

SAHMRI Annual Report 2021





Acknowledgement of Country

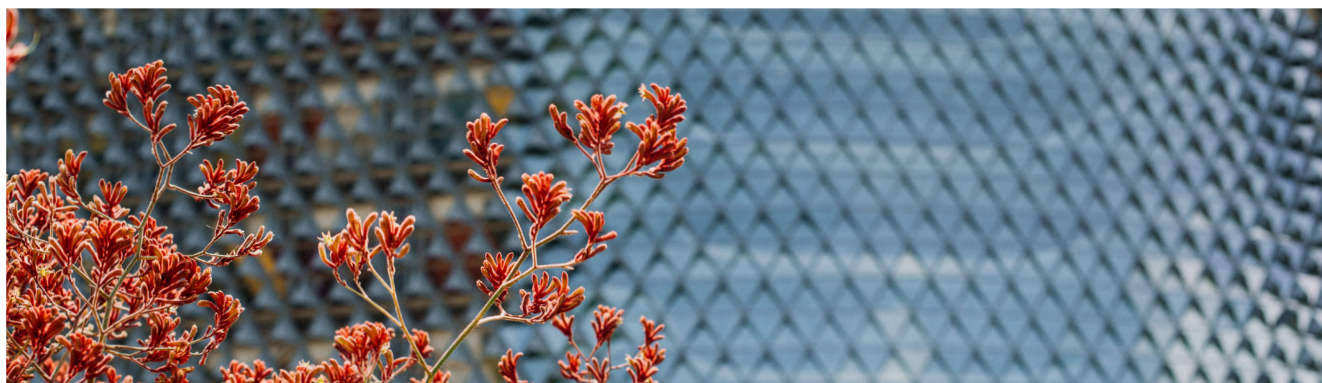
The South Australian Health and Medical Research Institute (SAHMRI) acknowledges the Kaurna people as the Traditional Custodians of the Adelaide plains, where our buildings are located.

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

We acknowledge other Traditional Owners who live across South Australia and Australia, where SAHMRI research is conducted.

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

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Letter from the Executive Director

It's stating the obvious to say that 2021 has been a momentous year, for SAHMRI and generally. Before I delve into the challenges and triumphs of the year, I must start by sharing my most sincere thank you and congratulations with our departing Chair, Raymond Spencer, and fellow departing Board members Alan Young and Emeritus Professor John Hopwood. These three men played different, but equally important, roles in both establishing SAHMRI and fostering our growth over more than a decade.

John is a brilliant scientist who, among many achievements, development pharmaceuticals that gave new life to young people suffering from a rare form of dementia. This breakthrough provided SAHMRI with credibility and resources that were essential in helping us navigate our formative years. In addition, John helped set the translational focus of SAHMRI's research agenda that has become one of our trademarks.

Alan co-authored the report, with Professor John Shine, that recommended the establishment of an independent research institute to bring scale and focus to the sector in our state. He has been a fierce advocate of the great work our institute does ever since – privately and publicly.

Raymond's contributions over the years have played a major part in helping shape the very DNA of our institute. Unashamed local pride, a dedication to innovation, a global ambition and a commitment to inclusion and inequality equally apply to SAHMRI as an organisation and Raymond as an individual. The personal generosity of Raymond and his wife, Tina, has also been a constant support for SAHMRI and our research.

I cannot overstate how important these three foundational members of SAHMRI's Board have been. In time, we will find a fitting way to honour them.

For now however, we look to the future and another opportunity to continue the evolution of our institute. To that end, I warmly welcome our new Chair, former Governor of South Australia, the Hon Hieu Van Le AC, whose intelligence, experience and networks can guide SAHMRI into this exciting new phase of our development.

In the not-too-distant future we will appoint other new Board members who I'm confident will bring diverse but complementary skills.

SAHMRI's evolution continues not just at Board level but throughout our research structure too.

Eminent neuroscientist, Professor Sir Edward Byrne, is the new Chair of our Research Advisory Committee. I very much look forward to that panel analysing our research program early next year, after a COVID-related delay to that meeting.

Another significant change is the staggered departure of our inaugural Wardliparingga Aboriginal Health Equity Theme Leader, Professor Alex Brown, who has accepted the esteemed opportunity to lead the National Indigenous Genomics Consortium. Alex will remain with SAHMRI on a part-time basis throughout next year, and the research collaborations he has fostered here will continue beyond that. I thank Alex as a friend and colleague for everything he has done to help build SAHMRI's culture and research. I wish him every success with a program that will play a crucial role in delivering health equity for Indigenous Australians.

Our Wardliparingga team also welcomed the creation of a new program this year – the Adolescent Health & Wellbeing program, led by Associate Professor Peter Azzopardi and emerging research leader Seth Westhead.



There have been several structural changes within our Lifelong Health program, including the appointment of Associate Professor Peter Psaltis as Co-Leader of the theme, following the departure of Professor Derek Chew who has earned the role of Commissioner of SA's Commission on Excellence and Innovation in Health.

The Freemasons Centre for Male Health and Wellbeing, under the leadership of Professor Gary Wittert, has been established as a standalone program within Lifelong Health, while Gene Editing, led by Professor Paul Thomas, and Microbiome and Host Health, led by Professor Geraint Thomas, have been transferred to the theme from Precision Medicine in recognition of the breadth of collaborations those programs are involved in.

Precision Medicine has also grown, with the divestment of our Cancer program into the Solid Tumour Program, under Professor Lisa Butler, and the Blood Cancer Program, led by Professor Deb White. We have also created a new program –Paediatric Neuro-Oncology– which is being led by Associate Professor Jordan Hansford, who joined SAHMRI from the University of Melbourne and Melbourne's Royal Children's Hospital at the start of this year.

Jordan is our inaugural McClurg Brain Cancer Fellow. His position and the establishment of his program was made possible by a \$1m donation to SAHMRI from Jamie McClurg, the founder and Executive

Chair of developer Commercial & General. This program is another vital behind-the-scenes step towards the creation and operation of the Australian Bragg Centre for Proton Therapy and Research.

The development of this centre - Australia's first proton therapy treatment unit – has achieved other significant milestones this year. Our successful application to have proton therapy added the Medicare Benefits Schedule means that, once operational, this life-saving technology will be available for free to all eligible Australians. With support from our long-time partners at the Hospital Research Foundation Group, our team that is charged with laying the foundations for proton therapy in Australia has grown significantly from two to 12 people. Late this year we hosted a highly successful National Particle Therapy Symposium, further establishing SAHMRI and South Australia's leadership role in bringing the most advanced cancer treatment technology to Australia.

In a related field, plans are progressing well to establish the Bragg Comprehensive Cancer Centre which will co-locate and promote collaborations across the breadth of South Australia's cancer expertise from prevention to detection to treatment to recovery and, of course, research. This integrated cancer centre is a major project of the newly formed Adelaide Health Innovation Partnership which brings together SAHMRI, the Central Adelaide Local Health Network and the University of Adelaide.



This partnership is also focussed on delivering a Centre of Excellence for Aboriginal Health, developing the use of artificial intelligence and data in health, facilitating integrated clinical trials and gaining efficiencies through shared research services.

Another significant event for SAHMRI in 2021 was the handing down of the SA Productivity Commission's report into Health and Medical Research in South Australia. This report – commissioned to interrogate the value of SAHMRI and the broader sector to our state – concluded emphatically that SAHMRI is performing the role it was set up to do and is doing so at a high standard. The report reinforced many of our existing strategic priorities, including closer ties with Local Health Networks to deliver translational research in a clinical setting, and provided recommendations for SAHMRI and the sector to improve the impact we can have on health and health care into the future.

This year began, as we've become all-too accustomed to recently, with our community divided – largely working from home as we continue to navigate a global pandemic. COVID continues to interrupt our lives and vocations, but I must confess I continue to be amazed by what we at SAHMRI, with support from our partners, are able to achieve despite the disruptions.

In our core business of research, there have been significant successes across all our themes and platforms.

Our Aboriginal Health Equity team will work alongside Professor Alex Brown in a long-overdue project to use the power of genomic medicine and research to benefit Aboriginal and Torres Strait Islander people, thanks to a \$5m Synergy Grant from the National Health and Medical Research Council.

One of our talented young Life-long Health researchers, Dr Tim Sargeant, has led the development and patenting of a world-first blood test for autophagy – the recycling system in our cells that is a central factor in determining how healthily we age.

Professor Tim Hughes, the leader of our Precision Medicine theme, launched another world-first clinical trial as his team continues to improve outcomes for people fighting chronic myeloid leukaemia.

Our SAHMRI Women and Kids team, led by Professor Maria Makrides, has seen their world-leading research into use of omega-3 supplementation to prevent preterm birth become a part of standard pregnancy care throughout South Australia. It is a real-world clinical trial that jurisdictions throughout the world are watching with interest with a view to adopting the protocols themselves.

The SAHMRI-based Registry of Senior Australians has played an integral role in advising and providing dedicated research to the Royal Commission into Aged Care Quality and Safety.



Professor Steve Wesselingh
SAHMRI Executive Director

Our team at SAHMRI's Preclinical, Imaging and Research Laboratories has joined with institutions across the nation to form the Australian Lung Health Initiative with the goal of revolutionising imaging and ventilation analysis thanks to ground-breaking new technological advancements.

Throughout the year, Professor Caroline Miller and her Health Policy Centre team have continued to deliver the best research and analysis to South Australia's COVID-19 decision makers, placing them on the best footing to set sound policy to keep us safe while regaining many of the freedoms we, until recently, took for granted.

So here we are. In terms of COVID, the end of 2021 is blessedly different to the beginning, but still there are restrictions and ever-present reminders that we are living in times the likes of which none of us have experienced before. While there is a way to go, our situation across SA, Australia and the world is improving, thanks largely to the efforts of the medical and research sectors who have rallied on every front imaginable to develop vaccinations, preventions, treatments, and public health measures to combat COVID.

A little time out to reflect on 2021 is needed, and most definitely deserved, by everyone in our community and beyond. I hope you find this period with friends and family restful, and that you can return to SAHMRI recharged at the start of 2022 – because we have so much important work still to be done.

Letter from the Chair of the Board



Mr Raymond Spencer
SAHMRI Chair of the Board

Sitting down to write this letter fills me with conflicting emotions. This will almost be my final official duty as SAHMRI's Chair, after being privileged to hold this position for 12 years.

