly in the highly competitive areas of research funding and commercial income.

In 2019, our Aboriginal Health Equity Theme Leader, Professor Alex Brown, was announced as the co-chair of the panel overseeing a historic \$160 million Indigenous Health Research Fund. The fund will target projects across five key areas - guaranteeing a healthy start to life, improving primary health care, overcoming the origins of inequality in health, reducing the burden of disease and addressing emerging challenges.

Alex’s position as a national leader in diabetes research also earned his team more than \$6 million funding to address the grossly disproportionate number of Aboriginal and Torres Strait Islander people suffering foot complications or vision loss as a result of diabetes.

Attracting funds is one thing. Just as important – perhaps more so is attracting great people. SAHMRI, with the help of our partners, continues to welcome some of the finest scientific minds to our community.



**Professor Maria Makrides,**  
Deputy Director and  
SAHMRI Women and Kids  
Theme Leader

Notable additions to SAHMRI in 2019 include *Tall Poppy of the Year* winner Dr Nigel Rogasch, a University of Adelaide Senior Research Fellow, who's at the vanguard of using transcranial magnetic stimulation to remap neural pathways in the brain as a treatment for conditions such as depression and schizophrenia; and Associate Professor Dan Thomas, who returned from Stanford University to continue his pursuit of novel cancer treatments with SAHMRI and The University of Adelaide's Faculty of Health and Medical Sciences.

In 2019 we also welcomed Flinders University Professor of Cardiology Derek Chew as Leader of our Heart and Vascular Health Program and Co-Leader of our Lifelong Health Theme. Derek is a clinical and interventional cardiologist as well as a clinical trialist and cardiovascular researcher.

Derek and his team were behind one of SAHMRI's more prominent publications of 2019 – the culmination of a world-first randomised trial that was embedded in practice at Adelaide's public hospital emergency departments.

The project, which was published in *Circulation* and featured at last year's *European Society of Cardiology Congress*, demonstrated a safe and effective way to significantly reduce diagnosis times for people who present to EDs with a suspected heart attack, while simultaneously reducing unnecessary admissions to hospital.

Bringing great people to SAHMRI is one thing but we never lose sight also of supporting, promoting and celebrating the people who are already with us.

Professor Maria Makrides, our SAHMRI Women and Kids Theme Leader, had her standing as one of Australia's finest scientists confirmed with election as a Fellow of the Australian Academy of Science. Academy Fellows are elected by their peers for ground-breaking research and contributions that have a clear impact. Maria has been recognised as an international leader in maternal-infant nutrition who has made major contributions including changing the composition of infant formulae, changing international food laws and continues to investigate the optimal use of omega 3 fatty acid supplementation as a simple and cost-effective intervention against preterm birth.



In 2019 our Precision Medicine Theme Leader Professor Tim Hughes and his team solidified their reputation as true global leaders in Chronic Myeloid Leukaemia (CML) research. The highly esteemed New England Journal of Medicine published a paper about their guiding role in an international clinical trial that demonstrated the safety and efficacy of a next generation Tyrosine Kinase Inhibitor called Asciminib. Tim continues to take great strides in the field of CML research, some 30 years after he was involved in establishing Tyrosine Kinase Inhibitors – or TKIs – as a drug that transformed this leukaemia from a terminal disease into a long-term manageable chronic condition.

Tim continues to climb the summits of research but in 2019 he quite literally climbed a mountain too. Tim led an international team including researchers, clinicians and people living with CML to summit Mt Kilimanjaro – the highest mountain in Africa. The team raised more than \$425,000 to fund research and treatment of CML, at the same time raising an incredible amount of awareness about this disease that's predicted to become the most common blood cancer in Australia within 20 years.



## \$425,000 raised

Professor Tim Hughes and team on the summit of Mt Kilimanjaro, raising funds and awareness for CML

Our registries and other SAHMRI Impact groups too continue to deliver high quality research and tangible community benefits - not least of all our Registry of Senior Australians (ROSA). ROSA's *Journal of Gerontology* paper demonstrated that, contrary to popular misconception, dementia rates in Australia are actually on the decline. This sort of validated data is crucial to inform policy and other preparations for health care and aged care.

ROSA has consistently produced research of the highest quality. This has seen the registry become a voice of authority and provider of vital evidence to the ongoing *Royal Commission into Aged Care Quality and Safety*.

SAHMRI's Core Facilities and Research Support Services also continue to be an integral part of our business, serving SAHMRI's researchers and partners and providing income streams through commercial operations.

By any measure, 2019 has been a successful and rewarding one for SAHMRI. We continue to set new benchmarks for income and research outputs, which translates to impact for the health and wellbeing of the communities we support.

Our continued success is not ours alone, but only possible because of the strength of the partnerships we enjoy with the state's three universities, its hospitals and the health department. As I mentioned earlier, 2019 was arguably our most significant year to date, and I have every confidence SAHMRI will continue to grow and prosper through 2020 and beyond.

**Professor Steve Wesselingh**  
SAHMRI Executive Director





**Mr Raymond Spencer**  
SAHMRI Chair of the Board



# Letter from the Chair of the Board

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**It is my pleasure to introduce to you the 2019 South Australian Health and Medical Research Institute (SAHMRI) annual report. Under the leadership of our Executive Director, Professor Steve Wesselingh, SAHMRI continues to thrive.**

It was the hard yards of 2018 that paved the way for advances we enjoyed in 2019, such as significant progress on the project that will deliver a new building to the immediate east of SAHMRI's existing North Terrace building. This building will incorporate the Australian Bragg Centre for Proton Therapy and Research, which will house Australia's first proton therapy unit. Proton therapy will revolutionise treatment for people who have cancers in highly sensitive areas and for children in particular.

This \$500 million project provide us with much-needed capacity to expand our research operations. It will also deliver the Adelaide BioMed City precinct the proximity to industry that will complete the pathway from basic science to translation including commercialisation.

SAHMRI again secured major grants and published papers in highly influential international journals throughout 2019, but these achievements are just one measurement of our success. We are a citizen of the South Australian community, the research community, the health care community and many communities besides. Importantly, we relish being a respectful and responsible citizen and strive to lead by example.

Our Reconciliation Action Plan (RAP) is a key plank in that commitment. As we passed the halfway mark of our RAP, I can proudly say we have achieved close to 75 per cent of the deliverables we had set ourselves.

In 2019 we also finalised our Aboriginal and Torres Strait Islander Cultural Protocols Document. The protocols were developed with input and advice of staff, the Indigenous Collective and, of course, with Indigenous community perspectives at front of mind. The document is a comprehensive, living resource to guide behaviour, business and research at SAHMRI. It's to assist in building a culturally competent and respectful environment within SAHMRI and to inform our people's dealings with other individuals and communities.

The development throughout 2019 of a cultural awareness training framework was another major body of work that will be implemented in early 2020.



**Professor Steve Wesselingh**

accepting the Athena SWAN Institutional Bronze Award on behalf of SAHMRI

## SAHMRI's commitment to diversity and inclusivity was reiterated in 2019 through our successful application for the Athena SWAN Institutional Bronze Award under the Science in Australia Gender Equity accreditation program.

While *gender equity* is explicit in the title, this award represents a broad commitment to equity in all areas, creating an environment at SAHMRI where everyone is not just welcomed but inspired to get the best out of themselves and those around them. Like our RAP, the SAGE accreditation program is an ongoing process that is embedded within SAHMRI, guided and evaluated by our Self-Assessment Team.

Once again in 2019, SAHMRI partnered with the South Australian Living Arts (SALA) Festival. This was arguably our most striking exhibition to date, but also one that more than ever united the science and art worlds. Working in the medium of glass blowing, Dr Naomi Hunter's *Brain Trust* exhibition depicted brains and neurons of different designs, sizes and colours. Naomi was resident at SAHMRI with neurobiologist Dr Cedric Bardy (SAHMRI Lifelong Health Theme) and his team to inspire and inform her work. She dedicated the collection to her mother and father who are living with dementia.

We at SAHMRI continue to attract support from many philanthropists who truly believe in the work being done here and share our vision for the future health and wellbeing of our state. During 2019, we received more than \$1.8 million in philanthropic donations to purchase state of the art equipment, recruit and train research stars and fund research projects. All of this fuels the life-saving potential of the work we undertake. More than 800 people have now purchased virtual windows in our SAHMRI Windows campaign, and we have exciting changes for the Windows program in the near future.

In 2019 we welcomed more than 1,000 people through our doors on public tours, including school groups. This was a fantastic opportunity to share SAHMRI's vision with the community and showcase some of our researchers and facilities. A significant number of these people took tours to coincide with ABC Radio Adelaide's *Morning Show* doing a live broadcast from SAHMRI's North Terrace building. Host David Bevan broadcast his entire show from SAHMRI, interviewing several of our researchers and inviting the public to visit for tours and a series of health checks.

I've said many times that being involved in SAHMRI has been a highlight in my career and that continues to be the truth. I'd like to take this opportunity to thank the SAHMRI team for their hard work in making the institute the success that it is today.

A handwritten signature in black ink, which appears to read 'Ray Spencer'.

**Mr Raymond Spencer**  
SAHMRI Chair of the Board



# Board Members

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## **MR RAYMOND SPENCER**

Non-executive Chair

Mr Spencer is Chair and a board member of a number of private and public companies in Australia and the USA. Mr Spencer was appointed to the Board as Chair on 21 December 2009.



## **MR ALAN YOUNG AM**

MSAA, SAFin, AFPA (Snr), FAICD, SIA (Aff), C.UnivFlin  
Non-executive Deputy Chair

Mr Young was co-author of the Shine Young Report, a review of health and medical research in South Australia commissioned by the South Australian Government which led to the Establishment of SAHMRI. Mr Young is Co-Founder and Joint Managing Director of Baker Young Stockbrokers Limited. Mr Young is also Chairman and a board member of a number of private and public companies in Australia and the USA. In 2009 in the Queen's Birthday Honours, Mr Young was awarded the Order of Australia for service to the community, particularly through business advisory roles within health, medical research and educational organisations including in the visual arts. Mr Young was appointed to the Board on 21 December 2009.



## **PROFESSOR MIKE BROOKS**

Non-executive Director

Professor Mike Brooks has held the position of Deputy Vice-Chancellor and Vice-President (Research) at the University of Adelaide since 2008. He took on the additional role of Provost in 2018, responsible for oversight of the University's five faculties. Professor Brooks is a Fellow of the Australian Computer Society and a Fellow of the Australian Academy of Technological Sciences and Engineering. Professor Brooks was appointed to the Board on 25 February 2019.



**MR ROSS HASLAM**  
Non-executive Director

Mr Haslam is a Chartered Accountant with extensive expertise in corporate responsibility, audit procedures, investment due diligence and company restructures. He has widespread experience across the health sector and is also a Director of the Women's and Children's Health Network (WCHN) Governing Board. Mr Haslam is Chairman of the Group's Audit, Finance and Risk Committee. Mr Haslam was appointed to the Board on 31 July 2018.



**EMERITUS PROFESSOR JOHN HOPWOOD AM,**  
FAA, FAHMS, Dip.App.Chem, PhD, FRCPA (Hons)  
Non-executive Director

John Hopwood is an Emeritus Professor at The University of Adelaide and affiliate Professor in the Department of Pharmacy at the University of South Australia. Professor Hopwood was appointed to the Board on 21 December 2009.



**PROFESSOR CAROLINE MCMILLEN**  
Non-executive Director

Professor McMillen commenced in the role as Chief Scientist for South Australia in October 2018 after serving as Vice-Chancellor of the University of Newcastle for 7 years from 2011. Professor McMillen was previously a member of the Board between 2009 and 2011 and was reappointed to the Board on 1 February 2019.



**MS JENNY RICHTER AM**  
BA MBA Grad Dip Health Admin GAICD FACHSM  
Non-executive Director

Ms Richter was previously the Chief Executive Officer (CEO) of Central Adelaide Local Health Network (CALHN) and the Deputy Chief Executive of SA Health. She holds non-executive directorships on Southern Adelaide Local Health Network; Cancer Council SA; Cancer Council Australia and the Independent Hospital Pricing Authority. Ms Richter was appointed to the Board on 16 February 2018.





**PROFESSOR ROBERT SAINT AM**  
**BSC (HONS), PHD**  
 Non-executive Director

Professor Saint is Deputy Vice-Chancellor (Research) at Flinders University. He was previously a member of the Australian Research Council College of Experts and was a standing member of the Prime Minister's Science, Engineering and Innovation Council. Professor Saint was previously a member of the Board between 2014 and 2015 and was reappointed to the Board on 1 August 2017.



**PROFESSOR STEVE WESSELINGH**  
**BMBS, FRACP, PhD**  
 Executive Director

Professor Wesselingh is the Executive Director of the Group. He is an Infectious Diseases Physician with research interests in Neurovirology, HIV, microbiome research and vaccine development. Professor Wesselingh was appointed to the Board on 1 February 2011.



**PROFESSOR ALASTAIR BURT**  
**BSc (Hons), MBChB, MD (Hons)**  
 Non-executive Director

Professor Burt is the Executive Dean of the Faculty of Health and Medical Sciences at The University of Adelaide and is the Editor in Chief of "MacSweens Pathology of the Liver" and the journal "Histopathology". Professor Burt was appointed to the Board on 16 May 2017 and resigned on 1 March 2019.

