LIFE SAVING AND JOB CREATING MEDICAL RESEARCH

Life Saving Research – Funding for medical research

The Australian Government is investing $6.7 billion in medical research over the next 4 years, including:

- The Medical Research Future Fund (MRFF) ($2.6 billion)
- National Health and Medical Research Council (NHMRC) ($3.6 billion)
- Biomedical Translation Fund ($500 million).

As part of this program, the Government is building on its commitment to life-saving medical research by providing $228.1 million in new grants and funding programs to assist researchers around the country to tackle health problems, including COVID-19, burn injuries and silicosis.

The grant funding, which is divided among new grants announced and newly opened opportunities, comes from the MRFF and the NHMRC.

In addition, the Australian Government will continue its Blood Borne Viruses (BBV) and Sexually Transmissible Infections (STI) Research Program to develop evidence-based policy for managing and preventing BBV and STIs including, HIV, hepatitis B, hepatitis C, chlamydia, syphilis and gonorrhoea. It aims to improve diagnosis, treatment and care services, and lessen the burden of stigma and discrimination in the community.

The 69 research projects to commence in 2020-21, funded with grants totalling $128.1 million through the MRFF and NHMRC, (full table further below) include:

- $1.6 million to University of Sydney - A single dose, globally accessible vaccine to combat emerging SARS-CoV-2 variants, which threaten to derail COVID-19 controls. Late-stage pre-clinical testing of the next-generation vaccine, already developed by the University, to determine the optimal formulation and assess safety/tolerability
- Around $12 million to Deakin University - for the Mental Health Australia General Clinical Trial Network (MAGNET) to enhance treatment access and improve the health of communities across Australia through innovative mental health trials, generating much needed new therapies, lived experience leadership

- $11.9 million to the University of Sydney - to establish Growing Minds Australia: a child and youth clinical trials network to improve methods for identifying signs of mental health problems in children and youth
- $2.4 million to Monash University – for the Third Degree Burn Wound Closure using Engineered Skin Clinical Trial. Developing a reliable substitute skin graft, using bioengineered skin grown from small samples of a patient's own skin, to save lives and improve the quality of life for survivors of severe burn injury
- Five grants of between $600,000 and $2.2 million for silicosis research projects, to address the epidemic of fatal silicosis caused by inhaling dust from artificial stone products. The projects include a world-leading study of the potential of whole lung lavage to treat accelerated silicosis, ways to improve diagnosis, and treatments, and
- $10 million to the Menzies School of Health Research - for a National First Nations Research Network. Led by Indigenous people for Indigenous people, the Network will nurture culturally safe environments, connect expertise, and catalyse research methods, training and development.

The Government is also investing $100 million in opening new MRFF funding rounds:

- $70 million over 3 years from 2021–22 for the 2021 Rare Cancers, Rare Diseases and Unmet Need (RCRDUN) Grant Opportunity, across 7 streams.
- $15 million over 3 years from 2021–22 for the Coronavirus Research Response - 2021 COVID-19 Health Impacts and Vaccination Schedules Grant Opportunity, across 3 streams.
- $15 million over 4 years from 2021-22 for the 2021 Improving the Health and Wellbeing of Aboriginal and Torres Strait Islander Mothers and Babies Grant Opportunity.

Why is this important?

The amount of funding being provided through the MRFF has grown from $61 million in 2016–17 to $597.9 million in 2020–21, and is projected to grow to $650 million per annum in 2022–23 and beyond.

Appropriations to NHMRC's Medical Research Endowment Account (MREA) increased from $689 million in the 2012–13 financial year to $863.3 million in 2021–22. New commitments are expected to reach $1 billion for the 2021 NHMRC grant round.

The continued investment in health and medical research helps drive innovation and development of breakthroughs in health, which lead to improved patient outcomes, jobs growth and significant economic returns.

The Australian Government has supported and funded BBV and STI research for more than 20 years. Continued research will help decrease the prevalence rates of hepatitis B, chlamydia, syphilis and gonorrhea, which have risen particularly among young people and Aboriginal and Torres Strait Islander populations in recent years.

It is estimated that more than 40,000 Australians are diagnosed with a rare or less common form of cancer and for many, support options are minimal with a lack of evidence-based information to inform treatment options and support networks.