The Greek philosopher Heraclitus is quoted as saying "change is the only constant", and so it is with SAHMRI. Our Constitution dictates that three consecutive four-year terms is the maximum anyone can serve and so I, along with our Deputy Chair Alan Young and fellow founding Board member Emeritus Professor John Hopwood, are vacating our seats to allow SAHMRI's board to be reinvigorated with fresh blood and ideas.

While all of our incoming board members are yet to be confirmed, it gives me great comfort to know that the Hon Hieu Van Le AC, former Governor of South

Australia, has accepted the invitation to replace me as Chair. Hieu is a man of great wisdom and virtue who has been a close friend of our institute since our inception.

There are so many people I could and should thank for their contributions to SAHMRI during my time as Chair but to do them justice would double the size of this Annual Report. I must however mention all the Board Members who have sat alongside me over the journey, and specially mention the two gentlemen who I referred to earlier, Alan and John, without whom SAHMRI might never have been created.

I must also single out our Executive Director Steve Wesselingh, who has been charged with realising the ambitious plans of our Board and who has done so with passion and brilliance throughout his time in charge. I am very pleased that Steve accepted the Board's request to see out another contract, leading us until the end of 2023. The pandemic which we are still enduring has made strength and continuity of leadership even more vital.

It is almost unfathomable for me to reflect on what SAHMRI has become to South Australia, and to the health and medical research sector, having come from such humble beginnings little more than a decade ago. What begun as just a handful of employees with an aspirational vision, operating out of a modest rented office space, now stands as an eminent institute that has made an indelible mark on South Australia physically, culturally and in terms of our contributions to better health and health care.

As I mentioned earlier, change is the only real constant in life, and so it is with SAHMRI. COVID-19 has wrought unforeseen change on all our lives and on our institute also. Pleasingly, with the vaccine rollout progressing well, we have cause for optimism that the liberties we once took for granted will return, and soon.

But much of the change SAHMRI is undergoing is more welcome and planned for. We are maturing in our operations and outlook, having grown apace since the Cheese-grater doors opened just eight years ago.

I will leave it to Steve to outline the growth and development of our core research, but that progress is apparent also in many of the complementary, cultural areas that make SAHMRI who we are.

We are closing in on ratification of the Stretch phase of our Reconciliation Action Plan journey. Whereas our near-completed Innovate RAP had an internal focus, our Stretch RAP will see SAHMRI take on a leadership role in Reconciliation, setting an example for our Adelaide BioMed Precinct and for our community more generally. We can see this work already in action through a series of RAP committee-driven initiatives this year such as the Close the Gap Day public event, showcases at the Aboriginal Power Cup and high schools and our work experience program targeting regional and remote students.

Similarly, our Gender Equity, Diversity and Inclusion Committee is making steady progress through our commitments under the Athena Swan Bronze Award as we target Silver accreditation in the near future.

Community outreach is not just important to set a positive example but to strengthen the public's knowledge and affection for SAHMRI also. The reality of achieving our mission is that we need the support of individuals, industry and philanthropic organisations to power our research. As a relatively small and still young institute we can stand proudly by our record of success when it comes to winning grants from the large national schemes. Reaping the rewards of innovation and inspiration however requires discretionary finding that can only come from philanthropy.

To that end, I share the warmest of thank yous with Jamie McClurg, whose recent \$1m gift is the largest single donation SAHMRI has ever received. Jamie came to know SAHMRI through his role as Executive Chairman of local developer Commercial & General, which is driving the construction of the Australian Bragg Centre adjacent to SAHMRI's headquarters. As his knowledge of who SAHMRI is, what we are out to achieve and why grew, Jamie felt compelled to use his personal resources to support SAHMRI's mission. His gift has enabled the creation of the McClurg Paediatric Brain Cancer Fellowship – a role that will attract one of the world's great clinician/researchers to Adelaide to partner with our growing Australian Bragg Centre for Proton Therapy and Research team and like-minded professionals across our state.

As transformational as Jamie's generosity is, we are equally indebted to every person who has donated to support our research, like those who took part in or otherwise supported the second edition of our BRIGHT

Walk fundraiser earlier this year. I'm cautiously optimistic that with COVID restrictions easing, we will be in a position in 2022 to make the BRIGHT Walk the collective, one-night event it was always designed to be.

Another exciting development in 2022 that greatly enhances our community outreach objectives was the successful launch of SAHMRI's new website. The site embodies the distinctive light and airy feel that you appreciate when you walk into our north terrace headquarters, and provides an attractive, easily navigable platform to share and celebrate the life-changing work that our research community undertakes.

My official ties with SAHMRI will end soon, but the institute will remain a part of me forever. I will, of course, continue to be involved with this great institute in several capacities and will forever be an ardent supporter of and advocate for the critical work SAHMRI does to help us all live longer and live better.

I sincerely thank you all, and those who have joined and left SAHMRI during my time, for the part you have played in making the institute what it is today. I wish you all every success for the future – not for your own sakes, but because the benefits of your successes are so important for people everywhere.

Board of Directors



Professor Steve Wesselingh
Executive Director

Professor Steve Wesselingh is the Executive Director of SAHMRI. 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.

Mr Raymond Spencer
Non-executive Chair



Raymond Spencer was born in Adelaide, studied at the University of Adelaide and has lived and worked in the US, India and Europe. He brings to the role more than 35 years' experience across international business, management planning, technology, finance, organisational culture expertise and mergers and acquisitions.

Mr Spencer was appointed to the Board as Chair on 21 December 2009.



Mr Alan Young, AM
Non-executive Deputy Chair

Alan Young co-authored the Shine Young Report with Professor John Shine. The Report came out of the Review of Health and Medical Research in South Australia, commissioned by the South Australian Government in 2007, and led to the establishment of SAHMRI.

Mr Young was appointed to the SAHMRI Board on 21 December, 2009.



Professor Justin Beilby
Non-executive Director

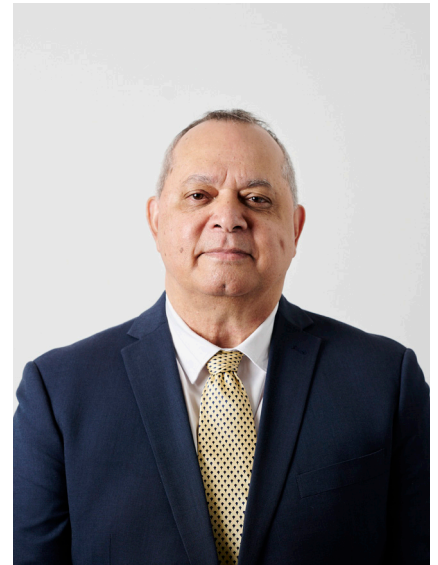
Professor Justin Beilby is an inaugural member of the SAHMRI Board and is an academic general practitioner with expertise in primary care and aged care research, health service evaluation, intervention studies and the translation of research findings into policy and clinical practice.



Emeritus Professor John Hopwood, AM
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.



Mr Eddie Fry
Non-executive Director

Eddie Fry is an experienced businessman who's worked extensively in the resources sector and specialises in financial and human resource management as well as Indigenous and Native Title issues.

Mr Fry is a Dagoman man who is the first SAHMRI Board member who identifies as Aboriginal or Torres Strait Islander.



Mr Ross Haslam
Non-executive Director

Ross 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 Chair of the Board's Audit, Finance and Risk Committee.

Mr Haslam was appointed to the Board on 31 July 2018.

Jenny Richter, AM
Non-executive Director



Jenny 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 with the 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
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 on 1 August 2017.



Professor Caroline McMillen
Non-executive Director

Professor Caroline 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 seven 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.

Professor Benjamin Kile
Non-executive Director



Professor Ben Kile commenced as Executive Dean of the Faculty of Health and Medical Sciences with the University of Adelaide in October, 2019.

Professor Kile was appointed from the University of Adelaide in June 2020.

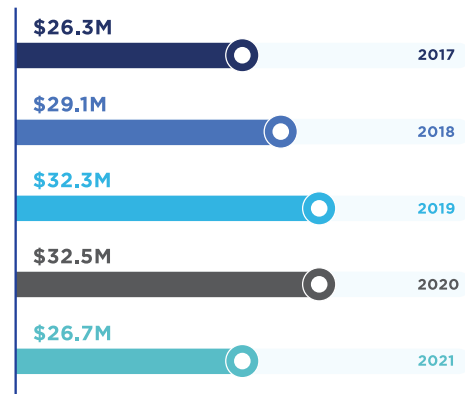
Growth at a Glance



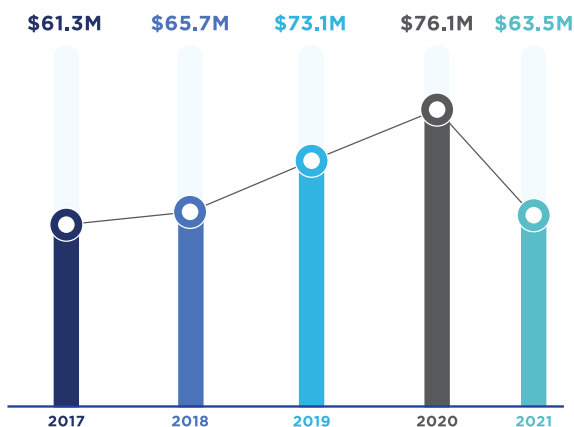
SAHMRI remains committed to recruitment and retention of the best health and medical researchers. To date, more than 75 SAHMRI staff from across the globe have been recruited to South Australia.

SAHMRI is home to 474 staff, 230 students, 459 partners and 21 volunteers, increasing our community by approximately 100 in the past calendar year.