# SAHMRI at a glance

SAHMRI remains committed to recruitment and retention of the best health and medical researchers. To date, more than 65 SAHMRI staff have been recruited to Australia.

**900**  
SAHMRI  
community

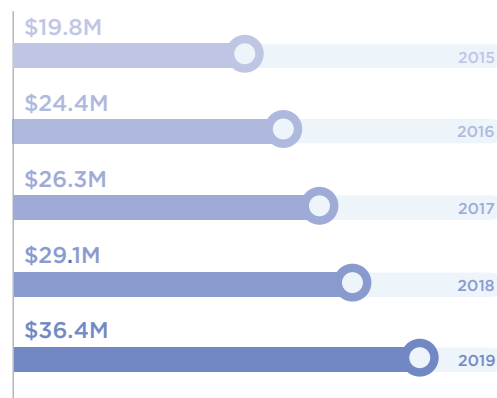
**313**  
staff

**200**  
students

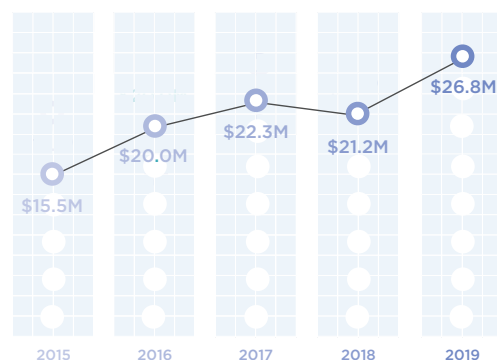
**371**  
partners

**16**  
volunteers

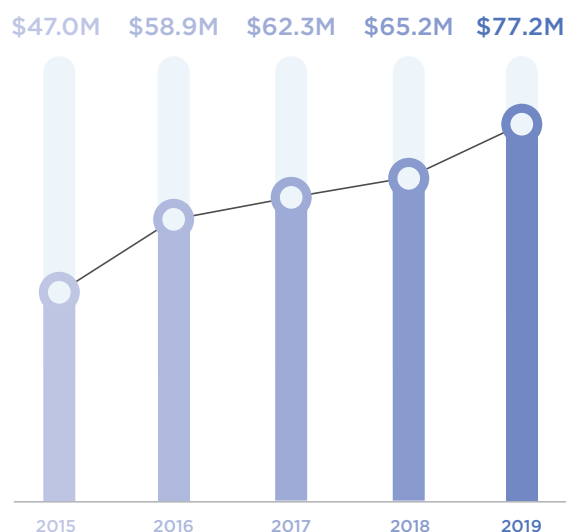
## Research funding



## Commercial income



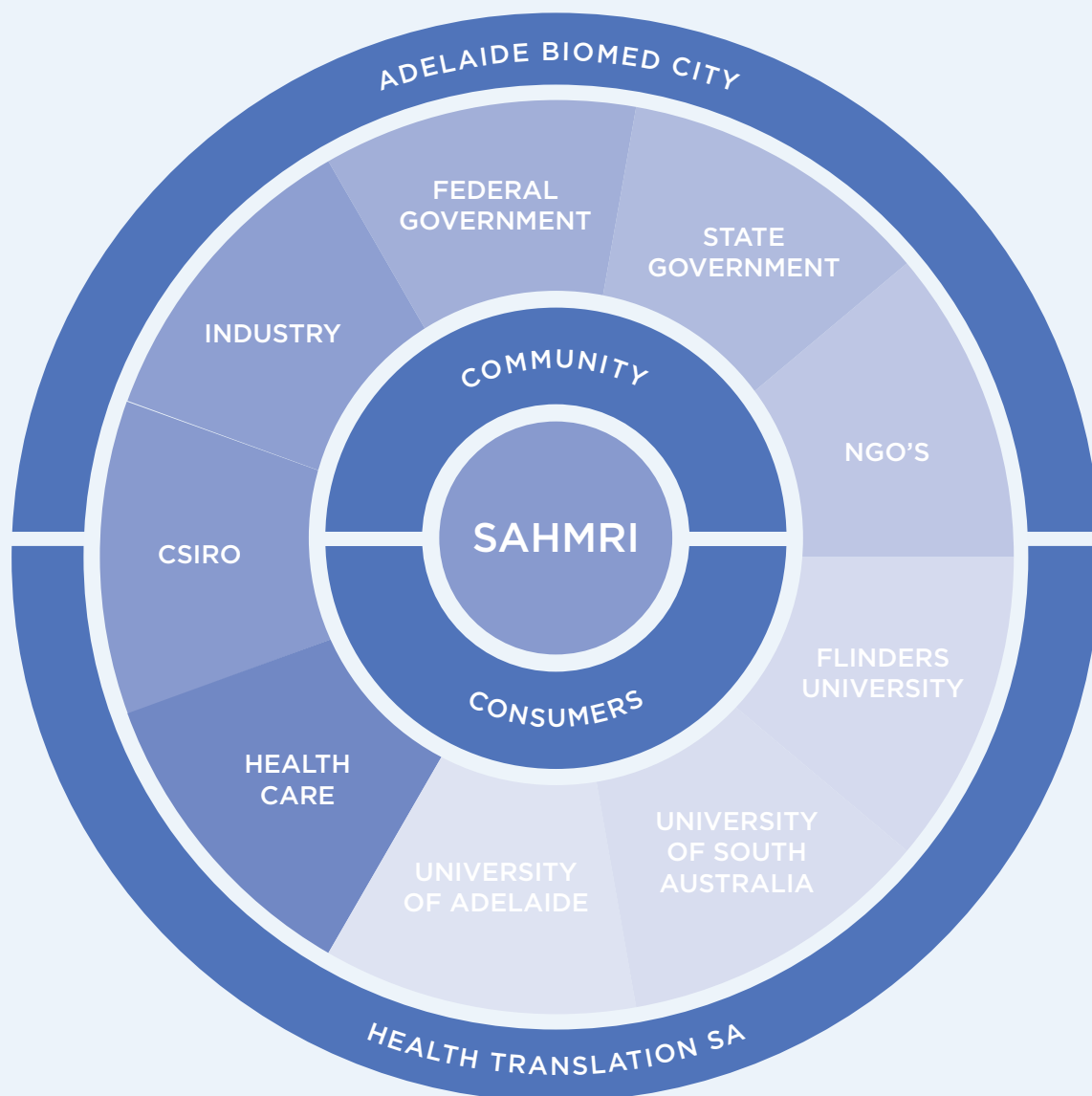
## SAHMRI turnover





# SAHMRI Partnerships

Collaboration and innovation are in the DNA of SAHMRI, and underpin our culture. Below shows the integration of SAHMRI's partnerships and how these synergies create a strong foundation for translational research.



# Reconciliation Action Plan (RAP) update

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From the outset, SAHMRI's vision has been to incorporate Aboriginal health research across all its themes and as a key platform of SAHMRI business and recognises that Reconciliation provides the foundation for improving the health and wellbeing of Aboriginal and Torres Strait Islander peoples.

Reconciliation must influence and inform the culture of SAHMRI and be embedded into all aspects of SAHMRI research.

SAHMRI acknowledges Aboriginal and Torres Strait Islander people as the first peoples of Australia and the longest continuous living culture in the world and recognise the injustices of the past, and that Aboriginal people do not experience the same equality of rights and life expectancy as other Australians. The Institute respects the resilience of Aboriginal and Torres Strait Islander people in the face of adversity.

On SAHMRI's pathway to reconciliation, its research will be directed by the historic and contemporary knowledge of Aboriginal and Torres Strait Islander peoples. The organisation is committed to working in equal partnership with Aboriginal organisations, communities and individuals, building trust and respect, deepening our understanding of and respect for Aboriginal and Torres Strait Islander peoples and cultures.

SAHMRI will create opportunities for Aboriginal and Torres Strait Islander people in health and medical research, building a culturally responsive workforce across SAHMRI, and include ways of working which unite the physical, spiritual and emotional wellbeing of all people.

Together, the SAHMRI community will improve the health and wellbeing of Aboriginal and Torres Strait Islander communities within South Australia and nationally, using the learnings from research focused on Aboriginal populations to improve the health of all Australians.

SAHMRI will use the principles of the South Australian Aboriginal Health Research Accord as a foundation for reconciliation in all activities and will monitor the progress and impact of our plan and revise its strategies accordingly.

The organisation is committed to achieving a combined vision of a reconciled Australia through working with SAHMRI partners.

On 13 February 2018, the 10th Anniversary of the Apology to the Stolen Generation and their Descendants, SAHMRI launched its inaugural Reconciliation Action Plan (RAP) for February 2018 – February 2020, which received endorsement from Reconciliation Australia.



# 2019 Highlights

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- The delivery of Online Cultural Awareness Training
- The development of an Aboriginal and Torres Strait Islander Cultural Protocols document
- Hosting annual National Reconciliation Week and NAIDOC Week events.

## CURRENTLY UNDERWAY

- SAHMRI Aboriginal and Torres Strait Islander Workforce Strategy
- SAHMRI Aboriginal and Torres Strait Islander Engagement Strategy





# SAGE and Gender Equity

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As a young and rapidly-growing organisation, SAHMRI embarked on the SAGE Athena SWAN Bronze Award accreditation process in September 2015.

This process encourages organisations to review their workforce data, protocols, practices and organisational culture, and identify actions that can be achieved over a four-year plan to address equity barriers affecting females in STEM.

Females working at SAHMRI comprises 65 per cent of our workforce, thus identifying the key areas we could improve to retain and progress the careers of females in the STEM fields was important to our organisation and is also in line with the Athena SWAN charter. The three main priorities, identified through engagement and consultation with the SAHMRI community included:

1. Enhancing visibility and representation of women by celebrating their contributions
2. Promoting career progression for women
3. Embedding flexible work arrangements into our culture.

SAHMRI submitted its Athena SWAN Bronze Award application in March 2019, and after being successful was awarded to SAHMRI in September 2019. We have a four-year action plan to implement that stretches from encouraging all staff to utilise our flexible working arrangements strategies, supporting staff through grant funding cycles to improving the visibility of our rising female leaders.









# Research integrity and compliance

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SAHMRI recognises the importance of good governance and encourages ethical research conduct based on mutual respect, trust and honesty for all staff, students, partners and visiting researchers.

As such, SAHMRI complies with the Principles, Responsibilities and Definitions of the Australian Code for the Responsible Conduct of Research, and other national guidelines in relation to values and community engagement. In addition, SAHMRI has strong university associations and as such supports the principles of the Voluntary Code of Best Practice for the Governance of Australian Public Universities.

SAHMRI is proud to publicly report that the Institute has had no instances of non-compliance with responsible research conduct.



# Consumer engagement

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Consumer engagement in research has been shown to add value to health and medical research when done meaningfully and in an active partnership. Recognised by the NHMRC, community and consumer engagement in research aims to produce more relevant, impactful and transparent research.

SAHMRI and Health Translation South Australia (HTSA) are demonstrating commitment to contemporary consumer and community engagement in health and medical research. The SAHMRI Community Advisory Group are providing strategic oversight with implementing the SAHMRI Consumer and Community Engagement Framework (2015) and reporting progress directly to the SAHMRI Board. This collaborative membership includes consumers, Health Consumers Alliance SA, HTSA and SAHMRI researchers. The aim within both SAHMRI and HTSA is to create a culture where our research is informed by the people who are affected by it.



## 2019 HIGHLIGHTS

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- The increasing number of consumers joining the Community Interest Register, with 60 community members registered by the end of the year. The purpose of the Register is to enable access to a database of community members who want to inform health and medical research within South Australia.
- The second annual 'Connecting with Community' Forum was held in October 2019, bringing together over 60 consumers and researchers currently undertaking consumer engagement activities across SAHMRI, HTSA and Adelaide BioMed City.

# Adelaide BioMed City

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**SAHMRI is located with Adelaide BioMed City (ABMC) - the \$3.8 billion health and biomedical innovation and translation hub in the heart of Adelaide.**

ABMC brings together five partners; SAHMRI, Central Adelaide Local Health Network (CALHN), the University of Adelaide, the University of South Australia and Flinders University, and in turn, brings together capabilities in research, education, clinical care and industry to drive innovation and translation. The biomedical hub, located in the northwest corner of Adelaide's CBD, has the infrastructure, knowledge and people to move basic research and ideas to new treatments, diagnostics and products.

ABMC's goal is to build impact, leverage investment and inform evidence-based healthcare and innovation in ways that could not be achieved separately. Currently, over 2,000 highly skilled medical researchers and more than 10,000 staff are working in the neighbourhood. These numbers will increase with a proposed new \$1.5 billion Women's and Children's Hospital and a new building The Australian Bragg Centre, formerly known as SAHMRI II, which will house Australia's first proton therapy unit.

ABMC is part of a broader ecosystem of interdisciplinary innovation hubs such as the entrepreneurial ecosystem in smart sensors, robotics, big data, AI at Lot14 and Tonsley Innovation District with its focus on medical devices and assistive technologies. The future of healthcare is interdisciplinary and the remarkable health a medical researchers, clinicians, students and businesses in this innovation hub work closely with experts in nano-photonics, chemistry, biological science, engineering, Artificial Intelligence/Machine Learning and collectively solve our health challenges.