The COVID-19 pandemic represents a significant and urgent threat to global health. Understanding long-term health impacts of COVID-19 infection and the response to vaccination schedules is crucial for informing clinical care, development and prioritisation of vaccines and therapeutics, and targeting public health interventions. The Australian Government has committed more than $25 billion towards its coronavirus (COVID-19) response, to support our health system to manage the outbreak in Australia, including $96 million over 2 years from the MRFF for a Coronavirus Research Response comprising vaccine, antiviral and respiratory medicine research.

Who will benefit?

The Government's investment in research grants will ultimately lead to improvements in the treatment and quality of life for Australians who suffer from a wide range of diseases and conditions, including cancer, Silicosis, Atrial defibrillation, and blood cancers. Projects aimed at improving treatments, in terms of effectiveness and/or pain relief, include studies of new skin grafts for burns, the use of cannabis for managing symptoms and side effects amongst patients with advanced cancer, and the treatment of neuropathic pain in people with spinal cord injury.

The continued Government investment in COVID-19 research is a vital contribution to the international battle against this pandemic, which remains a significant and urgent threat to global health. Research outcomes will potentially have national and international benefits.

All Australians at risk of, or living with BBV and STI will benefit through continued support for research into these diseases. This includes priority populations identified in the national strategies, many of whom are vulnerable or marginalised within our community – Aboriginal and Torres Strait Islander people and Australians living in rural and remote communities.

How much will this cost?

The Australian Government is investing or allocating $228.1 million in new grants and funding programs.

Grant Opportunity Outcomes

Medical Research Future Fund – Grant Opportunity Outcomes	
Clinical Trials Activity – International Clinical Trials Collaborations	• $6.9 million • 5 grants awarded
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	• $28 million • 13 grants awarded
Coronavirus Research Response – COVID-19 Vaccine Candidate Research	• $4.5 million • 2 grants awarded
Medicinal Cannabis Clinical Trials	• $3.7 million • 3 grants awarded
Silicosis Research	• $6 million • 5 grants awarded Including $1 million for one grant from NHMRC
Primary Health Care Research	• $7 million • 6 grants awarded
Mental Health Research	• $24 million • 2 grants awarded
Frontiers Health and Medical Research	• $9.6 million • 10 grants awarded
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	• $12 million • 10 grants awarded
Efficient Use of Existing Medicines	• $14.3 million • 8 grants awarded
Researcher Exchange and Development in Industry	• $300,000 • 2 industry scholarships awarded

National Health and Medical Research Council – Grant Opportunity Outcomes	
National Network for Aboriginal and Torres Strait Islander Health Researchers	• $10 million • 1 grant awarded
NHMRC–National Institute for Health Research (NIHR) Collaborative Research Grant scheme	• $1.8 million • 2 grants awarded

Medical Research Future Fund, Grant Opportunities Opening

Grant Opportunity	Available funding ($)	Opening
2021 Clinical Trials Activity Rare Cancer, Rare Diseases and Unmet Need, including: • $5 million for rare cancers of the reproductive system • $5 million for rare breast cancers such as triple negative breast cancer • $5 million for rare diseases with genetic origins such as Duchenne muscular dystrophy • $15 million for non-drug treatments and therapies (eg surgery) • $15 million to assess the comparative effectiveness of health interventions • $10 million for low survival cancers and low survival rare diseases, and • $15 million for conditions with unmet medical need.	70,000,000	Opening 12 May 2021
2021 COVID-19 Health Impacts and Vaccination Schedules, including: • $5 million for research on the long term impacts of COVID-19 • $5 million to develop tailored vaccination schedules for immunocompromised individuals and populations, and • $5 million to develop vaccination schedules that combine different COVID-19 vaccines.	15,000,000	Opening 12 May 2021
2021 Improving the Health and Wellbeing of Aboriginal and Torres Strait Islander Mothers and Babies Grant Opportunity for Indigenous-led research that translates existing knowledge to ensure Aboriginal and Torres Strait Islander mothers and babies have access to culturally-safe care during pregnancy, birthing and the post-natal period.	15,000,000	Guidelines available 21 June 2021