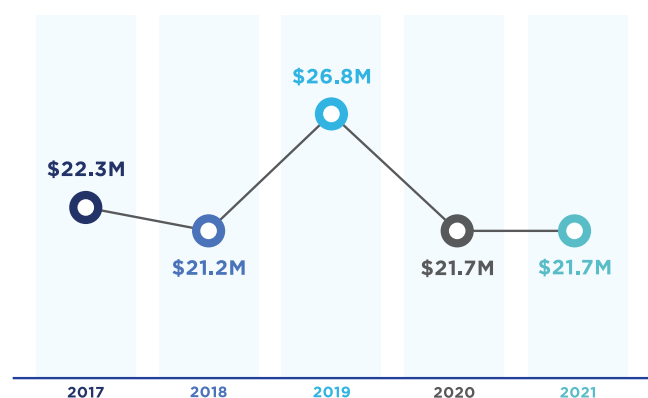
RESEARCH FUNDING



SAHMRI TURNOVER



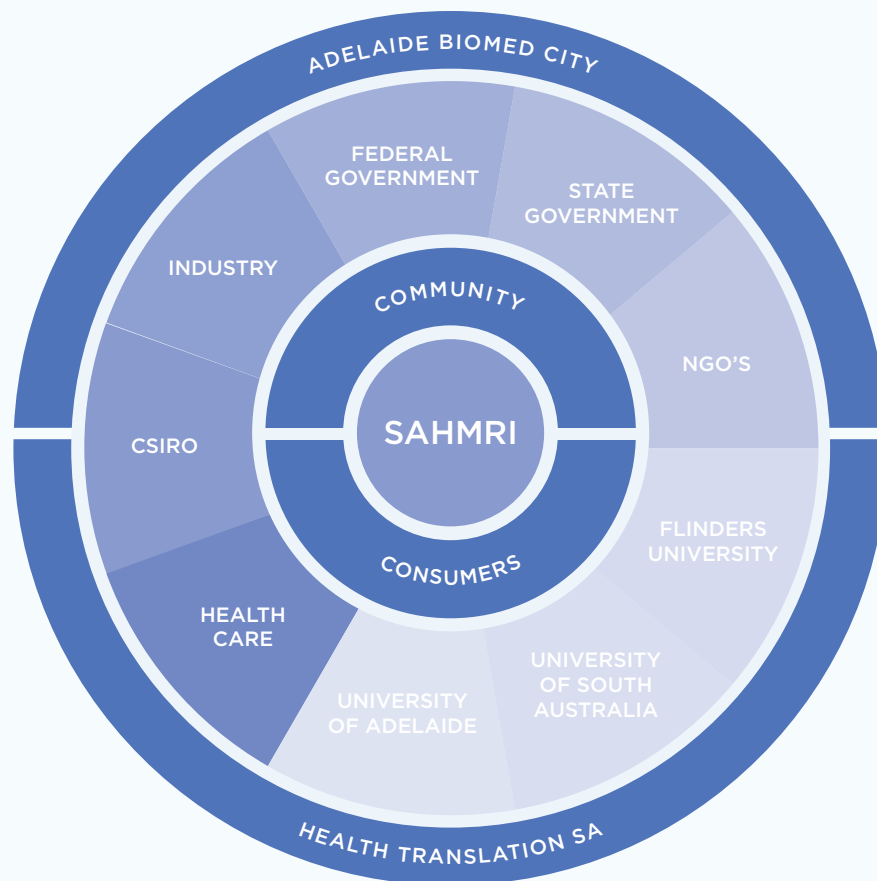
COMMERCIAL INCOME



Partnerships

Collaboration and innovation are in the DNA of SAHMRI.

We would like to highlight the integration of SAHMRI's partnerships and how they create a strong foundation for translational research.



Social Media Highlights



259 Posts

9515
Reactions

 **866**
Shares

1007
Comments

358
New
Followers 



300 
Posts

2441
Likes 

 **671**
Retweets

64 
Comments

529 New
Followers



222 Posts

7148 
Reactions

263 Shares

 **143**
Comments

1794
New
Followers 



Our commitment to Reconciliation



SAHMRI has a commitment to improve the health and wellbeing of Aboriginal and Torres Strait Islander people. Our Reconciliation Action Plan (RAP) will influence and inform the culture of SAHMRI and embed Reconciliation initiatives into all aspects of research within the institution and ensure our Aboriginal and Torres Strait Islander research is conducted ethically.

SAHMRI is committed to providing opportunities for Aboriginal communities, organisations and individuals, including our Aboriginal and Torres Strait Islander staff. We must ensure staff are supported and empowered to embrace opportunities.

We must provide a workplace that is culturally safe, free from discrimination, enables open and honest discussion, educates and empowers individuals to reflect on their journey towards Reconciliation, explores areas of improvement and facilitates opportunities to extend our reach beyond all themes and our organisation.

SAHMRI's major RAP initiatives and achievements in 2021 include:

Cultural learning strategy

SAHMRI has a tiered cultural learning strategy that will span the remainder of our Innovate RAP and roll over into our Stretch RAP.

Cultural learning for the SAHMRI community begins with an online session that is part of our induction process, progresses through different levels of face-to-face cultural awareness sessions, leading to a cultural immersion experience 'on Country'.

Implementing the Aboriginal and Torres Strait Islander Workforce strategy

SAHMRI began implementing its Aboriginal and Torres Strait Islander Workforce Strategy this year. The strategy contains 81 actions that enhance current HR frameworks and complement our Reconciliation commitment. Through the strategy we have developed a talent register of potential candidates for up-coming opportunities. The register has already directly led to the engagement of four new Aboriginal employees.

Education outreach program

This program aligns with targets set out under the national agreement for Closing the Gap and ensures SAHMRI's Reconciliation impact extends beyond our organisation and into the broader community.

The program sees SAHMRI collaborate and participate in a range of initiatives with schools, SASSTA programs, careers expos and Nunga room hot topics.

The program gives us direct reach to our future Aboriginal and Torres Strait Islander graduates and helps promote school based, traineeship and more initiatives many of which align with our workforce strategy targets. It also enhances our partnerships and has us in the forefront of community programs developed around sport and healthy living.

Community skills transfer and pro bono support for capacity building

At the core of our RAP work is our community relationships, ensuring we positively impact our local Aboriginal communities.

We have developed a grassroots program that uses our strengths to give back to organisations, community groups and individuals who are working towards Reconciliation outcomes.

The program has been piloted this year and involves two key areas for capacity building - financial sponsorship and volunteer support with skills transfer.

Progressing to our Stretch RAP

SAHMRI is nearing completion of the commitments we made under our Innovate RAP and is developing our Stretch RAP for submission to Reconciliation Australia for endorsement.

Our new RAP will focus on continuing our cultural education strategy and enhancing that with immersion opportunities. We will take a greater focus on being a visible leader in Reconciliation for our precinct, our sector and our state generally.

RAP 2021

Reconciliation Achievements at SAHMRI

WORKFORCE



percentage of *total* Aboriginal/Torres Strait Islander workforce at SAHMRI

LEADERSHIP



11

Aboriginal/Torres Strait Islander staff with degrees *PhD or higher* or in management positions



Aboriginal and/or Torres Strait Islander in a *Board position*

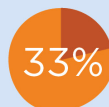


Aboriginal and/or Torres Strait Islander in an *Executive role*

STAFF CULTURAL TRAINING



percentage of staff who have undertaken an *e-learning* cultural program



percentage of staff who have undertaken a *face-to-face* cultural program

EVENTS



internal cultural event organised by SAHMRI in the past year
*due to COVID-19 restrictions



external cultural events SAHMRI and partners participated in last year

ENGAGEMENT



\$939,925

spent on *goods and services* through Aboriginal business



22

Aboriginal businesses we *engaged into contracts* with in the past year



\$16,000

contributed to Aboriginal and Torres Strait Islander *education scholarships*

Artwork: *Karrawirra Part* by Allan Sumner

Gender Equity, Diversity & Inclusion



SAHMRI continues to support Gender Equity initiatives via the Athena Swan program and has embedded this activity within the institute's Strategic Plan 2021-2026. Under the key objective for 'People' we will not only maintain our Athena Swan accreditation status but also 'continue to advance gender equity, diversity and inclusion'. In this, SAHMRI has committed to supporting the full-time role of a Gender Equity, Diversity & Inclusion Manager.

Highlight

In alignment with the Athena Swan Action Plan, SAHMRI aimed to improve the number of female researchers at the most senior levels. In 2015 senior females made up 24% of the level D/E researcher cohort, in 2021 this increased to 42%.

In 2021, the LGBTIQ+ network was refreshed and an Ally+ network was established that same year. These networks work together to provide guidance on policy changes, initiatives and events.



Clinical Trials

In late 2021, SAHMRI appointed the inaugural Director of the Clinical Trials Platform, to help shape the future vision for clinical trial activity within SAHMRI.

By late 2021, the model for the clinical trials platform began to take shape and the foundational elements of future support services was being mapped as part of a broader consultation within SAHMRI and across the newly formed Adelaide Health Innovation Partnership. 2022 will see these plans consolidated and platform service provision underway to ensure improved effectiveness, efficiency and quality of all clinical trials into the future, while providing reliable, accessible support to our researchers and their teams across the organisation and our affiliated partners.



Research Events

Scientific Seminar Series

SAHMRI's Scientific Seminar Series continued to be impacted by COVID restrictions throughout 2021 however plans are in train to see the initiative return on a monthly basis in 2022. These sessions 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.

2021 Awards Presentation

CATEGORY	WINNER(S)	THEME
PhD	Julian Carosi	Lifelong Health
ECR	Dr Steven Taylor	Lifelong Health
MCR	A/Prof Peter Azzopardia	Aboriginal Health Equity
High Impact Publication	Dr Susan Woods	Precision Medicine
Translation and Impact Award	Dr Merryn Netting	SAHMRI Women and Kids
Research Enabler	Andrew Brock	ICT
Research Facilitator	Carol Holden	Research Office
Community Engagement Award	Eugene Warrior / Taingiwilta Pirku Kawantila	Aboriginal Health Equity
Diané Ranck Leadership Award Researcher	Professor Geraint Rogers	Lifelong Health
Diané Ranck Leadership Award Non-Researcher	Cassandra Galton	HR
Executive Director's Award	Yvette Growden , Ben Hull & Pete McDonald	Website Project Team

Research Integrity and Compliance

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 in 2021.



Aboriginal Health Equity (Wardliparingga)

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 to invest in and develop the next generation of Indigenous research leaders.

Adolescent Health and Wellbeing

Co-Led by Associate Professor Peter Azzopardi, Mr Seth Westhead and Dr Rachel Reilly the Adolescent Health and Wellbeing program works in partnership with Aboriginal and Torres Strait Islander young people and communities to understand their priorities and needs and develop evidence-based actions to address them. This includes informing policy and co-designing accessible and responsive services and supports.