## GOVERNANCE

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ABMC Partners contribute to strategic and operational oversight of ABMC, with each Partner contributing two board members. ABMC Partners have a diverse range of external stakeholders including SA government departments and authorities (Department of Health and Wellbeing, Department of Premier and Cabinet, Department of Planning, Transport and Infrastructure, Department of State Development, Renewal SA, Health Industries SA), local government (Adelaide City Council) and other groups including the Adelaide Convention Centre, and the Riverbank Precinct. Each of the five founding partners are financially supporting the project and have committed to a five-year initial agreement.



## SAHMRI'S INVOLVEMENT

SAHMRI is currently represented on the ABMC Board by its Executive Director, Professor Steve Wesselingh, and Chief Operating Officer, Ms Amanda McIlroy. Professor Wesselingh was the former chair of the ABMC Board for almost three consecutive years until February 2020. In addition, SAHMRI staff sit on the Research Advisory Group and all ABMC working groups and have been instrumental in the initial planning of the pilot activities of the precinct. SAHMRI accommodates the ABMC Office in the SAHMRI building and provides support in finance, legal, human resources and marketing.

# Adelaide BioMed City



# SAHMRI 2 (Australian Bragg Centre for Proton Therapy and Research)

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**SAHMRI 2 is a \$500+ million addition to the largest health and biomedical precinct in the Southern Hemisphere, Adelaide BioMed City.**

Construction on the 15 storey premises is expected to commence in early 2020 and practical completion is anticipated by late 2023. It will generate an estimated \$1 billion in economic activity and support approximately 1,000 jobs throughout the construction period, with many long-term jobs following completion.

The heart of the building sits at its bunker – a three-level research and treatment facility specialising in next generation cancer treatment. The Australian Bragg Centre for Proton Therapy and Research will be the first proton therapy Centre in Australia and will be overseen by the clinical and research expertise of SAHMRI. The proton therapy centre will deliver the most technologically advanced, precision radiation therapy available in Australia. It is anticipated the centre will provide treatment to approximately 600-700 patients per annum, with around half of these expected to be children and young adults. The first patients are expected to be treated approximately 18 months after the building is completed.

In line with government objectives for developing proton therapy capability and increasing jobs, a variety of health care professionals representing niche specialties will ultimately be protrained here, addressing current and future capacity constraints and surging health care demands.

SAHMRI 2 will incorporate world-class facilities for cutting edge research by SAHMRI and lab and office space for SA Health and biomedical companies keen to be part of Adelaide's burgeoning biomed industry and educational institutions.

It has been made possible through an innovative partnership between the private sector and Federal and State governments. South Australia's leading developer Commercial & General has been a driving force behind the project in collaboration with SAHMRI, designing, funding and developing the business case.





The Australian Bragg Centre for Proton Therapy and Research architectural render



# Research events

## SCIENTIFIC SEMINAR SERIES

Each Tuesday morning SAHMRI holds a regular scientific seminar. These are designed to bring researchers from across the themes together to hear about research in a variety of areas. Seminars have focused on the work of Themes and Research Groups and have also explored cross-cutting issues of interest to many researchers. South Australian, national and international researchers have presented at the seminars.

## STUDENT OPEN NIGHT

In September 2019, SAHMRI and Health Translation South Australia hosted its annual Student Open Night, which provided an opportunity for prospective students (primarily PHD and Honours Students) to meet with representatives from the three South Australian universities, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) and SAHMRI to explore their options to undertake research projects with a translational focus.

## 2019 ANNUAL SCIENTIFIC MEETING AND RESEARCH SHOWCASE

The 2019 Annual Scientific Meeting commenced with a full-day Research Showcase and poster sessions. A plenary presentation delivered by Dr Glen Begley, Chief Executive Officer, BioCurate on the topic '10% of the time it works every time' set an excellent tone for the day and was followed by presentations by PhD and early career researchers. The Research Showcase concluded with the popular SAHMRI Pitch Perfect event – an opportunity for researchers to pitch their commercialisation ideas to an expert panel.

Day two, the Scientific Meeting, had a focus on Precision Medicine and began with a fantastic plenary session where attendees heard from Dr Elizabeth Finkel from Cosmos Magazine on the topic 'A journalist's view of gene therapy', Professor John Rasko from the Centenary Institute of Cancer Medicine & Cell Biology on the topic 'Three decades of cell & gene therapy - an insider's view' and a panel discussion. The rest of the day included presentations on Gene Editing and CAR-T Cells, Cancer and Personalized Infectious Diseases Management. The two-day event included with awards and a celebration.



**2019 Annual Scientific Meeting and Research Showcase**  
Poster Session Early/Mid Career Researcher Prize - Jyoti Khadka

## 2019 AWARDS NIGHT

Given the success of the Awards Night in 2017 and 2018, the event was held again in 2019. Award recipients are detailed below:

CATEGORY	WINNER(S)	THEME
PhD	Emily Shepherd	SAHMRI Women and Kids
ECR	Tom Sullivan	SAHMRI Women and Kids
MCR	Maria Inacio	ROSA
High Impact Publication	Jianling Xie	Lifelong Health
Research Translation	JOINT WINNERS - ROSA and Stillbirth Project Team – Philippa Middleton, Vicki Flenady, Alice Rumbold and Paula Medway	JOINT WINNERS - ROSA and Stillbirth Project Team – Philippa Middleton, Vicki Flenady, Alice Rumbold and Paula Medway
Research Enabler	Sarah Lawson	Research Office
Research Facilitator	Paul Trim	Lifelong Health
Executive Director's Award	Kim Morey	Aboriginal Health Equity
Community Engagement Award	JOINT WINNERS: Sarah Bray and Julie Marker (and the bowel cancer research focus group)	ROSA and Precision Medicine
Diané Ranck Leadership Award Researcher	JOINT WINNERS: Karen Glover and Maria Inacio	SAHMRI Women and Kids, ROSA
Diané Ranck Leadership Award Non-Researcher	James Barona	IT

**Kim Morey accepting the Executive Directors Award** - incorporating the Baker Young Stockbrokers and Phil Hoffman travel grant





# SAHMRI

## Women and Kids

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SAHMRI Women and Kids is committed to improving the health and wellbeing of women, children and families, particularly those most at risk of poor health outcomes.

Leader: Professor Maria Makrides





# SAHMRI Women and Kids Research Programs

## ● CHILDHOOD DISABILITY PREVENTION

Led by Professor Jozef Gecz, the Childhood Disability Prevention research program is identifying the genetic causes of childhood disabilities including learning disabilities, cerebral palsy, epilepsy and autism spectrum disorders, which combined affect one in 10 children. This is helping enable earlier diagnosis, better management, treatment and ultimately prevention of these disabilities.

## ● CHILD NUTRITION RESEARCH CENTRE (CNRC)

Led by Professor Tim Green, the Child Nutrition Research Centre is committed to improving the health outcomes of women and their children in Australia and worldwide through nutritional interventions, with particular interest in reducing prematurity and the associated health consequences, supporting optimal growth and development, and reducing allergic disease in early childhood.

## ● PREGNANCY AND PERINATAL CARE

Led by Associate Professor Philippa Middleton and Associate Professor Alice Rumbold, the Pregnancy and Perinatal Care Team is developing and implementing strategies to improve outcomes for pregnant women and young babies, with an emphasis on preventing preterm birth and stillbirth, and by addressing disparity and inequity.

## ● ABORIGINAL COMMUNITIES HEALTH RESEARCH ALLIANCE

Led by Ms Karen Glover, the Aboriginal Communities and Families Health Research Alliance (ACRA) brings together researchers, Aboriginal community members, policymakers and service providers working together to facilitate community-driven, culturally respectful research to benefit Aboriginal families and communities. The Alliance also focuses on knowledge exchange and translation of this research into ongoing improvements in culturally appropriate health care services supporting Aboriginal maternal, perinatal, child and family health and wellbeing.



# 2019 Highlights

## CHILDHOOD DISABILITY PREVENTION

- On August 9, 2019 Professor Jozef Gecz was named the South Australian Scientist of the Year. This award recognised his international leadership in genetics and biology of neurodevelopmental disabilities.
- After 20 years of active research Professor Jozef Gecz's Child Disability Prevention team resolved the mystery of a familial form of myoclonic epilepsy with tremor to be due to an unstable, selfish junk DNA.

## CHILD NUTRITION RESEARCH CENTRE (CNRC)

In 2019 the findings from the Child Nutrition Research Centre's (CNRC) long-awaited trial of omega-3 fatty acids (fish oil) in pregnancy and preterm births were published in the *New England Journal of Medicine* (DOI: 10.1056/NEJMoa1816832.) In this largest trial ever, the team found no overall benefit for a population wide program of fish oil supplementation during pregnancy on the risk of early preterm birth. Rather, fish oil supplementation was beneficial only for women with low omega-3 fatty acids in their blood. The CNRC are now working on ways to identify and treat those women who might benefit most from fish oil supplementation.

## PREGNANCY AND PERINATAL CARE

Implementation began on the Pregnancy and Perinatal Care group's Safer Baby Bundles in maternity services across Australia, with five elements to prevent stillbirth. The bundles of care address the priority evidence practice gaps in stillbirth prevention.

## ABORIGINAL COMMUNITIES HEALTH RESEARCH ALLIANCE

The Aboriginal Communities Health Research Alliance held a Community Accountability Forum to feedback research findings, examine outcomes achieved to date and affirm priorities for future research. Representatives from Aboriginal Health Services, policy makers and community members identified four new priorities including:

- Building strong families in the face of trauma;
- Improving accommodation for families relocating to Adelaide to birth;
- Describing Aboriginal and Torres Strait Islander culture in services and research;
- Promoting a Youth Justice reform agenda and healthy adolescence.





## Aboriginal Health Equity

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The Aboriginal Health Equity theme is building the nation's leading research unit focused on understanding, monitoring, responding to and reducing inequity in health and wellbeing among Aboriginal and Torres Strait Islander communities. We seek invest in and develop the next generation of Indigenous research leaders.

Leader: Professor Alex Brown



# Aboriginal Health Equity Research Programs

## ● IMPLEMENTATION SCIENCE

Led by Dr Natasha Howard, the Implementation Science Platform applies strategies and methods to further understandings on how we can take action on the social determinants of health and other critical health issues of importance for Aboriginal and Torres Strait Islander health equity.

## ● HEALTH SYSTEMS RESEARCH

Led by Ms Kim Morey, the Health Systems Research platform works in partnership with key health stakeholders to improve policy, program and practice based on Aboriginal health evidence that aims to improve the quality, accessibility and utilisation of a broad range of healthcare services for Aboriginal and Torres Strait Islander peoples.

## ● SEXUAL HEALTH AND WELLBEING

Led by Associate Professor James Ward, the Sexual Health and Wellbeing platform aims to generate new knowledge that has significant practice and health outcome implications for the population and to help address the persistently high rates of STIs and BBVs present in many Aboriginal communities. Our research investigates the ability of strategies, both novel and current best practice, to control STIs and BBVs in Aboriginal primary health care services, while addressing policy and clinically relevant questions, translating these into policy and practice as well as building the next generation of researchers in this area of Aboriginal health.

## ● POPULATION HEALTH

Led by Dr Odette Pearson, the Population Health research platform aims to understand the needs and priorities of groups that we know little about including Aboriginal and Torres Strait Islander young people, men and older people to inform health and social systems change. To support self-determination we make administrative data, that has been managed and curated in a culturally appropriate manner to measure and monitor health and social inequalities, accessible to Aboriginal communities in South Australia. Our research is governed by Aboriginal and Torres Strait Islander people and utilises mixed methods approaches that have direct and indirect translational outcomes.

## ● CAPACITY DEVELOPMENT

Led by Dr Karla Canuto and established in September 2019, the Capacity Development platform runs a number of initiatives, such as training and networking events to help support researchers and develop the next generation of Aboriginal and Torres Strait Islander research leaders. By strengthening the Aboriginal and Torres Strait Islander health workforce, the Platform seeks to develop innovative ways to contribute to the health and wellbeing of Aboriginal and Torres Strait Islander people.

## ● CARDIOMETABOLIC DISEASE

Led by Professor Alex Brown, the Cardiometabolic Disease research program investigates the burden, causes, consequences and mitigation of heart disease, diabetes, cancer and mental illness to help improve the health and wellbeing of Indigenous communities.