Medical Research Future Fund – Grant Opportunity Outcomes

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Clinical Trials Activity – International Clinical Trials Collaborations	1,598,380	Queensland University of Technology	Oral bacterial lysate to prevent persistent wheeze in infants after severe bronchiolitis; a randomised placebo controlled trial (BLIPA; Bacterial Lysate in Preventing Asthma)	Preventing the development of wheeze in preschool children would produce major health benefits, but to date no therapies have proved to be effective. A group of infants who are at very high risk of developing preschool wheeze and subsequent asthma, are infants who are hospitalised with bronchiolits. The researchers are partnering with leaders in the United Kingdom in this study which will examine whether boosting the immune system by giving granules of lysed dead bacteria can prevent future childhood asthma.
Clinical Trials Activity – International Clinical Trials Collaborations	1,782,950	University of Sydney	SAFER (AUS) Trial: Screening for Atrial Fibrillation with ECG to Reduce stroke - a randomised controlled trial	Atrial fibrillation (AF) is a common heart condition causing an irregular heartbeat, and is responsible for about one in 3 strokes. “Blood thinning” tablets (anticoagulants) prevent AF-strokes. AF often has no symptoms: one in 10 people with stroke are unaware they have AF. Early identification of AF could prevent strokes. This research in general practices will find out if AF screening of people aged over 70 years can prevent strokes without excess side effects, and if it represents good value-for-money.

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Clinical Trials Activity – International Clinical Trials Collaborations	1,460,862	Curtin University	Nasal high-flow Oxygen Therapy After Cardiac Surgery: NOTACS	Patients undergoing cardiac surgery often suffer lung complications. NOTACS will test an oxygen delivery strategy called nasal high flow oxygen as a way of reducing these complications and shortening the time needed to recover in hospital. Because Indigenous patients needing cardiac surgery experience disproportionately worse outcomes, NOTACS will focus on Aboriginal and Torres Strait Islander study participation, innovative and inclusive trial methods, and research leadership development.
Clinical Trials Activity – International Clinical Trials Collaborations	991,198	University of Melbourne	AMEND-CRT trial	Cardiac resynchronization therapy (CRT) is an accepted treatment option in patients with heart failure. CRT "re-tunes" the contraction of the heart so that it beats efficiently, and successful CRT can improve cardiac function and survival. However, the CRT selection process is currently inexact, with many patients failing to benefit. The researchers seek to show that an echocardiographic selection process may reduce the non-responder rate without limiting the selection of patients who will benefit.

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Clinical Trials Activity – International Clinical Trials Collaborations	1,036,126	University of Sydney	AGITG and Scandinavian Sarcoma Group International Trial Collaboration. SSG XXII: International randomised phase III multicenter study of 3 v 5 years of adjuvant imatinib as treatment of patients with operable GIST with high risk for recurrence.	This international trial compares the effect of giving imatinib for 5 years compared the current standard of 3 years to people who have undergone surgery for gastrointestinal stromal tumours (GIST). The aim is to prevent tumours from returning. At present it is not known whether GIST patients benefit from being on treatment for longer than 3 years and half of the participants will be allocated to 2 years extra imatinib. Results could change standards to 5 years or confirm 3 years is optimal.
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	2,490,422	Monash University	Addressing unmet needs for patients with blood cancers: Immunoglobulin or antibiotics to prevent infection in the RATIONALISE clinical trial	Patients with blood cancers, with immune deficiency from low antibody levels and disease or treatment factors, are at risk of life-threatening infection. Immunoglobulins (Ig) made from plasma can supplement antibody levels. Government criteria recommend stopping Ig therapy in stable patients, but with no evidence for when or how to do so. RATIONALISE will provide new evidence to improve patient outcomes, reduce infection risks and costs, and make better use of blood products for the community.