Highlight

During 2021 the adolescent health programs flagship 'National Roadmap' project formed its youth governance group.

The group consists of Aboriginal and Torres Strait Islander young people from every state and territory, including the Torres Strait, a key element driving development and implementation.

Working alongside the project team, the governance group is involved in all aspects of the work, ensuring the roadmap is driven by the experiences, needs and expertise of Aboriginal and Torres Strait Islander young people.

Health Systems Research

Led by Ms Kim Morey, the Health Systems Research program works in partnership with key health stakeholders, including Aboriginal health leaders to improve the quality, accessibility and utilisation of a broad range of healthcare services through for Aboriginal and Torres Strait Islander people through the implementation and translation of our research evidence.

Highlight

SAHMRI received \$6m in funding to implement the Aboriginal and Torres Strait Islander Diabetes-related Foot Complications Program in five regions across Australia identified as being in greatest need.

A new culturally responsive, multi-disciplinary and state-wide telehealth service was established at the Royal Adelaide Hospital to prevent and manage active foot disease and facilitate prompt admission to hospital where required. Wardliparingga collaborated with Professor Fitridge to build on this telehealth model. Through development of an education package that leverages virtual reality (VR) local health workers were trained to deliver better community health care to Aboriginal people affected by diabetes-related foot complications.



The approach was adapted by an Adelaide-based foot service who used augmented reality (AR) to “see through the eyes” of an Aboriginal health worker as they conduct foot assessment and treatment. The approach doubled as a strong tool for remote assessment of health workers’ acquired competency. These initiatives are informing a scalable training program.

The South Australia component of the project was led through the SA Aboriginal Chronic Disease Consortium based at Wardliparingga.

Population Health

Led by Associate Professor Odette Pearson, the Population Health research program 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 persons.

The program aims to inform health and social systems change and to support self-determination by collecting curated data for the purpose of measuring health and social inequalities and making this information accessible to Aboriginal communities in South Australia.

Highlight

In 2021, the healthy ageing research continued to grow based on demand identified by our partner organisations.

Through an Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS) grant, we were able to work with Aboriginal Community Services to explore how aged care home care packages support the wellbeing of older Aboriginal people experiencing trauma. The team also investigated how the home care program workforce supports the wellbeing needs of their Aboriginal clients.

This exploratory study adds to our previous and existing research in aged care, aligns with recommendations of the Royal Commission into Quality and Safety in Aged Care and will contribute important findings to inform actions in future research.



Implementation Science

Led by Associate Professor Natasha Howard, the Implementation Science program applies strategies and methods to further understand what actions can be taken to improve the social determinants of health and other critical health issues for Aboriginal and Torres Strait Islander health equity.

Highlight

In 2021, our team assessed language reclamation and social and emotional wellbeing through the implementation of the South Australian Indigenous Language and Wellbeing Survey.

The development of the Survey was directly informed by the results of an earlier phase of the project; a detailed qualitative research project with Barngarla community members who had taken part in pilot language reclamation activities prior to the commencement of the study.

The implementation of the Indigenous Language and Wellbeing Survey will contribute to the emerging evidence base relating to potential positive impacts of language use or revival on the wellbeing of Indigenous people in Australia and elsewhere.

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.

Highlight

One of our landmark programs, the Predicting Renal Ophthalmic and Heart Events in the Aboriginal Community (PROPHECY) Cohort, known to the community as the Aboriginal Diabetes Study, is a world-first longitudinal study of diabetes and its complications in over 1300 Aboriginal and Torres Strait Islander people in South Australia.

This program seeks to better understand the social, psychological, environmental, clinical and genomic predictors of diabetes and complication development, the study will provide insights into the burden of disease and service needs into the future. In 2021, we commenced Wave 2 (5-year follow-up) assessments across South Australia communities. The study team are re-engaging with baseline participants to undertake a follow-up social and health assessment to inform understandings on how participants' health has changed overtime, including who has developed diabetes, and who has developed diabetes related complications like heart disease, vision loss and kidney damage.

Lifelong Health

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.

Freemasons Centre for Male Health & Wellbeing

Freemasons Centre for Male Health & Wellbeing (FCMHW) brings together researchers, stakeholder organisations and consumers from across South Australia and the Northern Territory via its NT and SA Divisions based at The Menzies School of Health, and SAHMRI, respectively.

The Centre is improving the health and wellbeing of all males and consequently their families and communities while upholding the principles of equity, respect and integrity.

Highlight

FCMHW led the largest ever randomised control trial of testosterone therapy in men.

The Testosterone for Prevention of type 2 diabetes trial (T4DM) was conducted across six specialist centres nationally.

The trial found that two years of testosterone treatment, supplemented by lifestyle intervention, reduced the risk of, or reversed type 2 diabetes in men by 40%.

The results were published in the top-ranking international journal, *Lancet Diabetes & Endocrinology* in January 2021.

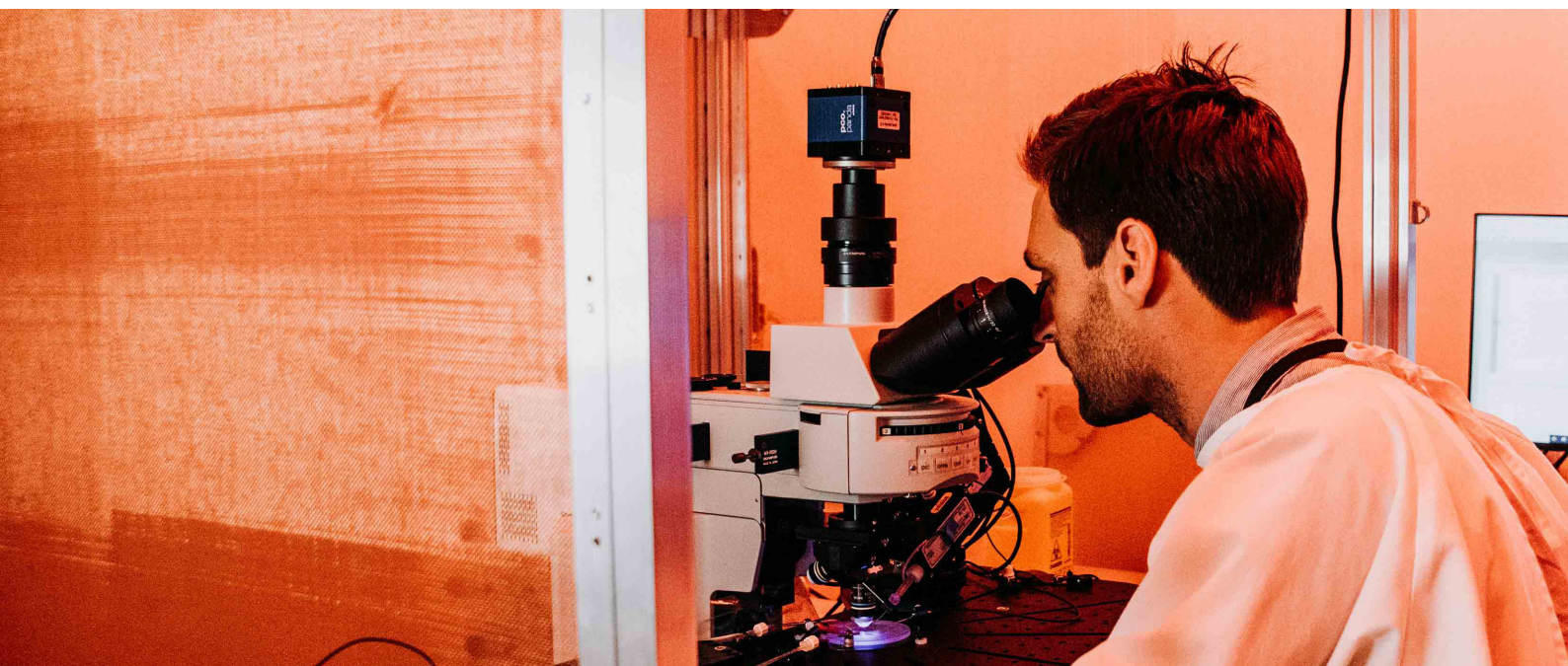
The study provided the highest level of evidence that, on top of weight loss achieved with healthy eating and increased activity, testosterone has added benefit to prevent or reverse newly diagnosed type 2 diabetes.

Gene Editing

Led by Professor Paul Thomas, the Gene Editing research program uses state-of-the-art molecular genetic technology (CRISPR) to understand and develop new therapies for common genetic diseases such as epilepsy, vision loss and muscle wasting. This program also includes the South Australian Genome Editing (SAGE) facility which generates genetically modified mice to study human disease-causing mutations.

Highlight

We developed a novel gene editing tool called, Nuclease Prime Editor, that can potentially be used to repair a wide-array of disease-causing mutations. This study was published in *Nucleic Acids Research*, one of the highest-ranking international journals in the field of Molecular Biology. We are developing approaches to apply this new technology to treat inherited forms of blindness and muscle disease. This research will improve guidelines for the large number of patients with poor disease control.



Heart and Vascular Health

Led by Associate Professor Peter Psaltis, 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.

Highlight

The Heart and Vascular Health program enjoyed a highly productive year in terms of publications (194), citations and grant funding success, in addition to industry-sponsored research, awards and national and international presentations.

On top of the list of notable achievements, the Vascular Research Centre and SAHMRI Atherosclerosis Imaging Core Laboratory were centrally involved in the multinational HUYGENS study.

This randomised clinical trial was the first to demonstrate very intense cholesterol lowering using the PCSK9 monoclonal antibody, Evolocumab, to stabilise coronary atherosclerotic plaques in the first year after acute myocardial infarction (heart attack).

The results were presented at the European Society of Cardiology Congress and will be published in 2022.

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.