# 2019 Highlights

## IMPLEMENTATION SCIENCE

### Grants Awarded

Brown A, Howard NJ, Estevez JJ, Macula Disease Foundation of Australia – *Defining the Risk and Epidemiology of Aboriginal Australian Macular Disease: The DREAM Project* - 2020 - 2022, **\$234,000**

Estevez JJ, Flinders University. *Defining the Epidemiology and Risk of Diabetic Retinopathy among Indigenous Australians: A Longitudinal Cohort Study* (APP1191186)– NHMRC Postgraduate Scholarship – Dora Lush Scholarship / Diabetes Australia Postgraduate Award, 2020-22

### Presentations

1. Cooper P, Brodie T, Cantley L, Howard NJ & Brown A (2019). *Perspectives on strengths-based practice to address the social determinants of Indigenous health*. Australian Association of Social Workers, Adelaide, South Australia, Australia, 7-9 November 2019. (Accepted, Oral)
2. Brodie T, Howard NJ, Pearson O, Cantley L, Cooper C & Brown A (2019). *Reflective practice as a program evaluation tool for systems improvement*. Indigenous Allied Health Australia Conference, Darwin, Northern Territory, Australia, 23-25 September 2019. (Oral)
3. Cantley L, Pearson O, Brodie T, Cooper C & Brown A, Howard NJ (2019). *Brokering Aboriginal people's social and health service connections: A Program Facilitator's reflection*. Australian Public Health Conference, Adelaide, South Australia, Australia, 17-19 September 2019. (Oral)
4. Brodie T, Howard NJ, Pearson O, Addressing the Social Determinants of Aboriginal Health PhD Advisory Group, Canuto J & Brown A (2019). *Integration of de-colonising methods in a scoping review to provide relevant culturally relevant understandings of programs addressing the social determinants of health*. Lowitja Institute International Indigenous Health Conference, Darwin, Northern Territory, Australia, 18-20 June 2019. (Oral)
5. Estevez JJ, Howard NJ, Landers J, Craig JE & Brown A on behalf of the PROPHECY Investigators

(2019). *Prevalence and Determinants of Vision Impairment in Indigenous Australians: The Predicting Renal, Ophthalmic and Heart Events in the Aboriginal Community (PROPHECY) Study*. Association for Research in Vision and Ophthalmology 2019 Annual Meeting, Vancouver, British Columbia, Canada, 28 April – 2 May 2019. (Oral)

6. Sivak L & Westhead S (2019). *Measuring the Health and Wellbeing Impacts of Reclaiming Indigenous Languages*. SAHMRI Research Showcase. 2 October 2019.
7. On Tuesday 14 May 2019 the Wardliparingga Aboriginal Health Equity Theme held a social and community sector networking event, *On the Road to Aboriginal Health*, in partnership with the South Australian Council of Social Services (SACOSS), South Australian Aboriginal Chronic Disease Consortium and supported by the Wyatt Trust.

### Publications

Estevez JJ, Howard NJ, Craig JE & Brown A (2019). *Working Towards Eye Health Equity for Indigenous Australians with Diabetes*. International Journal of Environmental Research and Public Health. 16, 5060; DOI:10.3390/ijerph16245060

# 2019 Highlights cont.

## HEALTH SYSTEMS RESEARCH

### Grants Awarded

*The Hospital Research Foundation - Regional Health*  
**\$49,680** - SA Health Rural Support Service Flinders and Upper North Local Health Network

Aboriginal Cancer Healing Centres – facilitation to expand the roles and capabilities of existing cancer services Cancer Healing Centres.

This project aims to test the implementation of an Aboriginal cancer healing model that meets the cultural and medical needs of Aboriginal people affected by cancer, their families and the broader community. This will be achieved by:

1. Engaging widely with the local Aboriginal community, Aboriginal Community Controlled Health Services, clinicians and other key stakeholders to determine which elements of the Consortium's cancer healing model which are most relevant for site-specific implementation
2. Providing culturally appropriate opportunistic cancer and chronic disease screening for Aboriginal patients who are receiving treatment for cancer, as well as their family, carers and friends.
3. Enhancing Aboriginal people's knowledge and awareness of cancer prevention and management strategies.
4. Assessing provider and patient-reported experiences and outcomes pre and post implementation of the model within and across sites.
5. Evaluating service outcome measures such as patient adherence to care, cultural safety and accessibility

*Perpetual Impact Philanthropy*  
**\$108,500.00**

RADICAL: Reducing Aboriginal Diabetic (Foot) Complications and Amputations of Lower Limbs  
 Diabetic Foot Complications and Continuity of Care

1. Assess the epidemiology of diabetes-related foot complications (ulceration, neuropathy, peripheral arterial disease (PAD) and amputations)
2. Support a high-risk foot coordinator to ensure continuity of care between hospital and community.
3. Lead a state-wide audit of interdisciplinary foot disease services in South Australia

### Publications

Harfield, S, Pearson, O, Morey, K, Kite, E, Canuto, K, Glover, K, Gomersall, J, Carter, D, Davy, C, Aromataris, E & Braunack-Mayer, A 2020, *Assessing the quality of health research from an Indigenous perspective: The Aboriginal and Torres Strait Islander quality appraisal tool*, BMC medical research methodology, vol. 20, no. 1, 79. Doi:10.1186/s12874-020-00959-3

Canuto, K, Howard, N, Morey, K & Brown, A 2019, *Complementing population health cancer data disparities with Aboriginal patient and carer experiences*, World Indigenous Cancer Conference, Calgary, Canada, 17/09/19 - 19/09/19.

## SEXUAL HEALTH AND WELLBEING

### Grants Awarded

Ward J, Donovan B, Wesselingh S, Bradley C, Elliot S, Stephens J, Wand H. NHMRC Ideas Grant (APP1185073) *Implementing a precision public health approach to eliminate sexually transmitted infections and control HIV in remote Australia*. 2020-2024, **\$2,455,034**.

Ward J, Guy R, Kaldor J, Bryant J, Liu B, Whitley D, Donovan B. NHMRC Synergy Grant (APP1185377) *Eliminating endemic sexually transmissible infections in remote Australia using targeted multidisciplinary strategies*. 2020-2024, **\$5,000,000**.

### Publications

Ward J, Guy RJ, Rumbold AR, McGregor S, Wand H, McManus H, Dyda A, Garton L, Hengel B, Silver BJ, Taylor-Thomson D, Knox J, Donovan B, Law M, Maher L, Fairley CK, Skov S, Ah Chee D, Boffa J, Kaldor JM on behalf of STRIVE Investigators. *Strategies to improve control of sexually transmissible infections in remote Australian Aboriginal communities: a stepped-wedge, cluster-randomised trial*. Lancet Global Health. 2019; 7(11): e1553-e1563. DOI: 10.1016/S2214-109X(19)30411-5.



# 2019 Highlights cont.

## POPULATION HEALTH

### Grants Awarded

- Azzopardi (CIA), Brown N (CIB), Brown A (CIC). Ngalaia Boorai Gabara Budbut - *Supporting the heads and hearts of Aboriginal children and adolescents*. Potter philanthropic trust. 2020 – 24. **\$300,000**
- Patton G (CIA), Sawyer S (CIB), Kinner S (CIC), Azzopardi P (CID). *Driving Global Investment in Adolescent Health*. NHMRC Centre for Research Excellence. 2020 - 2025. **\$2,500,000**
- Seed funding for ROSA Aboriginal governance
- NHMRC Healthy Ageing grant success

### Publications

Azzopardi PS, Hearps SJC, Francis KL, Kennedy EC, Mokdad AH, Kassebaum NJ, Lim S, Irvine CMS, Vos T, Brown AD, Dogra S, Kinner SA, Kaoma NS, Naguib M, Reavley NJ, Requejo J, Santelli JS, Sawyer SM, Skirbekk V, Temmerman M, Tewhaiti-Smith J, Ward JL, Viner RM, Patton GC. *Progress in adolescent health and wellbeing: tracking 12 headline indicators for 195 countries and territories, 1990-2016*. Lancet. 2019 Mar 16;393(10176):1101-1118. DOI: 10.1016/S0140-6736(18)32427-9. Epub 2019 Mar 12. Erratum in: Lancet. 2019 Mar 23;393(10177):1204. PMID: 30876706; PMCID: PMC6429986.

Guthold R, Moller AB, Azzopardi P, Ba MG, Fagan L, Baltag V, Say L, Banerjee A, Diaz T. *The Global Action for Measurement of Adolescent health (GAMA) Initiative-Rethinking Adolescent Metrics*. J Adolesc Health. 2019 Jun;64(6):697-699. DOI: 10.1016/j.jadohealth.2019.03.008. PMID: 31122505; PMCID: PMC6531407.

Canuto K, Towers K, Riessen J, Perry J, Bond S, Chee DA, Brown A. (2019). *Anybody can make kids; it takes a real man to look after your kids: Aboriginal men's discourse on parenting*. PloS one, 14(11).

Canuto K, Harfield S, Wittert G, Brown A. (2019). Listen, understand, collaborate: developing innovative strategies to improve health service utilisation by Aboriginal and Torres Strait Islander men. Aust N Z J Public Health. 43(4), pp.307-309.

Canuto K (2019), *Time to stop flogging a dead horse?* Med. J. Aust. doi:10.5694/mja2.50217.

Segal L, Nguyen H, Pearson O, Armfield J (2019). *Lifetime risk of child protection system involvement in South Australia for Aboriginal and non-Aboriginal children, 1986-2017 using linked administrative data*. Child Abuse and Neglect, 97, [104145]. <https://doi.org/10.1016/j.chiabu.2019.104145>

Wright K, Dono J, Brownbill A, Pearson O, Bowden J, Wycherley TP, Miller C (2019). *Sugar-sweetened beverage consumption correlates and interventions among Australian Aboriginal and Torres Strait Islander communities: A scoping review*. BMJ Open, 9. DOI. [org/10.1136/bmjopen-2018-023630](https://doi.org/10.1136/bmjopen-2018-023630)

### Outputs

- Development of DACS cultural safety training resources for aged care workers (on our website)
- Successful pilot of cultural safety in aged care training program (SAHMRI, February 2019) for aged care workers working in rural and remote organisations
- Royal Commission into Aged Care Quality and safety collaboration with Flinders University, November 2019, Published online January 2020: REVIEW OF INNOVATIVE MODELS OF AGED CARE – Innovative models for Aboriginal and Torres Strait Islander populations
- Two conference presentations – Public Health Association, September 2019, *Cultural Safety in Rural and Remote Aboriginal Aged Care*, Healthy Ageing Conference April 2019, *Culturally Safe Workforce Models for Rural and Remote Indigenous Organisations*

# 2019 Highlights cont.

## CAPACITY DEVELOPMENT

- The Capacity Development Platform provides support for the National Indigenous Health Research(er) Capacity Development Network (IRNet), funded since 2018. The Network has representatives from across the NHMRC accredited Advanced Health Research and Translation Centres (AHRTCs) and Centres for Innovation in Regional Health (CIRHs). IRNet published their endorsed 2019-2021 Action Plan in October 2019.
- The MRFF funded Strengthening Aboriginal Capacity in Health Research Translation and Development in South Australia (StACTD) commenced, establishing a Leadership Group to plan an innovative and flexible training and capacity strengthening program.
- A new partnership was established with Beach Energy. The Aboriginal STEM Pathways Project will commence in 2020.
- Since its establishment, the Platform has engaged with both students and interns. By request from the SAHMRI Student Association, the platform delivered an in-house seminar on 'Aboriginal and Torres Strait Islander Health Research in South Australia' in November. The Platform has coordinated several interns at Wardliparingga, through the Wirritu Yarlur Internship program at the University of Adelaide, and Career Trackers Indigenous Program. The Platform coordinated a visit and presentation with Indigenous Pre-Medicine and Health Sciences Enabling Course visiting from Curtin University, WA. Staff from Wardliparingga, including two Career Trackers Indigenous interns, visited Adelaide High School students to assist with their Adelaide Railway Mural Project, with their Reconciliation-themed murals unveiled in December 2019.

## CARDIOMETABOLIC DISEASE

### Grants Awarded

The Hospital Research Foundation 2020-2024, **\$1,250,000** - *Understanding and overcoming Diabetes inequalities in Indigenous Australians.*

Australian Government Department of Health 2019-2022, **\$6,000,000** - *Diabetic Foot Complication Project.*

SA Health 2019-2021, **\$2,107,700** - *The South Australian Aboriginal Chronic Disease Consortium (SA ACDC) Coordinating Centre.*

NHMRC Research Fellowship 2018-2023, **\$707,370** - *Understanding and Overcoming Cardiovascular and Diabetes Inequalities in Indigenous Australians* (APP1137563).

Wyatt Trustees (SA) 2017-2021, **\$1,000,000** - *Overcoming the High Burden of Diabetes in South Australian Aboriginal Communities.*

NHMRC Project Grant 2015-2019, **\$2,466,000** - *Predicting Renal, Ophthalmic, and Heart Events in the Aboriginal Community – THE PROPHECY Study* (APP1086386).