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Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	2,708,661	La Trobe University	I-124 PET Directed Redifferentiation Therapy for Radioiodine Refractory Thyroid Cancer: the I-FIRST Study	While current treatments for thyroid cancer are usually effective, a subset of patients will stop responding or become less sensitive to I-131 treatment. The outcome for these patients is poor, and further treatment options may not be effective or have significant toxicity. This prospective multicentre trial will use cutting edge imaging to evaluate the ability of drugs to "resensitize" the tumour to I-131 therapy. The researchers will also determine the affordability of bringing this therapy to the clinic.
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	2,688,736	The Council of the Queensland Institute of Medical Research	MoST-LLy (Molecular Screening and Therapeutics in Leukaemia and Lymphoma)	The MoST-Lly clinical trial program will provide a new model of care with rapid molecular screening linked to targeted innovative treatments for the management of high-risk blood cancer in patients in Australia who have exhausted treatment options. MRFF funding will allow this screening and targeted treatment blood cancer screening program to be rolled out nationally, increase trials activity and offer hope to patients with limited treatment options.
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	901,695	University of Melbourne	A randomized phase III study of neoadjuvant chemotherapy followed by surgery versus surgery alone for patients with High Risk RetroPeritoneal Sarcoma (STRASS 2)	Retroperitoneal sarcomas (RPS) are a diverse group of cancers that arise at the back of the abdominal cavity. The STRASS 2 study is designed to find out if a course of chemotherapy prior to surgery for RPS will reduce the risk of cancer recurrence and increase cure rates after surgery. It is the first study to look specifically at only 2 sarcoma types with the highest risk of cancer spreading. It also uses different chemotherapy drugs for each sarcoma type to ensure the best chance of response.

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Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	2,894,369	University of Sydney	An adaptive, randomised controlled trial to treat polyomavirus infections (BKPyV) in kidney and kidney pancreas transplant recipients (BEAT-BK) trial	BK polyomavirus (BKpyV) infection is a feared outcome for kidney and kidney pancreas (SPK) transplant recipients because it can lead to significant kidney graft dysfunction and graft loss. Apart from immunosuppression reduction, there are no effective treatments for BKPyV infection. The BEAT-BK trial will be the first-in-the world, adaptive randomization trial of intravenous immunoglobulin and immunosuppression reduction/modification in patients with kidney and SPK recipients.
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	912,514	Monash University	Preventing bones loss and restoring sexual function in women with premature ovarian insufficiency: a randomised, double-blind, placebo-controlled clinical trial	Women who have loss of function of their ovaries before the age of 40, or 'premature ovarian insufficiency' (POI), have estrogen and testosterone depletion. Despite treatment with estrogen, women with POI still lose bone mass and have sexual difficulties. The researchers will test if, compared with placebo, adding testosterone to standard estrogen therapy after POI prevents bone loss and improves sexual function. The findings will immediately inform the clinical care of women with POI.
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	1,699,254	University of Melbourne	Targeted therapies for vascular malformations	Vascular malformations are rare congenital lesions which can cause lifelong pain, deformity and diminished quality of life. The recent, surprising discovery that they arise through similar genetic mechanisms to many cancers, suggests that drugs already in the clinic for cancer treatment should be effective in these conditions. A 'precision medicine' approach will give children and adults with the most severe vascular malformations their first opportunity to benefit from a clinical trial.

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Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	2,860,249	University of Melbourne	POST ETERNAL Extending the time window for Tenecteplase by Effective RecanalizatioN of bAsiLar artery thrombus in patients with POSTerior circulation stroke	Basilar artery occlusion is a rare (~1% of all strokes) but devastating (80-90% disability and mortality) stroke caused by a blockage in the basilar artery, a blood vessel in the back of the brain. POST-ETERNAL is a clinical trial of a new clot-dissolving medicine called tenecteplase administered within 24 hours of symptom onset in patients with a stroke due to basilar artery occlusion. The main outcome of this trial is the proportion of patients at 3 months who are free from disability.
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	4,735,398	Monash University	INTERCEPT (Investigating Novel Therapy to target Early Relapse and Clonal Evolution as Pre-emptive Therapy in AML): a multi-arm, precision-based, recursive, platform trial	Acute myeloid leukemia is a rare and lethal blood cancer with limitless potential to evolve resistance. New technologies allow early detection of molecular “fingerprints” of returning disease. The researchers propose an international research team to conduct a multi-arm, precision-based platform trial aimed at increasing and extending the duration of patient response and survival using novel combination options. INTERCEPT will suppress and eradicate relapse before the patient becomes clinically unwell.