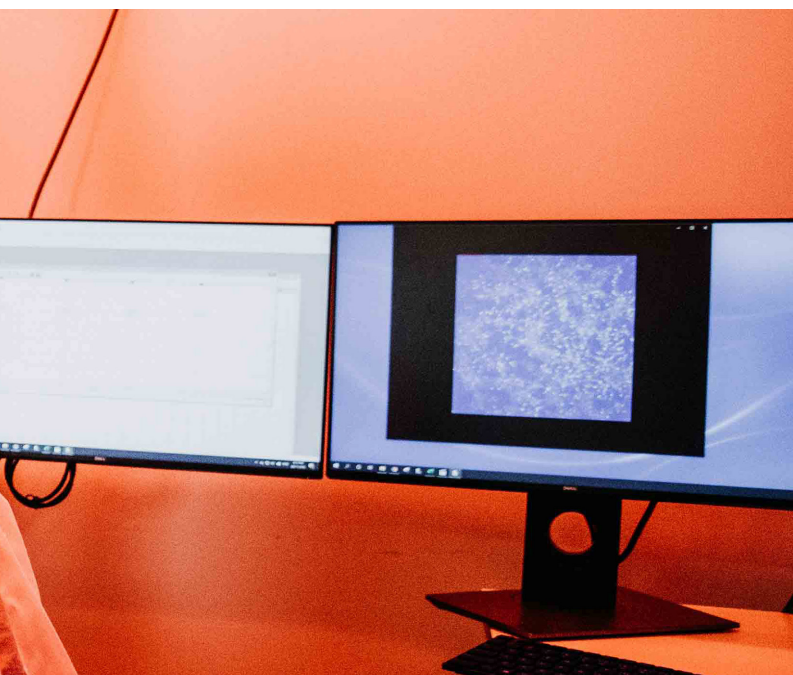
Highlight

Dr Steven Taylor, Respiratory Health Group leader and Flinders University lecturer, earned an auspicious NHMRC Investigator Grant for a \$650,000 project titled, Achieving precision care in chronic lung disease.

Dr Taylor's application cited evidence that current treatment guidelines poorly manage up to 30% of all patients with a chronic lung disease (CLD).

To improve this, his team will identify useful disease markers that inform treatment response. This will be achieved using stored samples and data from thousands of CLD patients, with researchers to meticulously measure markers of disease and identify patient characteristics that inform treatment response.

This research will improve guidelines for the large number of patients with poor disease control.



Nutrition, Diabetes and 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.

Highlight

Prashant Regmi, Professor Leonie Heilbronn and the team were awarded the Society of Endocrinology Journal Prize presented by the Society of Endocrinology for their article, 'Early or delayed time restricted feeding prevents metabolic impact of obesity in mice', published in the Journal of Endocrinology in January 2021.

In this article, the team demonstrated the modification of peripheral circadian rhythm by meal-time as a strategy for the prevention and therapy of obesity and associated metabolic disorders in mice.

Researchers are now looking to replicate that finding in humans with obesity, with funding from the NHMRC, to examine the effects of meal timing in the modulation of peripheral circadian rhythms for the prevention and therapy of obesity and metabolic disorders in a metabolic ward study.

Mental Health and Wellbeing

Led by 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. There is a particular focus on the overlap between mental health and mental illness, with research used to develop techniques for measuring and building mental health and wellbeing within individuals and communities.

Highlight

Be Well Co was formally launched in 2021, co-led by Joep Van Agteren and Monique Newberry. The company is SAHMRI's first commercial spin-out and has been established to further the reach and impact of the wellbeing solutions created by the Mental Health and Wellbeing program at SAHMRI.

Be Well Co is the service delivery arm and commercialisation vehicle for solutions such as the Be Well Plan, the Be Well Tracker, the Be Well Plan mobile app and other future evidence-based mental health and wellbeing offerings.

To date these offerings have engaged more than 20,000 Australians across diverse organisations, industries, community groups and government, with proven impact in improving mental health and wellbeing outcomes at scale.



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.

Highlight

In 2021, members of the HCN received \$4,027,465 in competitive research funding, from sources including the NHMRC, ARC, MRFF, National Institutes of Health (USA), BrightFocus Foundation, and the Mark Hughes Foundation.

The HCN hosted a fortnightly seminar series showcasing internal research, external researchers, clinicians and students. The Centre also became a member of Neuroscience Victoria (NSV) and the South Australian Neuroscience Association (SANA) to take advantage of significant overlap in research interests that can be leveraged to promote collaborations and funding.

HCN held its inaugural Neuroscience Day which attracted around 100 key neuroscience researchers, clinicians and consumers from across Adelaide. The purpose was to connect neuroscientists, showcase the breadth and depth of neuroscience research in Adelaide, identify new collaborations and highlight SAHMRI.

Precision Cancer Medicine

The Precision Cancer 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.

Solid tumour Program

The Solid Tumour Program is a relatively recent entity within SAHMRI's Precision Cancer Medicine theme. The institute's former Cancer Program has evolved into two specialty programs focused on solid tumours and blood cancers.

This program primarily investigates ways to better diagnose and treat multiple myeloma and cancers of the gut and prostate, but also contains groups that look to realise the potential of mesenchymal stem cells and that pursue better ways to support people undergoing cancer treatment.

Highlight

The Solid Tumour Program made major strides in 2021, focusing on supportive care, led by Dr Hannah Wardill, a 2021 'Tall Poppy' recipient, awarded a \$1.49M grant from the Medical Research Future Fund over five years to support the CANCAN clinical trial.

This trial involves a multidisciplinary team from across South Australia that aims to provide new insights into the use of cannabis in people with advanced cancer.

The team is investigating the benefits of cannabis in a heterogeneous group of cancer patients undergoing a variety of treatments.

Paediatric Neuro-Oncology

The Paediatric Neuro-Oncology Program is a relatively recent entity within SAHMRI's Precision Cancer Medicine theme.

This program will explore the integration of proton radiotherapy into Australian paediatric neuro-oncology practice. It will also investigate ways to improve the quality of life of patients with childhood cancer.

The Paediatric Neuro-Oncology team will integrate advanced diagnostics and genomics partnerships to better understand outcomes of children. Other areas of interest include radiogenomics, diagnostic epigenomics and precision medicine in paediatric neuro-oncology practice.



Highlight

Paediatric brain tumour biobanking doesn't currently exist in South Australia, but the Paediatric Neuro-Oncology team is seeking to change this.

A/Prof Jordan Hansford has relocated to SA to lead the team, working towards the integration of proton radiotherapy into standard practice in Australia. With the development of the Bragg Radiation Centre in Adelaide underway, most children with brain cancer needing radiotherapy are likely to be referred to Adelaide once the centre is completed. This affords an amazing opportunity for Adelaide to become a hub of tissue and data collection for all of Australia, a cohort of children that hitherto far, is rarely available in neuro-oncology research in the world. The biobank is well underway with the appointment of the Neuro-Oncology Research Associate, Amanda Luck to the team. She has recently relocated to Adelaide from 11 years working at the Brain Tumour Research Centre in Toronto.

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.

Highlight

The team's recent focus on host-commensal interactions has led to major new discoveries including the influence of gut microbiota on mammalian longevity, vaccine responses and cancer immunotherapies (Cell Reports 2021; Nature Reviews Immunology 2021; Cell Reports Medicine 2021). These recent discoveries have already led to an international patent application, an NHMRC funded clinical study in infants (The AIR study; Lynn CIA) and a funded collaboration (>\$310K in 2021) with major international vaccine company, GSK.

Another interest of the team in the vaccine biology space is on vaccine non-specific effects (Nature Reviews Immunology 2020; Vaccine 2021). This has led to >\$880K in recent funding from the NHMRC Ideas Grant Scheme (Lynn CIA).

Blood Cancer Program

The focus of the Blood Cancer Program is research in the areas of acute lymphoblastic leukaemia, acute myeloid leukaemia, chronic myeloid leukaemia, myelodysplastic syndromes and myeloproliferative neoplasms.

While the team's research is driven by the clinical need in each disease, both in vitro and in vivo fundamental discovery research enables a greater understanding of disease and therapeutic vulnerabilities, which then underpins clinical translation and the delivery of personalised medicine approaches.

Highlight

In 2021 the Blood Cancer program had great success in being awarded funding. The program was awarded 3 MRFF grants and a fellowship totalling \$5.37 million.

Theme Leader, Professor Deb White was awarded \$1,292,871 for a collaborative project on adolescents with acute lymphoblastic leukaemia.

Blood Cancer Program Leader, Dr Daniel Thomas was part of a multi-institutional team awarded \$982,101 to identify and assess new treatment options for the childhood cancer, Neuroblastoma. Dr Thomas also led a team that was awarded \$853,275.00 for the project Engineered human stem cells for mutation - specific eradication of myelofibrosis.

In addition, the Theme Leader Prof Tim Hughes (Chronic Myeloid Leukaemia research leader) was awarded an NHMRC Investigator Grant fellowship for \$2,241,612 for his project A curative approach for chronic myeloid leukaemia.

Special Appointments

Theme Leader Prof Tim Hughes was appointed to the Cancer Australia Advisory Council. Established under the Cancer Australia Act 2006, the Cancer Australia's Advisory Council comprises a Chair and up to 12 specialist expert members appointed by the Minister for Health. As the lead national cancer control agency, Cancer Australia makes recommendations to the Australian Government about cancer policy and priorities.



SAHMRI Women and Kids

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.

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 prevention of these disabilities.

Highlight

The Childhood Disability Prevention research program's major achievements focused on further, in depth genomics investigations of cerebral palsies, still considered by many in the field as disorders of perinatal brain injuries.

The largest exome sequencing study of its kind, published in Nature Genetics, identified statistically significant enrichment of genetic mutation in 250 individuals with cerebral palsy and in genes involved in neuronal cell structure and function.

We also ran two additional studies using whole genome sequencing, as the first test demonstrated clinical and translational utility of such comprehensive genomic test. Our survey of people living with cerebral palsy clearly showed high interest and engagement of this consumer community in cerebral palsy genomics research and the associated health benefits.

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 families with babies, focusing on correcting inequity.

Key areas of focus include preventing preterm birth and stillbirth, improving care for premature and sick babies and optimising infant nutrition by promoting human milk feeding.

Highlight

Quality improvement strategies implemented at the Women's and Children's Hospital by A/Prof Amy Keir and her team led to sustained improvements in care for infants born preterm through increased provision of key interventions to prevent perinatal brain injury. As a result, the team was awarded the highly competitive 2021 SA Health Improving Safety and Quality Award.