### Publications

Canuto KJ, Aromataris E, Burgess T, Davy C, McKivett A, Schwartzkopff K, Canuto K, Tufanaru C, Lockwood C & Brown A 2019, *A scoping review of Aboriginal and Torres Strait Islander health promotion programs focused on modifying chronic disease risk factors*, Health Promotion Journal of Australia. <https://doi.org/10.1002/hpja.307>

Selak V, Webster R, Stepien S, Bullen C, Patel A, Thom S, Arroll B, Bots ML, Brown A, Crengle S, Dorairaj P, Elley CR, Grobbee DE, Harwood M, Hillis GS, Laba TL, Neal B, Peiris D, Rafter N, Reid C, Stanton A, Tonkin A, Usherwood T, Wadham A & Rodgers A 2019, *Reaching cardiovascular prevention guideline targets with a polypill-based approach: A meta-Analysis of randomised clinical trials*, Heart, vol. 105, no. 1, pp. 42-48. DOI. [org/10.1136/heartjnl-2018-313108](https://doi.org/10.1136/heartjnl-2018-313108)

Maple-Brown LJ, Lindenmayer G, Barzi F, Whitbread C, Connors C, Moore E, Boyle J, Kirkwood M, Lee IL, Longmore D, van Dokkum P, Wicks M, Dowden M, Inglis C, Cotter M, Kirkham R, Corpus S, Chitturi S, Thomas S, O'Dea K, Zimmet P, Oats J, McIntyre HD, Brown A, Shaw JE on behalf of the Northern Territory Diabetes in Pregnancy Partnership 2019, *Real-world experience of metformin use in pregnancy: Observational data from the Northern Territory Diabetes in Pregnancy Clinical Register*, Journal of Diabetes. DOI. [org/10.1111/1753-0407.12905](https://doi.org/10.1111/1753-0407.12905)

Longmore DK, Barr ELM, Lee IL, Barzi F, Kirkwood M, Whitbread C, Hampton V, Graham S, Van Dokkum P, Connors C, Boyle JA, Catalano P, Brown ADH, O'Dea K, Oats J, McIntyre HD, Shaw JE, Maple-Brown LJ & on behalf of the PANDORA study research team 2019, *Maternal body mass index, excess gestational weight gain, and diabetes are positively associated with neonatal adiposity in the Pregnancy and Neonatal Diabetes Outcomes in Remote Australia (PANDORA) study*, Pediatric Obesity, vol. 14, no. 4, e12490. DOI. [org/10.1111/ijpo.12490](https://doi.org/10.1111/ijpo.12490)



## 2019 Highlights cont.

Titmuss A, Davis EA, Brown A & Maple-Brown LJ 2019, *Emerging diabetes and metabolic conditions among Aboriginal and Torres Strait Islander young people*, The Medical journal of Australia, vol. 210, no. 3, pp. 111-113.e1. DOI.org/10.5694/mja2.13002

Pringle KG, Lee YQ, Weatherall L, Keogh L, Diehm C, Roberts CT, Eades S, Brown A, Smith R, Lumbers ER, Brown LJ, Collins CE & Rae KM 2019, *Influence of maternal adiposity, preterm birth and birth weight centiles on early childhood obesity in an Indigenous Australian pregnancy-through-to-early-childhood cohort study*, Journal of Developmental Origins of Health and Disease, vol. 10, no. 1, pp. 39-47. DOI.org/10.1017/S2040174418000302

Maple-Brown L, Lee IL, Longmore D, Barzi F, Connors C, Boyle JA, Moore E, Whitbread C, Kirkwood M, Graham S, Hampton V, Simmonds A, Van Dokkum P, Kelaart J, Thomas S, Chitturi S, Eades S, Corpus S, Lynch M, Lu ZX, O'Dea K, Zimmet P, Oats J, McIntyre HD, Brown A, Shaw JE, Dempsey K, Svenson S, Wood L, Davis L, Dent G, Stone M, Harris M & Inglis C 2019, *Pregnancy And Neonatal Diabetes Outcomes in Remote Australia: the PANDORA study-an observational birth cohort*, International journal of epidemiology, vol. 48, no. 1, pp. 307-318. DOI.org/10.1093/ije/dyy245

Rogers G, Ward J, Brown A & Wesselingh S 2019, *Inclusivity and equity in human microbiome research*, The Lancet, vol. 393, no. 10173, pp. 728-729. DOI.org/10.1016/S0140-6736(18)33204-5

Marin TS, Kourbelis C, Foote J, Newman P, Brown A, Daniel M, Coffee NT, Nicholls SJ, Ganesan A, Versace VL, Beks H, Haedtke CA & Clark RA 2019, *Examining adherence to activity monitoring devices to improve physical activity in adults with cardiovascular disease: A systematic review*, European Journal of Preventive Cardiology, vol. 26, no. 4, pp. 382-397. DOI.org/10.1177/2047487318805580

Health Translation SA Cardiac Rehabilitation Group 2019, *The Keeping on Track Study: Exploring the Activity Levels and Utilization of Healthcare Services of Acute Coronary Syndrome (ACS) Patients in the First 30-Days after Discharge from Hospital*, Medical sciences (Basel, Switzerland), vol. 7, no. 4. DOI.org/10.3390/medsci7040061

Kirkham R, MacKay D, Barzi F, Whitbread C, Kirkwood M, Graham S, Van Dokkum P, McIntyre HD, Shaw JE, Brown A, O'Dea K, Connors C, Oats J, Zimmet P, Boyle J & Maple-Brown L 2019, *Improving postpartum screening after diabetes in pregnancy: Results of a pilot study in remote Australia*, Australian and New Zealand Journal of Obstetrics and Gynaecology, vol. 59, no. 3, pp. 430-435. DOI.org/10.1111/ajog.12894

Rolleston A & Brown A 2019, *Walking an Indigenous Pathway: Bridging the Gap in Cardiovascular Health*, Heart Lung and Circulation, vol. 28, no. 6, pp. 823-824. DOI.org/10.1016/j.hlc.2019.04.002

McLean A, Kirkham R, Campbell S, Whitbread C, Barrett J, Connors C, Boyle J, Brown A, Mein J, Wenitong M, McIntyre D, Barzi F, Oats J, Sinha A & Maple-Brown L 2019, *Improving models of care for diabetes in pregnancy: Experience of current practice in Far North Queensland, Australia*, Frontiers in Public Health, vol. 7, no. JUN, 192. DOI.org/10.3389/fpubh.2019.00192

Kirkham R, Trap-Jensen N, Boyle JA, Barzi F, Barr ELM, Whitbread C, Van Dokkum P, Kirkwood M, Connors C, Moore E, Zimmet P, Corpus S, Hanley AJ, O'Dea K, Oats J, McIntyre HD, Brown A, Shaw JE & Maple-Brown L 2019, *Diabetes care in remote Australia: The antenatal, postpartum and inter-pregnancy period*, BMC Pregnancy and Childbirth, vol. 19, no. 1, 389. DOI.org/10.1186/s12884-019-2562-6

Cheng E, Longmore D K, Barzi F, Barr ELM, Lee IL, Whitbread C, Boyle JA, Oats J, Connors C, McIntyre HD, Kirkwood M, Dempsey K, Zhang X, Thomas S, Williams D, Zimmet P, Brown ADH, Shaw JE, Maple-Brown LJ on behalf of PANDORA Study research team 2019, *Birth outcomes in women with gestational diabetes managed by lifestyle modification alone: The PANDORA study*, Diabetes Research and Clinical Practice, vol. 157, 107876. DOI.org/10.1016/j.diabres.2019.107876

Xu D, Jenkins A, Ryan C, Keech A, Brown A, Boffa J, O'Dea K, Bursell SE, Brazionis L & the CRE in Diabetic Retinopathy and the TEAMSnet Study Group 2019, *Health-related behaviours in a remote Indigenous population with Type 2 diabetes: a Central Australian primary care survey in the Telehealth Eye and Associated Medical Services Network [TEAMSnet] project*, Diabetic Medicine, vol. 36, no. 12, pp. 1659-1670. DOI.org/10.1111/dme.14099

Estevez JJ, Howard N, Craig JE & Brown A 2019, *Working towards eye health equity for indigenous Australians with diabetes*, International journal of environmental research and public health, vol. 16, no. 24, 5060. https://doi.org/10.3390/ijerph16245060

Tan JTM, Nankivell VA, Bilu C, Shemesh T, Nicholls SJ, Zimmet P, Kronfeld-Schor N, Brown A & Bursill CA 2019, *High-Energy Diet and Shorter Light Exposure Drives Markers of Adipocyte Dysfunction in Visceral and Subcutaneous Adipose Depots of Psammomys obesus*, International Journal of Molecular Sciences, vol. 20, no. 24. DOI.org/10.3390/ijms20246291

# 2019 Highlights cont.

## Presentations

1. Invited Speaker – Cardiovascular Equity for Indigenous Australians. 3rd Indigenous Cardiovascular Health Conference, CSANZ. Wellington, 2019.
2. Keynote – Cardiometabolic Disease in Indigenous Australians. Nicholas Catchlove Lecture. Charles Perkins Centre, University of Sydney, 2019.
3. Invited Speaker – Disadvantage and CVD. CSANZ Annual Scientific Meeting. Adelaide 2019.
4. Invited Speaker – Cardiovascular Care for Indigenous People. CSANZ Annual Scientific Meeting. Adelaide 2019.
5. Keynote John Chalmers Oration – Overcoming health and social disadvantage among Indigenous Australians – tales from an aspirational pragmatist. Flinders University, Adelaide 2019.
6. Invited Speaker – Diabetes and Intergenerational Risk. Diabetes across the Lifecourse Northern Australia Partnership. Darwin 2019.
7. Keynote – Understanding and overcoming diabetes inequalities in Indigenous people – lessons from Australia. Berzelius Symposium on Obesity and Diabetes: the role of ethnicity. Umea, Sweden, 2019.
8. Keynote – Can Aboriginal People Save the World? Australian Public Health Association Annual Conference. Adelaide 2019.
9. Invited Speaker – CVD in Indigenous peoples. Developmental Origins of Health and Disease (DOHAD), Melbourne, 2019.
10. Keynote – Towards a cardiovascular research program in Indigenous health. Monash Cardiovascular Institute, Melbourne 2019.
11. Invited Speaker – Cardiometabolic Disease – Indigenous Australians. CSL Seminar Series, Melbourne 2019.

## Awards

- Florey Lecture, University of Adelaide, 2019.
- John Chalmers Orator, Flinders University, 2019.

## Professional, Academic or Related Activity

- Medical Research Future Fund (MRFF)– Genomics Health Futures Mission Scientific Advisory Panel – Indigenous Genomics, 2019.
- Co-chair, MRFF Indigenous Health Research Fund, 2019-current.



# Lifelong Health

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The Lifelong Health theme works to deliver discovery-to-impact approaches for tackling the greatest health challenges in chronic disease and ageing across the lifespan.

Leaders: Professor Chris Proud and Professor Derek Chew



Dr Nigel Rogasch, head of Brain Stimulation, Imaging and Cognition research group



# Lifelong Health Research Programs

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## ● HEART AND VASCULAR HEALTH

Led by Professor Derek Chew, the Heart and Vascular Health research program aims to advance the ability to prevent, detect and treat cardiovascular disease with a committed focus on translating research findings into improved health outcomes for all Australians.

## ● NUTRITION, DIABETES & GUT HEALTH

Led by Professor Amanda Page, the Nutrition, Diabetes & Gut Health research program aims to understand the physiological mechanisms involved in the development of obesity, diabetes and metabolic syndromes as well as gastrointestinal disorders with the aim of developing innovative targets, therapies and nutritional strategies to prevent or manage these health issues.

## ● HOPWOOD CENTRE FOR NEUROBIOLOGY

Led by Professor Stuart Brierley, the Hopwood Centre for Neurobiology is committed to identifying the causes of major neurological disorders including Alzheimer's disease, Parkinson's disease, stroke, epilepsy, depression, spinal cord injury and chronic pain. The Centre targets the use of neuroimaging techniques, lifestyle interventions, novel pharmaceuticals and stem-cell based regenerative medicine to derive therapies for these and other disorders.

## ● MENTAL HEALTH AND WELLBEING

Led by Mr Joseph Van Agteren, the Mental Health and Wellbeing research program conducts research across the whole mental health spectrum including depression, suicide, anxiety, resilience and wellbeing. It particularly focuses on the overlap between mental health and mental illness and uses its research to develop techniques for measuring and building mental health and wellbeing within individuals





# 2019 Highlights

## HEART AND VASCULAR HEALTH

The RAPID TnT trial (presented as a late-breaking clinical trial at the European Society of Cardiology, Paris, September 2019) has evaluated the benefits and harms of an improved discriminatory performance for assessment of possible heart attack when incorporated within rapid testing protocols, with respect to subsequent testing and clinical events. Although the use of high-sensitivity troponin assays in Europe is more common (>60%), uptake in North America and the Asia-Pacific region is estimated to be much lower (≈20% and ≈30%, respectively) and of these centres, very few use a 0/1-hour rapid triage protocol. This unique South Australian in-practice clinical trial (N=3288) (in four SA Emergency Departments) of a 0/1-hour high sensitivity Troponin T protocol embedded in Emergency Department (ED) care enabled more rapid discharge of patients with suspected acute coronary syndrome. This study supports the routine implementation of a 0/1-hour high-sensitivity troponin T protocol for the early rule-out of patients with suspected Acute Coronary Syndrome (ACS) and demonstrated: faster time for diagnosis decision on treatments; safe and rapid discharge from ED once ACS is ruled out; and more efficient use of clinician time and resources in ED. The 12-months results from this trial are due later in 2020.