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Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	1,780,270	University of New South Wales	StoPain: A randomised placebo-controlled trial to investigate the efficacy of an advanced interactive brain-computer interface neuromodulation treatment for spinal cord injury neuropathic pain	Neuropathic pain (NP) is a debilitating secondary condition for persons with spinal cord injury (SCI) and effective pharmacological and nonpharmacological treatments remain elusive. The researchers will test whether a novel Brain-Computer Interface Neuromodulation (BCI-N) treatment offers sustained pain relief for SCI NP. This trial is expected to provide a major sustainable advance in SCI NP management that has tangible implications in the improvement of quality of life of individuals living with SCI NP.
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	2,363,239	Monash University	Third Degree Burn Wound Closure using Engineered Skin- Phase I Clinical Trial	Over 40% of burns survivors live with pain and disability caused by scarring of skin grafts and their donor sites. Development of a reliable skin graft substitute to be tested in this study will save lives and improve the quality of life for survivors of severe burn injury by minimisation of the need to use patients' own unburned skin to graft burns. The researchers will treat patients with severe burns with bioengineered skin developed in our laboratory and grown from small samples of their own skin.
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	1,225,487	La Trobe University	Employing rational novel agent combination therapy to improve transplant cure rates for relapsed/refractory Hodgkin Lymphoma	Hodgkin Lymphoma (HL) is a rare malignancy, with 500 new cases annually in young Australians. While 70% of patients are cured with front line treatment, 30% of patients require second line therapy which often fails resulting in death. Immunotherapy and targeted therapies have dramatically improved survival in haematological malignancies. This study will combine two agents currently approved in recurrent HL the second line setting, earlier to maximise survival of these young Australians.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Clinical Trials Activity – Rare Cancers, Rare Diseases and Unmet Need General Round	707,954	The University of Queensland	Testing a sinonasal microbiome transplant as a therapy for Chronic Rhinosinusitis by randomised controlled trial	Chronic sinus infections place a significant burden on quality of life. Recently our team undertook a promising study treating 25 chronic sinus patients with a nasal rinse containing nasal secretions from healthy donors. The patients' sinus symptoms decreased significantly after treatment; their symptom scores went from 57 out of 110 to 35 out of 110, a statistically significant improvement. This project will test the nasal secretion treatment more rigorously comparing it to a placebo.
Coronavirus Research Response – COVID-19 Vaccine Candidate Research	1,556,560	University of Sydney	A single dose, globally accessible vaccine to combat emerging SARS-CoV-2 variants	The emergence of highly transmissible SARS-CoV-2 variants threatens to derail COVID-19 control efforts. The researchers have developed a next-generation vaccine, delivered as a single dose, that targets these variants. In this proposal the researchers will undertake late-stage pre-clinical testing to determine the optimal vaccine formulation, define protective efficacy against SARS-CoV-2 infection and assess vaccine safety/tolerability. Outcomes will be used to fast track vaccine progression to clinical testing.
Coronavirus Research Response – COVID-19 Vaccine Candidate Research	2,983,909	University of South Australia	Accelerated clinical development of a next generation COVID-19 vaccine using the established Sementis Copenhagen Vector platform system	In response to the global COVID-19 pandemic, the WHO have outlined the need for vaccines which can address outbreaks, and provide population scale vaccination for the longer term. Our COVID-19 vaccine, based on a novel next-generation non-replicating viral vector vaccine technology, is advanced in development, and designed to deliver safe, broad, and long-lasting immunity. It can be produced economically and at scale to support these large-scale national and global vaccination programs.

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Medicinal Cannabis Clinical Trials	1,526,796	The University of Queensland	Medicinal Cannabis (MedCan 3) – randomised, multicentre, double blind, placebo-controlled trial to ass THC/CBD (1:20) to relieve symptom burden in patients with cancer	People with advanced cancer experience a large range of distressing and difficult to manage symptoms. There has been much public interest in the use of medicinal cannabis to relieve the distress caused by these symptoms. In this trial, the researchers will test the two main components of cannabis - THC and CBD to determine if this makes patients feel better and improve their quality of life.
Medicinal Cannabis Clinical Trials	692,017	Queensland University of Technology	A prospective, multicentre, randomised, blinded, two-arm parallel trial of Medicinal Cannabis Products for alleviating symptom burden in children with advanced cancer	The researchers aim to investigate if giving medicinal cannabis (MC) to children receiving palliative care for advanced cancer, improves their symptoms such as pain. A prospective, randomised trial will assess the effectiveness, safe doses and side-effects of two (MC) products. The researchers will also ask children and parents about their views on MC cannabis use. This study will contribute to the limited evidence around the role and safe use of MC in children, which can be used to inform future clinical trials.
Medicinal Cannabis Clinical Trials	1,486,715	The University of Adelaide	The CANnabinoids for CANcer Therapy (CANCAN) trial	Medicinal cannabis has been investigated for the management of cancer therapy symptoms. However, there is insufficient evidence to guide its use in clinical practice. The CANCAN trial will address this gap by exploring the use of personalised CBD/THC dosing to prevent common and impactful symptoms of treatment in advanced cancer.