Aboriginal Communities and Families Health Research Alliance

Co-led by Principal Research Fellow, Karen Glover and Associate Professor, Yvonne Clark, the Aboriginal Communities and Families Health Research Alliance (ACRA) brings together researchers, Aboriginal community members and organizations, with policymakers and service providers to facilitate community-driven, culturally respectful research for the benefit of Aboriginal families and communities.



The Alliance also prioritises knowledge exchange and translation to contribute Aboriginal excellence to research focused on health, wellbeing and service improvement, relating to mothers, children and families.

Highlight

Our 2021 highlight is a great example of what can be achieved through collaboration, working across our SAHMRI Women and Kids teams, alongside key stakeholders.

Collaborators included the Aboriginal Community Controlled Health Sector, SA Health, the Aboriginal Health Council of SA and Aboriginal Health Equity.

There was a 10-month timeframe to produce a protocol titled, 'Systems change to improve Aboriginal and Torres Strait Islander Maternal and Child Health Continuity of Care in South Australia'.

The team was successful in meeting the deadline, despite facing an array of challenges that included COVID and an Aboriginal and Torres Strait Islander workforce shortage.

We worked with the Aboriginal Community Controlled Health Sector to support the facilitation of the consultation process across South Australia and the collection and analysis of the consultation data.

This involved setting up two active clinical working groups that met regularly and provided feedback throughout, including in formulating the recommendations and writing the final report.

Thirteen recommendations were developed, each with a variety of actions attached.

SA Health is leading the implementation processes, beginning with workshops trialing various recommendations and actions across a range of sites.

This work has been funded by SA Health Aboriginal Strategy Closing the Gap.

Child nutrition centre

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 a particular interest in reducing prematurity and the associated health consequences, supporting optimal growth and development, and reducing allergic disease in early childhood.

Highlight

The Australian Feeding Infants and Toddlers Study was completed, the first-ever nation-wide survey of the feeding practices of Australian children under two years. A series of papers were published in the journal *Nutrients*.



SAHMRI Impact

Health Policy Centre

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, as well as commissioned research and provides expert consultations. It actively engages with policy makers in government and non-government organisations, for improved public 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 research programs relating to tobacco control, sugary drinks, food policy, COVID-19 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.

Highlight

The Health Policy Centre continued to provide evidence to support the state's response to COVID-19 throughout 2021, establishing the COVID-19 Analytics Unit, led by Professor Caroline Miller, with Dr Joanne Dono, Professor Steve Wesselingh and expert collaborators.

The COVID-19 Analytics Unit provided a robust and responsive scientific advisory service, delivering evidence syntheses, mathematical modelling, data analytics and strategic advice to inform real-time COVID-19 decision making and preparedness planning.

Prof Miller was a lead scientific adviser to South Australia's Chief Public Health Officer in 2021, assisting with the transition of Australia's National COVID-19 Response, including the staged opening of state and national borders, while dealing with the emergence of the Omicron variant. This work has contributed to management of the COVID-19 pandemic in a way that has significantly reduced excess mortality and health system burden in SA and across the country.

Registry Centre

The SAHMRI Registry Centre was established in 2018 to bring together the registry science and operational expertise available among our research community, to ultimately strengthen the Institute's existing role in the registry space and expand our research capacity and training in this area.

The Centre brings together a collaboration of registries, including those based within SAHMRI and member registries based externally. The collaboration includes some of Australia's most significant national registries, bringing together a wealth of experience and knowledge. In doing so the Centre provides for increased quality, efficiency, and cost effectiveness, maximising the value of the contributions and advancements made by the 20 member Registries.

SAHMRI's Registry Centre provides an important and rich source of translational and observational research data. Well-designed registries, particularly at the population level, form the 'third pillar' of scientific research in conjunction with clinical trials and laboratory work. The SAHMRI research community believes population-based studies founded by leveraging the information available in registries can represent the most reliable option for identifying the actual 'real-world' effects of interventions, treatments and outcomes in the general population.

The SAHMRI Registry Centre will provide a platform to enhance the enormous value of registry data, supporting the utilisation of other important data sources such as trials, surveys, biobank data, administrative data sets, and information systems, through data linkage and research collaborations.

Highlight - ROSA

ROSA is an Australian Clinical Quality Registry designed to monitor and evaluate the health, service use, medication use, mortality, and other important outcomes of people receiving aged care services in Australia.

In mid 2021, ROSA entered a new phase of the Registry's strategic roadmap. ROSA's foundational support from the SA Department for Innovation and Skills through the Premier's Research and Industry Fund (2017-21) ended in June.

This vital support allowed the research team and collaborators to create the national resource that is now widely used to deliver the high-quality evidence needed to support and improve the aged care sector. The Minister for Health and Aged Care, the Hon Greg Hunt MP, announced the success of ROSA in securing support to continue its current work and expand its capabilities. With the \$2 million awarded from this Medical Research Future Fund (MRFF) Infrastructure Grant, ROSA will be able to continue being the leading provider of high-quality evidence into aged care and ageing.

Highlight - AOANJRR

The Australian Orthopaedic Association National Joint Replacement Registry (AOANJRR) continues to collect information on joint replacement, as it has done over the course of nearly two million procedures. This has resulted in significant changes in both practice and outcomes of joint replacement surgery and ensures ongoing relevance for surgeons, patients and stakeholders.

In 2021 a primary focus of the AOANJRR has been to report on the impact of COVID-19, finding that 19,500 joint replacements should have occurred in 2021, had the pre-pandemic trajectory continued. The Registry continues to remain focused on providing up to date information to orthopaedic surgeons about the consequences of this for their patients into the foreseeable future.

Highlight - ANZDATA

ANZDATA researchers continue to engage in high-impact research activities by generating quality research evidence to inform healthcare decisions made by patients, health professionals, and policy makers.

In 2021, ANZDATA researchers were successful in winning various grants to support this work.

These projects address consumer priorities by embedding consumers within the work as co-investigators.

Further funding received through the NHMRC will launch the Centre for Research Excellence, partnering with patients and caregivers to transform care and outcomes in chronic kidney disease.



Molecular Imaging and Therapy Research Unit

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

Radiopharmaceuticals are radioactive chemicals which are administered to patients to irradiate or determine the location of 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, designed for commercial applications. The cyclotron is used to produce several of the radioactive starting materials used to manufacture radiopharmaceuticals.

Highlight

In 2021, MITRU became an Accredited Training Facility under the Australasian College of Physical Scientists and Engineers in Medicine (ACPSEM) and secured a Trainee Support Grant to fund a registrar for a three-year period.

MITRU has experienced a small reduction in clinical trials activities in the wake of COVID lockdowns and the safety measures imposed. However, demand for licenced radiopharmaceuticals increased, leading to MITRU providing more than 10,000 doses of imaging and therapeutic agents to the patients of South Australia and other states.

In December, MITRU was reinspected by the TGA and found to be compliant, as well as improved. This was achieved with the effort of all staff members and the support of SAHMRI leaders who implemented improvement of infrastructure and internal restructuring to invigorate the team with additional capacity.



Clinical and Research Imaging Centre

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

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.

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

Highlight

CRIC plays a major role in several innovative research projects through its MRI and PET scanning capabilities.

One such project is the \$2m FIND-TBI study, funded by the MRFF and run by Associate Professor Lyndsey Collins-Praino from the University of Adelaide.

Traumatic brain injury (TBI) can be associated with persistent memory and decision making impairments and motor dysfunction. TBI also increases the risk of developing neurodegenerative diseases including dementia and Parkinson's disease. There are currently no clinical tools to predict who is most at risk of long-term impairments. The FIND-TBI project uses both innovative brain imaging techniques and novel blood injury markers to understand disease progression in order to improve prognosis.



Preclinical, Imaging and Research Laboratories

SAHMRI-PIRL, (Preclinical, Imaging and Research Laboratories) located at Gilles Plains, existed to support animal research since 1971. PIRL became part of SAHMRI in September 2012. 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, national and international clients, including grant-funded university academics, biotechnology and pharmaceutical companies. Located within PIRL is SAHMRI's Germ-free research facility and the health monitoring and disease surveillance laboratory, ComPath.

Highlight

We have had some exciting commercial projects conducted at our facility with many successes.

One particular highlight relates to the storage and transport of hearts for transplant cases.

The novel piece of technology we have developed keeps the heart alive outside of the body for longer than the current 8 hour maximum. This is accomplished without too much organ deterioration and the technology is also significantly smaller than what is currently on the market.

This serves to simplify the logistics of transport and will allow the device and organ to be taken onto commercial airline flights as 'carry on' luggage, as opposed to the current protocol where special flights need to be chartered, a process that comes with time constraints and logistical issues.

Health Translation SA

Health Translation SA (HTSA) is one of the first four Research Translation Centres (RTC) to be formally recognised in Australia.

In a unique whole-of-state collaborative network, HTSA brings together academic, research and health care agencies with 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 eleven academic, research and health care agencies within South Australia, encompassing the full breadth of health service delivery across the state and representing organisations that can contribute to, and directly influence, the activities of HTSA across each of the three health research translation elements: research, action and impact.

Highlight

In 2021 HTSA's successful application for re-accreditation as a NHMRC RTC highlighted the breadth of work and the important role it plays in driving collaborative efforts to address health issues as well as health service and system problems. They are now recognised as an independent catalyst and broker, mobilising leadership and driving cross-sector collaborations to address unmet health system priorities and health challenges.

Our progress in delivering impact across SA to date has resulted in HTSA moving from being a "push" organisation to a "pull" organisation. This is evidenced by the addition of three new financial partners in 2021 and increasing requests for HTSA support from both health services and research groups as they strive to utilise and build on HTSA's expertise and positioning.



Consumer & Community Engagement

115 Community members on the CIR

43 Citations of the SAHMRI CCE Framework

19 Researcher requests for CCE collaborators

A core objective of SAHMRI is to produce high quality and high impact health and medical research. Furthermore, SAHMRI is committed to ensuring our research reflects the needs and priorities of the communities we serve.

It is well-established in the literature that there are benefits for research quality and impact from meaningful community and consumer engagement. These benefits for researchers, research organisations and community members have been outlined in a recent review of evidence conducted by SAHMRI on behalf of the Australian Health Research Alliance (AHRA).

In 2021, SAHMRI implemented its updated Community and Consumer Engagement (CCE) Strategy, and a contemporary CCE in Research SAHMRI Position Statement was put in place, developed from the original SAHMRI Framework produced in 2015.