## VISCERAL PAIN RESEARCH GROUP

Led by Professor Stuart Brierley, the Visceral Pain Research Group drove a significant paradigm shift by targeting the underlying causes of Irritable Bowel Syndrome, inflammatory bowel disease, bladder pain syndrome, and endometriosis to provide clinically relevant pain relief and improve patient quality of life. The group's work with Ironwood Pharmaceuticals (Boston, USA) determined how Linaclotide relieves pain in Irritable Bowel syndrome patients with constipation (IBS-C). Linaclotide is a revolutionary first-in-class guanylate cyclase C (GC-C) peptide agonist that stays within the gut and acts on a GC-C receptor expressed in the gut. Therefore, it has a targeted action to inhibit gut nerves (which normally send pain signals to the brain) without systemic side-effects. The research has profoundly changed clinical practice in treating IBS-C with >34 million Linaclotide capsules sold in the US alone in Q3 2019 becoming the #1 treatment for IBS-C. Linaclotide is now approved in Japan, China and Australia and treats millions of patients per year. The mechanism of action data from Professor Brierley's group appears in the prescription box globally.

## LYSOSOMAL HEALTH IN AGEING

The team in Lysosomal Health in Ageing (led by Dr Tim Sargeant) is working to reduce the risk of developing dementia in late-life by developing mid-life interventions. The group's research focuses on a critical cell system known as the 'lysosomal' system. The lysosomal system degrades and recycles damaged cell machinery, which is critically important for healthy brain function. Dysfunction in this system drives Alzheimer's disease. In 2019 the group developed a first-ever human blood test to measure the movement (flux) of material in this system. This is a major advance in the field because it allows us to determine how well the lysosomal system works as we age and how it responds to various interventions, including diet.

## HOPWOOD CENTRE FOR NEUROBIOLOGY

In 2019 members of the Hopwood Centre for Neurobiology published 59 research papers.

## MENTAL HEALTH AND WELLBEING GROUP

The Mental Health and Wellbeing Group successfully completed their meta-analysis on psychological interventions to develop states of mental wellbeing, which underpinned the successful development (and research on) our tailored psychological skills intervention, the Be Well Plan. The large, 332 RCT (43k participant), systematic review and meta-regression directly underpins the evidence-based activities used within the program, which was built using the Intervention Mapping approach and a rigorous co-design approach.



# Precision Medicine

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The Precision Medicine theme is committed to understanding the factors that determine patient-specific responses to disease or therapeutic intervention, enabling better prediction of patient outcomes, stratification of patients to the best treatment options, and the development of more personalised, targeted interventions.

Leader: Professor Tim Hughes



Professor Tim Hughes,  
Precision Theme Leader



# Precision Medicine Research Programs

## ● CANCER

Led by Professor Deb White, the overarching goal of the Cancer program is to foster excellence in the full spectrum of cancer-related research from fundamental discovery to the development of innovative clinical trials and the delivery of personalised treatments.

## ● COMPUTATIONAL AND SYSTEMS BIOLOGY

Led by Professor David Lynn, the Computational and Systems Biology research program is developing advanced computational and experimental approaches to generate, interrogate, and model, complex data to enhance our understanding of how systems such as the immune system and nervous system are dysregulated in diseases including infectious disease, cancer and neurodegenerative disease. The program also hosts the SAHMRI Bioinformatics Platform, which assists SAHMRI researchers to interpret and analyse the large amounts of data involved in their work.

## ● MICROBIOME AND HOST HEALTH

Led by Professor Geraint Rogers, the Microbiome and Host Health research program is focused on better understanding the influences of the microbiome on human health and disease, using this information to develop ways to reduce preventable diseases while improving outcomes for both for individuals and the population.

## ● GENE EDITING

Led by Professor Paul Thomas, the Gene Editing research program uses state-of-the-art molecular genetic technology (CRISPR) to understand the pathology of relatively common genetic diseases such as epilepsy. This program also holds the South Australian Genome Editing Facility (SAGE) which is a commercial service that can produce genetically modified mice for modelling disease-causing mutations in humans.



# 2019 Highlights

## CANCER

Professor Tim Hughes was recognised for his contribution to biomedical research and clinical impact, through the Ramaciotti Medal for Excellence in Biomedical Research.

Professor Andrew Zannettino (SAHMRI) and collaborators were awarded a SERP grant from the Leukaemia Foundation's National Research Program that will see them received \$600,000 over 3 years. Professor Deborah White was honoured with a National Health and Medical Research Council (NHMRC) Research Excellence Awards for her leukaemia research. Her award was for the top ranked applicant for the R.D Wright Biomedical Career Development Fellowship - Level 2.

## COMPUTATIONAL AND SYSTEMS BIOLOGY PROGRAM

Activating mutations in KRAS frequently occur in colorectal cancer (CRC) patients, leading to resistance to EGFR targeted therapies. To better understand the cellular reprogramming which occurs in mutant KRAS cells, Professor David Lynn's group collaborated with researchers in Ireland, Germany, Sweden and Japan to undertake a systems level analysis of four CRC cell lines which express either wild type KRAS or the oncogenic KRASG13D allele (mtKRAS). They found that mutant KRAS cells are substantially rewired at the transcriptional, translational and metabolic levels and that this rewiring may reveal new vulnerabilities in oncogenic KRAS CRC cells that could be exploited in future.

## Publications

Charitou T, Srihari S, Lynn MA, Jarbouli M, Festerius E, Moldovan M, Shirasawa S, Tsunoda T, Ueffing M, Xie J, J. Xin, Wang X, Proud C, Boldt K, Al-Khalili Szigyarto C, Kolch W, Lynn DJ (2019). *Transcriptional and metabolic rewiring of colorectal cancer cells expressing the oncogenic KRASG13D mutation*. British Journal of Cancer 121(1): 37-50. Corresponding Author.

## MICROBIOME AND HOST HEALTH PROGRAM

Professor Geraint Rogers was an investigator on a significant Cystic Fibrosis Foundation grant: Wainwright, Grimwood, Sly, Roberts, Coin, Byrnes, Burke, Clark, Rogers, Reid, Miles, Ratjen, Marras, Hoiby, Pressler, Skov, Katzenstein, McKone, Tiddens, Elborn, Jones, Davies, Bush, Wason, Floto, Parkhill, Wheeler, Bond, Whitley, Laing, Byrnes, Stockwell, Shackleton). Cystic Fibrosis Foundation. *Finding the Optimal Regimen for Mycobacterium Abscessus Treatment* **\$5,374,700.**

## GENE EDITING RESEARCH PROGRAM

Professor Paul Thomas was awarded an Australian Research Council Linkage Project grant (**\$1,092,000**). LP180100748 Development of genetic technology for rodent population suppression. Professor Paul Thomas (Chief Investigator); Professor Joshua Ross (Chief Investigator); Associate Professor Phillip Cassey (Chief Investigator); Dr Thomas Prowse (Chief Investigator).





# SAHMRI Impact



# Health Policy Centre

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SAHMRI's Health Policy Centre conducts behavioural research, policy research, population monitoring and evaluation to inform public policy and population health interventions. The Centre conducts independent research and provides evidence syntheses and expert advisory consultancies. It actively engages with policy makers and non-government organisations for improved health outcomes.

The majority of research by the Centre and its translation applies a public health approach with an aim to prevent chronic diseases including cancer, heart disease and diabetes.

The Centre has major ongoing programs of research in tobacco control and NHMRC funded research in sugary drinks and alcohol consumption.

The centre collaborates with the Central Coordination unit of the SA Clinical Cancer Registry and conducts research to inform the collection of patient-reported outcomes, predominantly through registries.

## 2019 HIGHLIGHTS

- The Centre's work is highly influential in health policy decision making. For example, the 2019 publication demonstrating the negative impact of divesting from anti-smoking campaigns is used by policy makers around the world to underpin their local tobacco control strategies.
- Locally, the Centre's research into sugary drinks has led to changes in Australia and New Zealand's Health Star Rating system, which helps consumers choose between healthier and less healthy beverages.

## Publications

Dono J, Bowden J, Kim S, Miller C. *Taking the pressure off the spring: The case of rebounding smoking rates when anti-tobacco campaigns ceased*. Tobacco Control. 2019. 28:233-236.

Brownbill A, Braunack-Mayer A, Miller C. *Health Star Ratings: What's on the labels of Australian beverages?* Health Promotion Journal of Australia, 2019 30: 114-118.





# Registries

SAHMRI greatly values registries as a source of observational and translational research. The registries that are part of the SAHMRI Registry Centre enable the monitoring of various populations, conditions and treatments in order to support best practice and improve care in Australia and beyond.

The registries that are part of SAHMRI's Centre have been developed in order to examine effectiveness and appropriateness of care, facilitate practice benchmarking, conduct post-market surveillance, and examine unwarranted variation in care practices in several areas. These important functions of registries are paramount in order to improve quality of care and outcomes for patients and individuals monitored by these registries.

The value of registries and roles a tool for continuous quality improvement in health care cannot be underestimated. Well-designed registries, particularly at the population level, form the 'third pillar' of scientific research in conjunction with clinical trials and laboratory work. SAHMRI considers registry population-based studies to represent the most reliable option for identifying the actual effects of treatments and outcomes in the general population.

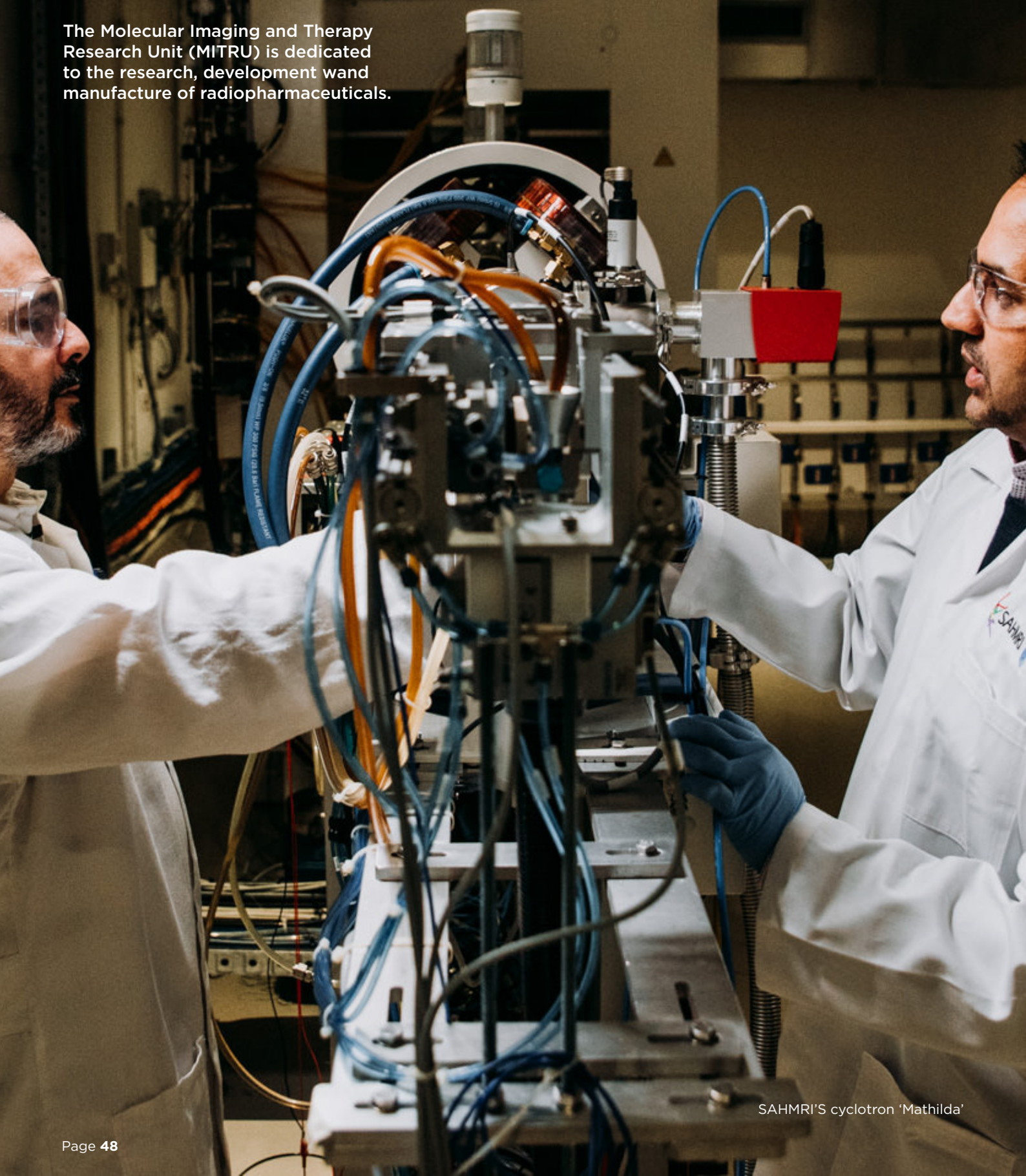


**Registry of Senior  
Australians** group



# Molecular Imaging and Therapy Research Unit

The Molecular Imaging and Therapy Research Unit (MITRU) is dedicated to the research, development and manufacture of radiopharmaceuticals.



SAHMRI'S cyclotron 'Mathilda'



# Molecular Imaging and Therapy Research Unit

Radiopharmaceuticals are radioactive chemicals which are administered to patients to determine the location (imaging) or to irradiate (therapy) particular cells in a patient's body.