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Silicosis Research	2,216,631	The University of Queensland	Silicosis – Harnessing new ideas to conquer the re-emergence of an ancient lung disease – The SHIELD study	An epidemic of fatal silicosis caused by inhaling dust from artificial stone products has engulfed Australia and other developed countries. SHIELD is a national, coordinated, multidisciplinary response to the silicosis crisis. In multiple world firsts, SHIELD will: assess the potential of whole lung lavage to treat accelerated silicosis; test the ability of biologic markers to predict disease; and deploy cutting-edge technologies and innovations to bridge the 'kitchen bench-top to bedside' gap.
Silicosis Research	1,481,686	University of Sydney	Transforming diagnosis of silicosis: a novel AI approach	This project builds on a currently funded project establishing novel teaching tools to enhance silicosis diagnosis. The new work integrates artificial intelligence (AI) into the existing activity to achieve: tailored education following clinicians' judgement of lung images; supported decision making for diagnosing silica-induced lung lesions; improved outcome predictions based on patient data. Diagnosis of silicosis will be transformed using the best of humans and machines.
Silicosis Research	645,764	Monash University	The NLRP3 inflammasome as a potential biomarker and therapeutic target for silicosis	Inhalation of silica particles by artificial stone workers can lead to the development of silicosis disease and there are currently no available treatments. This project will identify new indications of disease risk, as well as anti-inflammatory drugs that can improve silicosis disease.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Silicosis Research	665,843	University of Tasmania	The role of particle size in the pathogenesis of engineered stone-associated accelerated silicosis	The emergence of engineered stone associated silicosis in Australia is an occupational health disaster. There is currently no understanding why this form of silicosis develops, is so severe or why it develops after only a few years of exposure to engineered stone dusts. This project aims to identify the types of engineered stones that are most hazardous to lung health and why the dusts generated cause such severe disease.
Primary Health Care Research	1,625,287	Queensland University of Technology	A hybrid, implementation-effectiveness trial of a nurse-enabled, shared-care MOdel between primary and acute care for proStatE cancer Survivors (The MOSES Trial)	The MOSES Trial will implement and evaluate an integrated, model of follow-up care shared between the acute cancer care centre and general practice across Queensland, South Australia and Victoria. In partnership with the Prostate Cancer Foundation of Australia specialist nurses, the researchers will maximise the scalability of this best-practice care model using a range of implementation strategies, ultimately transforming how care is delivered to thousands men with prostate cancer.
Primary Health Care Research	511,751	University of Sydney	Health4Me: Improving adolescent physical activity and nutrition behaviours via primary care	Physical activity and nutrition are pillars of good physical and mental health, yet, are among the most significant health challenges facing today's young people. In Australia, over 90% of adolescents own a mobile phone, yet there are limited digital health programs to improve youth health in primary care. To address this, the researchers will test a scalable text messaged program for young people. This research could ultimately better integrate services for young people in primary care across Australia.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Primary Health Care Research	1,255,051	South Australian Health and Medical Research Institute Limited	Improving the social and emotional wellbeing of Aboriginal and Torres Strait Islander men in South Australia	Aboriginal and Torres Strait Islander men carry the worst health and social outcomes within Australian society. Despite significant investment and policy focus on women's health, and men's health in general, the area of Aboriginal and Torres Strait Islander men's social and emotional wellbeing has remained relatively ignored. This project will address a community identified priority by shifting away from describing the challenges to providing solutions for the primary health care environment.
Primary Health Care Research	977,628	Bond University Limited	Activating primary care COPD patients with Multi-morbidity (APCOM) study	Chronic Obstructive Pulmonary Disease (COPD) is a common chronic condition that can progress to disability and death. Self-management support for people with COPD can reduce exacerbations and improve quality of life but many programs are not effective as they fail to recognise the impact of other long term conditions. This study will evaluate the effectiveness, cost-effectiveness and uptake of a self-management intervention that is tailored to individual need and recognises multimorbidity.