Four priority areas were identified for SAHMRI, which remain current:

- » Increase engagement with researchers
- » Increase engagement with community members
- » Annual Community Engagement forum – with academic content for increased researcher engagement
- » Future evaluation – Informed by the work of the Australian Health Research Alliance CCI project.

Researchers are increasingly collaborating with community and consumers through the SAHMRI Community Interest Register (CIR), establishing connections with consumer advisors or through their own tailored recruitment strategies. SAHMRI's Research Office currently provides advice and expert community connectivity across all these options of engagement.

SAHMRI's CCE expertise, resources and collaborative approach has been taken up by research colleagues across Adelaide including the three major universities, the Robinson Research Institute, Adelaide BioMed City and the Australian Bragg Centre for Proton Therapy and Research.

Membership of the CIR has increased over the three years since its establishment. Current members are offered induction and ongoing communication to maintain their knowledge and commitment. SAHMRI has provided advice on implementation of the CIR strategy across state and national networks.

Pandemic restrictions have seen community forums put on hold over the past two years however consultation will ascertain how the community wants to reconnect in the future.



Australian Bragg Centre for Proton Therapy and Research

The Australian Bragg Centre for Proton Therapy and Research will occupy the ground floor and three underground levels of the Australian Bragg Centre building that is under construction on the eastern side of SAHMRI's North Terrace headquarters. Comprising three proton therapy treatment rooms, the Australian Bragg Centre for Proton Therapy and Research is dedicated to becoming a centre of excellence for paediatric, adolescent and rare adult tumour health outcomes.

A significant step towards ensuring equity of access for proton therapy was achieved with SAHMRI's successful application for proton therapy to be added to Medicare Benefit Schedule (MBS). The Public Summary Document (PSD) for this application (MSAC 1638) was released in February 2021. SAHMRI was informed by the Department of Health that the new proton therapy item numbers will be the most expensive medical service to ever be listed on the MBS.

Radiation Facility licensing of the Bragg Centre by the SA Environment Protection Authority (EPA) progressed to Stage 2 in 2021, allowing for the commencement of construction works. Achieving Stage 2 status required EPA approval of bespoke radiation shielding calculations. These calculations were performed by the Bragg Centre medical physicist, independently verified by an international health physics company, and finally reviewed by an EPA co-ordinated national panel.



Highlight

There was an increase in Bragg Centre staffing in 2021, with a Communications Officer joining the Lead Medical Physicist on the team.

The Communications Officer has developed a community engagement workplan, which has included establishing a social media presence for the Bragg Centre. The Bragg Centre website was also redeveloped, providing a targeted approach to updates on the centre and its media presence.

Generous support from The Hospital Research Foundation Group (THRF) in late 2021 enabled the recruitment of key personnel to the Bragg Centre project in preparation for Australia's first proton therapy facility.

This included part-time employment of radiation oncologists, medical physicists, radiation therapists, registry project manager, data manager and a clinical implementation project manager. The team are working collaboratively with stakeholders to drive the project, ensuring that world class proton therapy is delivered in an equitable manner to those eligible.

Led by the Bragg team, in collaboration with various stakeholders, patient volume modelling work was completed. The work estimated that 90% of patients will travel from interstate, requiring not only proton therapy treatment but significant specialist and allied health support during their six-week stay. Paediatric patients require dedicated care and patient mapping and models-of-care are scheduled to begin in early 2022.

Adelaide Health Innovation Partnership

The Adelaide Health Innovation Partnership (AHIP) is an alliance between SAHMRI, the Central Adelaide Local Health Network and the University of Adelaide.

AHIP facilitates and advocates for change, innovation and improvements in health service delivery, medical research, education and patient care.

AHIP facilitates and advocates for change, innovation and improvements in health service delivery, medical research, education and patient care. The partnership brings together the key elements, knowledge and skills from our members organisations to tackle projects that will have a significant impact on improving the health of our community and provide economic growth for South Australia.

AHIP projects vary in size, but the common factor is that they improve the current systems and models in place to deliver better research, education and health care for the benefit of our community.

AHIP's priority projects are:

The Bragg Comprehensive Cancer Centre – to provide research-driven, consumer-informed cancer research, education and patient care so that South Australians receive the most advanced world-class care

Purrana Trruku Centre of Excellence for Aboriginal Health – to respond to community demand for access to evidence-based therapies and increase the provision of world-class healthcare to the Aboriginal population of South Australia

A Clinical Trials Platform - A single, fully integrated platform across our partners to support the growth of impactful clinical studies

A shared research service - to provide a single point of entry for researchers and industry, streamline processes and fast track approvals to support researchers to start and manage projects more efficiently

Innovations in data and artificial intelligence in health - to remove barriers to data access and linkage so that it can be used to inform artificial intelligence (AI) projects and support better data-driven clinical decision making

SAHMRI's involvement

SAHMRI is a founding member of AHIP and is committed to achieving the vision and strategic outcomes of AHIP.

Ms Jenny Richter AM, SAHMRI Board member, sits on the AHIP Board as SAHMRI's nominated representative. Prof Steve Wesselingh and Prof Maria Makrides sit on the AHIP Executive Group along with undertaking project sponsor roles.

For more information on AHIP, visit www.ahip.org.au



Adelaide BioMed City

Adelaide BioMed City (ABMC) is a \$4.2B Health Innovation and Translation District comprising leading-edge anchor institutes and companies, state-of-the-art infrastructure and importantly, people with the ideas, talent and entrepreneurial spirit to transform the future of health.

ABMC is a catalyst for ground-breaking health innovation, leveraging South Australia's renowned clinical and high technology strengths, to deliver new to the world medical innovations addressing urgent unmet needs in healthcare.

We curate meaningful collaborations for entrepreneurs, clinician innovators, startups, SMEs and local and international corporates with our research, clinical and educational partners, SA's leading technology precincts, commercial experts, and funding opportunities to accelerate translational research and commercialisation.

Since its founding in 2018 through a collaboration between CALHN, WCH, SAHMRI, The University of Adelaide, University of South Australia and Flinders University, ABMC has transformed from a young innovation precinct, built on strong academic and research foundations to a vibrant, connected, commercially oriented catalyst for collaborative innovation with significant interest from international investors.

Importantly, ABMC is part of a broader neighbourhood of interdisciplinary innovation hubs including LotFourteen, Tonsley and Thebarton. Collectively our innovation districts cover science and health innovations like big data and AI in health, medical devices and assistive technologies (ABMC and Thebarton), space tech and quantum physics (LotFourteen) and high-tech manufacturing (Tonsley).

The future of healthcare is interdisciplinary and the remarkable health a medical researchers, clinicians, students and businesses in this innovation neighbourhood work closely with industry and commercialisation experts to translate research innovations into tangible improvements in healthcare.



Governance

Integral to its strategic priorities, ABMC recently matured its governance from a Representative Board (comprised of 2 representatives from each of the founding members) to an independent skills-based Board with a focus on industry, investment and commercialisation. Five years funding was committed from each of the partners with a projected 5 years further funding to support ABMC's refreshed strategic directions.

The newly appointed skills-based Board will be supported by the Partners' Council, made up on representatives from each of the founding partners to ensure the alignment of priorities and agendas.

ABMC has a diverse range of stakeholders including SA Government (primarily Dept. of the Premier and Cabinet, Dept. of Trade and Investment, Dept. of Industry, Innovation and Science, Office of the Chief Scientist for South Australia and Office of the Chief Entrepreneur for South Australia), Renewal SA, Adelaide Convention Bureau and The Adelaide Convention Centre, together with a variety of industry stakeholders.

The newly appointed Board possess the skills and networks to work collaboratively and effectively with all our founding partners and stakeholders.

SAHMRI's Involvement

As with all its founding partners, ABMC works with SAHMRI to deliver funding, collaboration and investment opportunities for its researchers, clinicians and commercial interests.

Via the Partners' Council, SAHMRI will be represented to ensure that key priorities and deliverables for SAHMRI are consolidated within the strategic objectives and activities of ABMC.

SAHMRI provides in-kind finance, legal and marketing support for ABMC and is regularly used as the 'home base' for ABMC staff and meetings.

The ABMC Infrastructure Masterplan Committee, on which SAHMRI is represented, serves as a reference group for district infrastructure projects that will mutually benefit founding partners, stakeholders and the Health and Medical Innovation sector as a whole.

Fundraising & Marketing

SAHMRI's researchers rely on community support to continue working on the most critical health and medical issues we face today.

In recent years we have boosted philanthropic income thanks to the generosity of major donors, trusts and foundations. However, to sustain SAHMRI's future funding, we recognised the need to extend fundraising to the broader population and make fundraising and marketing a strategic priority.

A new Head of Fundraising and Marketing leads a primarily new team to develop and implement a diversified fundraising strategy and raise the profile of SAHMRI's work.

To develop the strategy, we needed to understand where awareness, knowledge and comprehension gaps exist and determine how to address these. We commissioned market research to benchmark brand awareness, evaluate behaviours towards fundraising activities and help us optimise brand messaging to drive greater engagement and support.

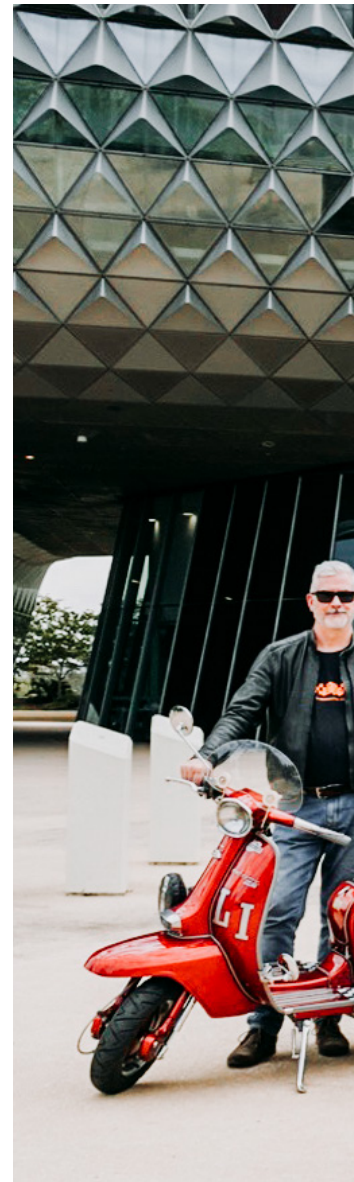
Results showed that there is recognition of, and affection for, SAHMRI's iconic building. However, there is a lack of awareness and understanding of SAHMRI's breadth of work, with the common misconception that SAHMRI is government funded.