MITRU is a commercial operation and is home to South Australia's only cyclotron. The cyclotron is a particle accelerator, which is designed for commercial applications. The cyclotron is used to produce several of the radioactive starting materials, which are used to manufacture radiopharmaceuticals.

MITRU is licensed by the Therapeutic Goods Administration (TGA) as a manufacturer of radiopharmaceuticals which are supplied on a regular basis to hospitals and imaging centres all over Australia. MITRU's TGA license sets them apart from in-hospital services as they are required to maintain their licensed status to continue supplying radiopharmaceuticals to imaging centres. To maintain the TGA License, the MITRU team undergo regular audits by the TGA and adhere to Good Manufacturing Practice (GMP) and all guidance provided by the TGA. MITRU also participate in supplying radiopharmaceuticals for clinical trials.

## MITRU produced the following materials in 2019:

- Fluorodeoxyglucose (FDG): Used for various cancer imaging, staging and treatment planning (TGA Licenced)
- Sodium Fluoride (NaF): Used for bone cancer imaging and clinical trials (TGA Licenced)
- Fluorinated (F18)-PSMA-1007: Prostate cancer imaging (TGA Licenced)
- Copper-64 (Cu64) radioactive metal for radiolabelling: Various research projects and being developed for phase I/II trials (TGA Licenced)
- Gallium-68 (Ga68) DOTATATE: Neuroendocrine Tumours Imaging (Local supply)
- Gallium-68 (Ga68) PSMA: Prostate cancer imaging (Local supply)
- Cu64 SARTATE: Phase I trials for children with brain tumours and lung cancer patients to be imaged and then moved to treatment using Copper-67 (Cu67) SARTATE
- Lu177-PSMA: Prostate cancer treatment (Phase 2 trials and private patient dose delivery)



## 2019 Highlights

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A study published in Nuclear Medicine and Biology. The demand for Gallium-68 ( $^{68}\text{Ga}$ ) for labelling PET radiopharmaceuticals has increased over the past few years. The principal limitation of commercial  $^{68}\text{Ge}/^{68}\text{Ga}$  generators is that only a limited and finite quantity of  $^{68}\text{Ga}$  may be accessed. The focus of this study was to investigate the use of a low energy medical cyclotron for the production of greater quantities of  $^{68}\text{Ga}$  and to develop an automated and rapid procedure for processing the product. This paper showed a straightforward procedure for producing  $^{68}\text{Ga}$  on a low energy medical cyclotron. Current efforts are focusing on high activity production and radiolabelling using solid target produced  $^{68}\text{Ga}$ .



**Prab Takhar,**  
MITRU Director



## Preclinical, Imaging and Research Laboratories

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SAHMRI Preclinical, Imaging and Research Laboratories (PIRL), located at Gilles Plains, has existed to support animal research since 1971, and joined SAHMRI in September 2012.



# Preclinical, Imaging and Research Laboratories

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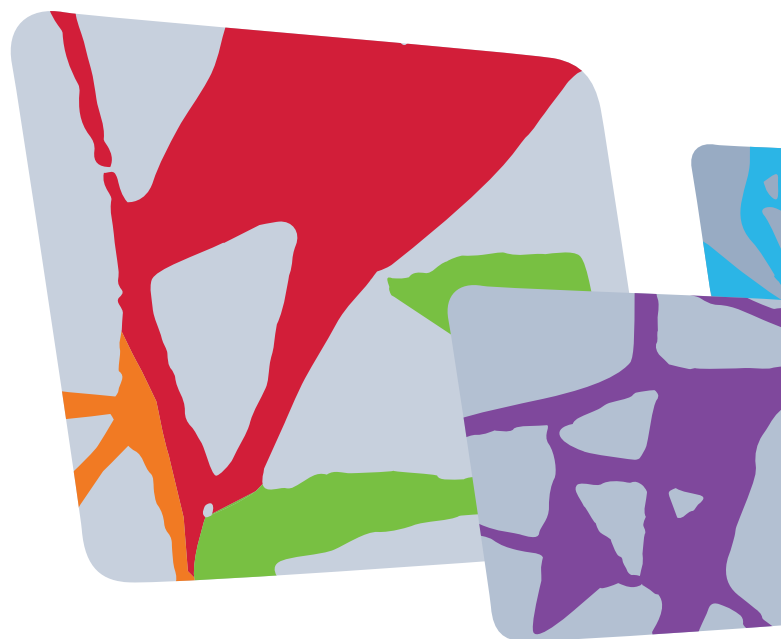
PIRL has an excellent track record for facilitating the translation of preclinical research into clinically applicable outcomes. PIRL staff have extensive experience in preclinical and veterinary research. They offer a range of expertise to a broad spectrum of local and international clients, including grant-funded university academics, biotechnology and pharmaceutical companies.

## The facility offers:

- Contract research conducted to OECD Principles of Good Laboratory Practice (GLP)
- Imaging including Magnetic Resonance Imaging (MRI), CT, X-ray, 4DX-ray velocimetry, Cath Lab, PET-CT (coming soon), DEXA, Image Intensifier, Ultrasound
- Ability to source and order species from reputable suppliers (sheep, pigs, rabbits, guinea pigs, GM rodents, alpacas and other species upon request)
- Preclinical Testing/R&D services/fee-for-service
- Surgeries (5) & Surgical Workshops
- Small animal rodent facility (SAF) - conventional
- In-house access to surgical expertise
- Animal Ethics Committee consultation and advice
- Gnotobiotic (Germ-free) facility
- Laboratory Animal Health Monitoring (ComPath)

## Accreditations include:

- ISO 9001 (2015) accreditation
- OECD Good Laboratory Practice (GLP)
- OGTR Physical Containment Level 2 (PC2)
- Department of Agriculture, Water and the Environment (DAWE) - Approved Arrangement compliance, applications and premises





## 2019 Highlights

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The PIRL team was approached by a commercial client with a technological innovation relating to the trans-osseous measurement of brain oxygenation. They were able to assist with the development of this technology, by providing all the necessary administrative and infrastructural requirements. The successful completion of this project by PIRL staff and the sponsor resulted in a publication in *Medical Devices*\*, and the sponsor is now investigating avenues to commercialise this product.

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\*Dixon B, Turner R, Christou C. *Assessment of a Non-Invasive Brain Oximeter in a Sheep Model of Acute Brain Injury*. *Med Devices (Auckl)*. 2019;12:479-487  
DOI.org/10.2147/MDER.S235804.





# Clinical and Research Imaging Centre

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The Clinical and Research Imaging Centre (CRIC) at SAHMRI is South Australia's leading centre for advanced clinical and translational research imaging.





# Clinical and Research Imaging Centre

With state-of-the-art facilities and expertise in delivering innovative research solutions, our staff collaborate with researchers through all stages of project development, protocol optimisation and acquisition of pilot data through to implementation of large-scale multicentre studies.

**Facilities available at competitive fees to all academic, clinical and industry researchers include:**

- Wide bore 3T MRI with multinuclear, advanced spectroscopy and functional capabilities
- Dual source 384 slice CT with 66ms temporal and 0.24mm spatial resolution
- mCT Flow time-of-flight PET/CT
- Capacity for existing and novel radiotracers provided from MITRU's onsite cyclotron
- X-ray and ultrasound
- Imaging technologists, on-site clinical radiologists and on-site Siemens MRI scientist for sequence development, access to works-in-progress packages, Frontier environment and a global scientific network
- Striking light-filled research spaces designed to ensure patient and participant experience
- Consultation and patient preparation areas
- Meeting room

Quality assurance, GCP and governance processes are designed to meet the specific needs of the scientific community and industry.





## Health Translation SA

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Health Translation SA (HTSA) (formerly known as the SA Academic Health Science and Translation Centre) is one of the inaugural Advanced Health Research and Translation Centres to be formally recognised in Australia.



# Health Translation SA

In a unique whole-of-state collaborative network, HTSA brings together academic, research and health care agencies, and the community, to accelerate the translation of health and medical research findings into policy, education and clinical practice to improve health outcomes for South Australians.

The partnership unites nine academic, research and health care agencies within South Australia, and encompasses the full breadth of health service delivery across the state and represents organisations who can contribute to, and directly influence, the activities of HTSA across each of the three health research translation elements; research, action and impact.

## HTSA's partner agencies are:

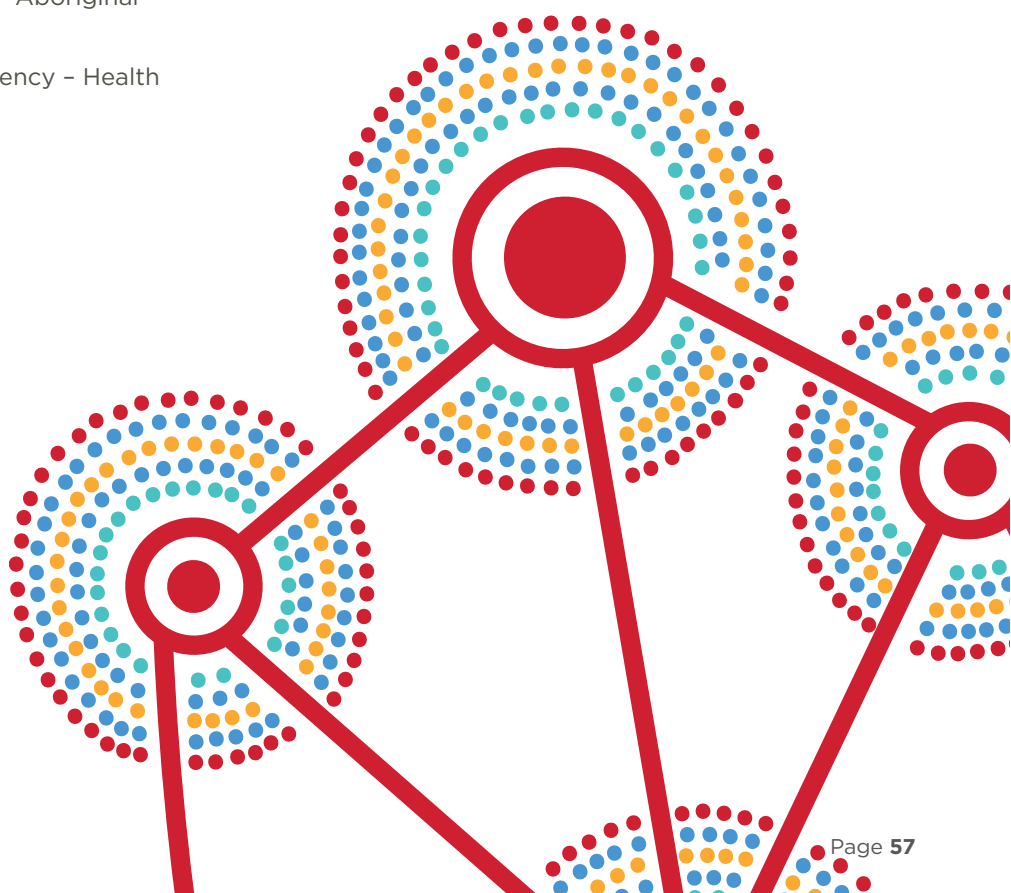
- SA Health and its five Local Health Networks;
- the State's two Primary Health Networks – Adelaide PHN and Country SA PHN;
- the South Australian Health and Medical Research Institute;
- the three South Australian universities – Flinders University, The University of Adelaide and University of South Australia;
- the peak body representing the Aboriginal Community Controlled sector in SA – Aboriginal Health Council of SA; and
- the State's peak health consumer agency – Health Consumers Alliance of SA.

By combining the expertise and strengths of its partners, HTSA is effectively placed to tackle the challenges in health to achieve a high-quality sustainable health system and deliver solutions to address the most pressing healthcare priorities for our community. SAHMRI was instrumental in the establishment of HTSA, coordinating and preparing the original submission to the Health and Medical Research Council (NHMRC) in 2015.

The Medical Research Future Fund (MRFF) has significantly contributed to the growth of HTSA with many research groups in SA, including those represented by its Partners, benefitting from Rapid Applied Research Translation (RART) Grant funding. Inaugural funding of \$2 million for multiple projects was awarded in MRFF RART Round 1 for 2018 and in 2019, HTSA was pleased to be awarded \$6 million funding for a range of projects across two MRFF RART rounds – Round 2 for 2019/2020, Round 3 for 2019/2020/2021.

SAHMRI is the administering agency and the home of HTSA and SAHMRI's Executive Director Professor Steve Wesselingh is the HTSA Research Director.

Further information on the projects funded is available from HTSA's website and 2018 & 2019 Annual Review.







## Fundraising Update

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# Thanks to our Supporters

Thanks to the support of incredible people like you we are closer than ever before to solving some of the biggest health challenges in Australia today.

Over \$2 million has been donated in 2019. These funds have been directed across all our themes of research. Most of these gifts have been the result of developing relationships with private trusts and foundations, as well as individuals who believe in supporting effective medical research.

We are also happy to have engaged with many schools, private and community groups through our tours and events, with an overall increase of people visiting SAHMRI across the year. This also included groups based overseas and interstate, all of which had the chance to be welcomed to our iconic premises based on North Terrace.

## LEADERS IN PHILANTHROPY

This valued group is made up of individuals and private foundations who have donated more than \$1 million to SAHMRI. Their altruistic values and shared passion for a healthier community at large is the cornerstone of our giving program. We thank our Leaders in Philanthropy wholeheartedly for their most generous contribution in 2019.