As a result, we have created a marketing strategy to bust myths about funding and communicate an attractive support proposition to a wide range of potential supporters.

Over the next three years, we will develop and build well-researched offerings that secure ongoing donations from a loyal base of supporters in the South Australian community.

This year's pandemic limited our ability to engage with our supporters face to face. However, more than 1,000 people participated in our virtual sponsored walk, BRIGHT, in September.

There were fewer community events raising funds for SAHMRI during 2021. However, we are grateful to the Adelaide Appeals Committee and The Festival of Motorcycling, who each held successful events to benefit the work of our researchers.





In October 2021, a Night of Champions event was held during SA's annual Festival of Motorcycling. The money the committee raised helps to support PhD candidate Khalia Primer who is researching the vascular complications of diabetes.

Thank You to SAHMRI's Supporters

Philanthropy changes people's lives. Gifts from philanthropic trusts and foundations, generous benefactors and major donors help transform medical research and save people's lives across the globe.

In 2021 we were incredibly grateful to the following supporters for helping our researchers to turn their discoveries into cures, treatments, better health and longer lives. These gifts support our vision of creating a world where everyone can live longer and happier lives.

Platinum Supporters (more than \$100,000)

- » Beat Cancer Project
- » BrightFocus Foundation
- » Bruno and Bernie Simone
- » Cancer Australia
- » Cancer Council SA
- » Diabetes Australia
- » The Hospital Research Foundation
- » The James & Diana Ramsay Foundation
- » The Leukaemia Foundation of Australia
- » Michael J Fox Foundation
- » Movember
- » Perpetual Foundation
- » Ramaciotti Awards
- » The Wyatt Benevolent Institution Inc

Diamond Supporters (more than \$50,000)

- » Bill and Melinda Gates Foundation
- » Channel 7 Children's Research Foundation
- » Diabetes Australia
- » The Grosset Gaia Fund
- » Ian Potter Foundation
- » Ian Wall AM & Pam Wall OAM
- » Mason Foundation
- » Rebecca L Cooper Medical Research Foundation
- » Rodney Detmold
- » Susan Hoopmann
- » Thyne Reid Foundation

Emerald Supporters (more than \$25,000)

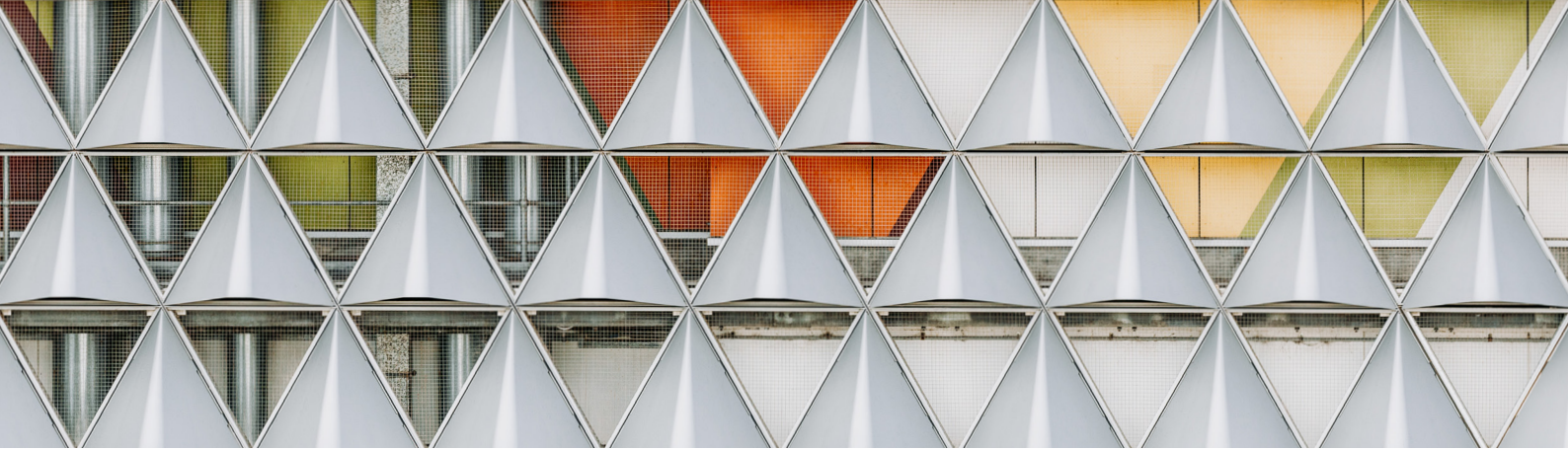
- » Adelaide Appeals Committee
- » CMV Foundation Inasmuch
- » Graham Fraenkel
- » Iain Murchland
- » Insurance Advisernet Foundation
- » John Hopwood AM & Barbara Hopwood
- » Neurosurgical Research Foundation
- » Raymond and Tina Spencer

Sapphire Supporters (more than \$10,000)

- » Angelique Boileau and Boileau Business Technology
- » Australian Lifestyle Furniture
- » Childhood Cancer Association
- » Cowell Clarke Lawyers
- » Flinders Foundation
- » Hurley Family Foundation
- » Rodney Gamlin
- » Sandy's Memorial Trust

Ruby Supporters (more than \$5,000)

- » Alister & Sue Haigh
- » Elizabeth Hallam
- » Foskett Foundation
- » John & Thea Patterson
- » John Phillips
- » Katie Sarah
- » Lai Industries
- » Medtronic Australasia Pty Ltd
- » Paul White
- » Peter & Lisa Weeks
- » The Indulkaninna Foundation
- » The Lions Club of the City of Adelaide
- » Tom Crago



The Walker Society

With respect and gratitude, we recognise those who have chosen to leave a legacy to SAHMRI. Walker Society members are providing the ultimate gift in their Will to make a lasting impact on the lives of future generations.

- » Theresa Alternetti
- » Stephen Baines
- » Diana Bartlett
- » Robin Baxter
- » Mary Lou Byrnes
- » Barbara Elliott
- » Dawn Forde
- » Jim French
- » Bev Harvey
- » Bill Hickling
- » Nigel Holmes
- » Frank Imbrogno
- » Shirley Knight
- » John Mahoney
- » Molly McCormack
- » Lisa McNeil
- » Sandra Morton
- » Helen Nankivell
- » Colin Oates
- » Helen O'Flaherty
- » Roger Peake
- » Alexander Rae
- » Anthony Schulz
- » Brenton Scott
- » Lorenzo Senesi
- » Rosanna Senesi
- » Lea Thin Seow
- » Chris Tsilomanis
- » Willie Van de Meulengraaf
- » Margaret Watt
- » Bill Williams
- » John Wright

Founding Ambassadors

Even before the iconic 'cheese grater' building became SAHMRI's home, a group of people with a bold and united vision believed in a healthier future for all. This group of people are SAHMRI's Founding Ambassadors.

We owe a debt of gratitude to this original group of philanthropists for investing in medical research as a long-term proposition. Their names will forever be displayed at SAHMRI to acknowledge their vision.

- » Emeritus Professor John Hopwood AM and Barbara Hopwood
- » Alister and Susan Haigh
- » Dr Lea Thin Seow
- » Ian Wall AM and Pam Wall OAM
- » Leeann and David Willson
- » Peter Weeks
- » Sean Geoghegan and Elizabeth Hallam
- » Ahrens Group Pty Ltd
- » Alan Young AM and Susan Young
- » Bill Williams
- » Brandon and Amanda Petty
- » Colin and Libby Dunsford
- » David and Kathryn Simmons
- » David and Nicole Crawford
- » Deepankur Bhatia
- » 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

- » Jill Hammond, Amanda Buttery, Belinda Buttery
- » Josh and Cathy Simons
- » McMahon Services
- » Nick and Kathryn House
- » Nick and Nikki Heywood-Smith
- » Peter and Lisa Weeks
- » Professor Paul Zimmet AO
- » Rick Allert AO and Barbara Allert
- » Rob and Lisa Chapman
- » Robert and Marjory Ahrens
- » The late Ron Forster OAM
- » Seeley International
- » Shaun Rolevink
- » Teresa Girke and Professor Steve Wesselingh
- » The Burton Family
- » The Grosset Gaia Fund
- » The Late Robert Kennedy
- » Vivien Zimmet

Financial Summary

	31 DEC 2021 \$'000	31 DEC 2020 \$'000
Operating revenue and other income		
Category one research grants	10,290	11,282
Other research grants	11,552	18,990
Sale of products	4,652	3,764
Contract research & clinical trial income	17,061	17,970
Income for indirect costs of research	4,865	2,255
Rent and outgoings	4,132	4,337
Other income	5,268	11,553
Total operating income	57,820	70,151
Operating contributions		
State Government operating grant	5,769	5,958
State Government development grant	-	7,600
Total operating contributions	5,769	13,558
Non-operating grants		
State Government capital grant	537	604
Commonwealth Government capital grant	-	400
Commonwealth Government PTU grant	6,474	6,986
Total non-operating grants	7,011	7,990
Total revenue	70,600	91,699

	31 DEC 2021 \$'000	31 DEC 2020 \$'000
Operating expenses		
Employee expenses	(39,988)	(39,596)
Research support	(8,610)	(11,847)
Building management costs	(5,634)	(5,040)
Consumables	(6,993)	(5,599)
Project development costs	(295)	(676)
IT services & maintenance	(2,269)	(2,354)
Other expenses	(4,049)	(4,400)
Total operating expenses	(67,838)	(69,512)
Finance income	1,585	530
Finance cost	(238)	(791)
Net finance income/(costs)	1,347	(261)
Results from operating activities before depreciation and amortisation	4,108	21,926
Depreciation, amortisation and derecognition expense	(9,477)	(9,407)
Surplus/(deficit) for the year	(5,368)	12,519
Other comprehensive income/(loss) for the year	-	-
Total comprehensive income/(loss) for the year	(5,368)	12,519



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