Australian Cancer Research Foundation (ACRF)  
Detmold Group  
Fay Fuller Foundation  
Raymond & Tina Spencer  
The Cancer Council (SA) – Beat Cancer Project  
The Late Mr David Gunn  
The Wyatt Trust

## FOUNDING AMBASSADORS

Before SAHMRI was based in the iconic ‘cheese grater’ building, there was a group of people with a bold and united vision who believed in a healthier future for all. This group of people are called the SAHMRI Founding Ambassadors.

This committed group of philanthropists acknowledge that investing in medical research can be a long-term proposition. They have helped improve the lives of babies, children, young adults and families across Australia and around the world.

Ahrens Group Pty Ltd  
Alan Young AM and Susan Young  
Alister and Susan Haigh  
Bill Williams  
Brandon and Amanda Petty  
Colin and Libby Dunsford  
David and Kathryn Simmons  
David and Nicole Crawford  
Deepankur Bhatia  
Dr Lea Thin Seow  
Fay Gerard AM and The Adelaide Appeals Committee  
Frank Agostino  
Greg and Lynn Drew  
Gus and Ruth Fraenkel  
Hon Tom Gray  
Hugh and Fiona MacLachlan  
Ian Wall OAM and Pam Wall OAM  
Jill Hammond, Amanda Buttery, Belinda Buttery  
Josh and Cathy Simons  
Leeann and David Willson  
McMahon Services  
Nick and Kathryn House  
Nick and Nikki Heywood-Smith  
Peter and Lisa Weeks  
Professor John Hopwood AM and Barbara Hopwood  
Professor Paul Zimmet AO  
Rick Allert AO and Barbara Allert  
Rob and Lisa Chapman  
Robert and Marjory Ahrens  
Ron and Janet Forster  
Sean Geoghegan and Elizabeth Hallam  
Seeley International  
Shaun Rolevink  
Teresa Girke and Steve Wesselingh  
The Burton Family  
The Grosset Gaia Fund  
The Late Robert Kennedy  
Vivien Zimmet

## TRUSTS AND FOUNDATIONS

Philanthropy inspires. Philanthropy gives hope. Philanthropy changes people's lives. The gift and philanthropic investment SAHMRI received in 2019 will help transform medical research and save the lives of people across the globe. These gifts create a world where all diseases can be prevented, treated and cured, allowing people to live longer and happier lives.

CMV Foundation Inasmuch  
Freemasons Foundation Centre for Men's Health  
L T Seow Legacy  
Lions Medical Research Foundation  
Sanfilippo Children's Foundation  
The Cancer Council (SA) – Beat Cancer Project  
The Hospital Research Foundation  
The Ian Potter Foundation  
The James and Diana Ramsay Foundation  
The Leukaemia Foundation  
The Mason Foundation  
The Rebecca L Cooper Foundation  
The Thyne Reid Foundation

## CORPORATE CHAMPIONS

The Corporate sector across Australia plays such an important role in saving lives by supporting the ground-breaking research at SAHMRI. A special thank you goes to our 2019 Corporate Champions:

AHA (SA) Hotel Care  
Beach Energy  
Bellberry Limited  
Boileau Business Solutions  
Greaton Development  
Health Partners  
Insurance Advisernet Foundation  
Maxxia  
Sarah Mountain Journeys P/L  
Statewide Super  
Taylor & Holmes

## THE WALKER SOCIETY

It is with respect and gratitude that we recognise those who have chosen to leave a lasting gift to SAHMRI. Through a gift in their Will, the members of The Walker Society are providing lasting support to SAHMRI that will impact the lives of future generations.

Alexander and Janet Rae  
Anthony Schulz  
Barbara Elliott  
Bev Harvey  
Bill Hickling  
Bill Williams  
Brenton Scott FCA  
Chris Tsilomanis  
Colin Oates  
Rose Senesi  
Dawn Forde  
Helen Nankivell  
Helen O'Flaherty  
Jim French  
John & Jill Mahoney  
John & Rosemary Wright  
Lea Thin Seow  
Lisa McNeil  
Lorry Senesi  
Margaret Rosemary Watt  
Mary Lou Byrnes  
Molly McCormack  
Nigel Holmes  
Roger Peake  
Shirley Knight  
Stephen Michael Baines  
Theresa Alternetti

## MAJOR DONORS (\$5K+)

Our generous supporters have different reasons for giving to SAHMRI. Each one is committed to creating better health outcomes for all Australians. We thank these individuals for their contributions to society. Alister and Susan Haigh

CMV Foundation  
Deepankur Bhatia  
Penelope Wilson  
Jacqueline Abrahams  
Dr Graham Fraenkel  
Raymond & Tina Spencer



**Rose Senesi, Philanthropy & Engagement Manager** speaking at the 2019 Walker Society Event



## COMMUNITY FUNDRAISERS

It takes a bright idea, passion and energy to engage with the community at large. In 2019 we saw a growing number of Community Events raise funds and awareness for SAHMRI. We thank the volunteers and event organisers who gave their time and effort in bringing memorable and colourful events to life.

Adelaide Beer & Beef Club  
Cathy Johnson  
Classic Owners Motorcycle Club Inc.  
Greg & Sylvia Keegan  
Jacqueline Abrahams  
Jan & Peter Crawford  
Lara Ebbinghaus  
ME/CFS South Australia  
The Lions Club of the City of Adelaide  
UC Mistake Masters – Westbourne Park Primary School  
University of Adelaide Medical School Graduates of 1979

## IN MEMORIAM

When you lose someone you love, it can be difficult to decide how to honour them. We thank the families and friends of the following individuals for choosing to support ground-breaking medical research at SAHMRI in celebration of their life.

Antonio Masi  
Carlo Sasso  
Carmela Alternetti  
Domenica Zerella  
Francesco Germinario  
Geoff Seaman  
Gilda Natale  
Giuseppe Gelonese  
Gweneth Hern  
Gweneth Melva Martin  
Ida Bonnani  
James George Cacas  
John Dayman  
Letizia Ciccone  
Linda Marrone  
Lucia Santoro  
Luke South  
Maria Mosca  
Neville Arthur  
Nick Annese  
Noel McMartin  
Rocco Frango Longo  
Russell Mills  
Stan Borthwick  
Ubaldo Crescitelli  
Vincenzo Caiazza

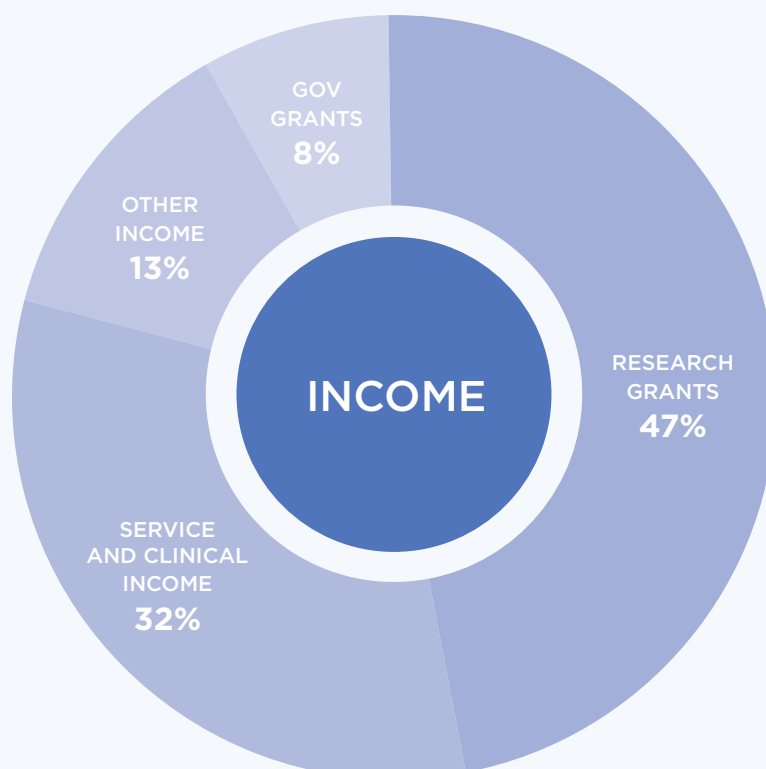
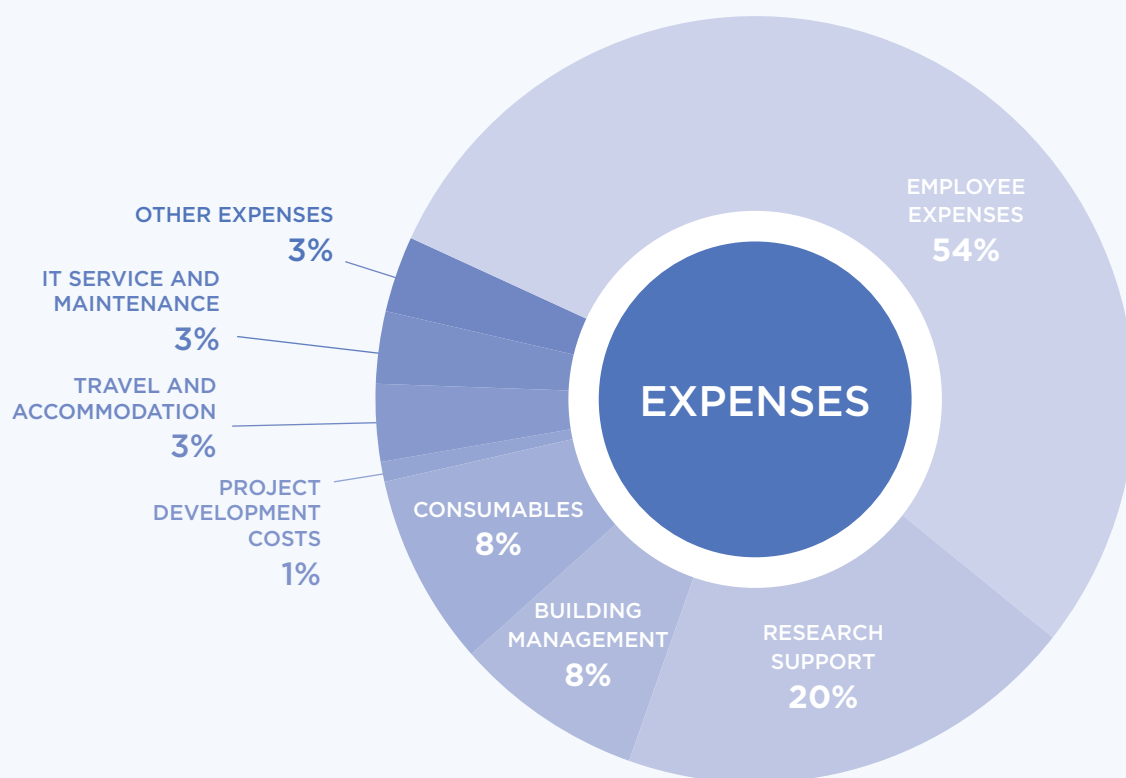
**Rose Senesi and Rosa Matto**  
presenting at the 2019 Founding  
Ambassadors Event



# SAHMRI

## Financial Highlights

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# Consolidated Statement of Profit or Loss and Other Comprehensive Income

	NOTES	31 DEC 2019 \$'000	31 DEC 2019 \$'000
<b>Operating revenue and other income</b>			
Research grants	5	36,358	29,089
Service and clinical incomes	5	24,643	17,619
Other income	5	10,412	11,365
State Government grants	5	5,812	7,670
<b>Total operating income</b>		<b>77,225</b>	<b>65,743</b>
<b>Operating expenses</b>			
Employee expenses	6	(40,183)	(38,816)
Research support	6	(14,815)	(10,816)
Building management costs	6	(6,195)	(5,177)
Consumables		(6,317)	(5,155)
Project development costs		(479)	(2,004)
Travel and accommodation		(1,931)	(1,754)
IT services & maintenance		(2,151)	(1,512)
Other expenses		(1,902)	(2,194)
<b>Total operating expenses</b>		<b>(73,973)</b>	<b>(67,428)</b>
Finance income		583	979
Finance cost		(928)	(1,042)
<b>Net finance cost</b>	<b>7</b>	<b>(345)</b>	<b>(63)</b>
<b>Results from operating activities before depreciation and amortisation</b>		<b>2,907</b>	<b>(1,750)</b>
Depreciation and amortisation	6	(9,528)	(9,830)
<b>Deficit for the period</b>		<b>(6,621)</b>	<b>(11,578)</b>
<b>Other comprehensive loss for the period</b>		<b>-</b>	<b>-</b>
<b>Total comprehensive loss for the period</b>		<b>(6,621)</b>	<b>(11,578)</b>



ABN: 54 141 228 346

SAHMRI North Terrace, Adelaide SA 5000

**P** +61 (0)8 8128 4000 **E** [reception@sahmri.com](mailto:reception@sahmri.com)

PO Box 11060, Adelaide SA 5001

**[www.sahmri.org](http://www.sahmri.org)**

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**t** [www.twitter.com/sahmriAU](http://www.twitter.com/sahmriAU)