Primary Health Care Research	1,520,220	Australian National University	Optimising primary health care in Australia: multi-method whole-of-population investigation of the impact of telehealth on uptake and quality of care	In 2020, telehealth was made available to everyone in Australia, in response to COVID-19. To provide evidence to improve primary health care in Australia, the project will investigate the effect of telehealth on quality of primary care, including accessibility, safety, continuity and appropriateness. For the whole population, the researchers will analyse Medicare data linked to health, social and economic information, complemented by interviews and workshops engaging patient and clinician perspectives.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Mental Health Research	11,930,126	University of Sydney	Growing Minds Australia: A National Trials Strategy to Transform Child and Youth Mental Health Services	The researchers will establish Growing Minds Australia, a child and youth clinical trials network that improve methods for identifying signs of mental health problems in children and youth, identify non-responders to treatments and evaluate methods for addressing their ongoing needs; improve the focus on the physical health of MH problems, and improve access to evidence-based programs through a national approach to improving mental health literacy, and reducing stigma.
Mental Health Research	11,998,908	Deakin University	Mental Health Australia General Clinical Trial Network (MAGNET)	With a vision of unlocking innovative, world-class clinical trials to deliver new and better mental health treatment and support, the Mental Health Australia General Clinical Trial Network (MAGNET) is a truly cooperative, inclusive mental health research alliance. At a national scale, MAGNET will shift our approach to mental health trials, generating much needed new therapies, lived experience leadership, and strategies to enhance treatment access and the health of communities across Australia.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Frontiers Health and Medical Research	996,000	Synchron Australia Pty Ltd	The Brain-Machine Interface Frontier: Pioneering Endovascular Bionics	In August 2019, the researchers demonstrated the world's first successful implantation of an endovascular neural interface, pioneering a new field of medicine. Using blood vessels, the researchers safely delivered our device to the brain in a paralysed patient. Within months, he was able to control a computer with his mind. The researchers are now poised to complete transformation of our paradigm shifting research into a clinical product, and through development and implementation of stimulation capabilities, our endovascular device will become a globally recognised and internationally competitive platform across a broad range of neurological conditions.
Frontiers Health and Medical Research	999,570	Monash University	The Artificial Heart Frontiers Program	Over 23 million people suffer from heart failure around the globe, yet only six thousand a year receive a donor heart. Many patients turn to artificial hearts: large, noisy devices that too frequently fail, or confine the patient to hospital. Other patients have no options at all. Now, the Artificial Heart Frontiers Program will bring a new generation of artificial hearts to market. Our innovative implants are small, patient-friendly and reliable - outlasting all existing alternatives. They are powerful enough for an adult, yet small enough for a child. They are quiet, portable, and respond to active lifestyles, allowing patients to return to their families and jobs. This technology will revolutionise the lives of patients with heart failure.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Frontiers Health and Medical Research	999,224	University of Sydney	Australian Corneal Bioengineering: Novel Therapies to Fight Blindness	The cornea is the outermost structure of the eye. Disease or injury of the cornea, often leads to poor vision and in many cases, blindness. Corneal transplantation represents the current gold standard for the treatment of moderate to severe corneal disease. During corneal transplantation, donor corneas are used to replace the scarred or diseased tissue. However, only one cornea is available for every 70 potential patients globally representing a major ongoing concern. Our research group has established laboratory methods to create viable, bioengineered corneal tissue to replace donor corneas. With this grant, the researchers aim to create a next-generation manufacturing facility to produce, store and allocate this tissue both locally and internationally.
Frontiers Health and Medical Research	999,999	University of Sydney	Phage Australia	PHAGE AUSTRALIA: Integrating Australian Phage Biobanking and Therapeutic Networks and Delivering Solutions for Antimicrobial Resistance. Bacteriophage (phage) treatment offers a comprehensive solution to the problem of antimicrobial resistance. It is safer and more precise than antibiotics, with fewer side effects. Our primary goal is to establish bacteriophage therapy in a national framework of approved indications based on clinical trials and a sound understanding of the underlying biology. The researchers will establish the supporting infrastructure for production, diagnostic support and clinical trials, linking academic, government and industry partners across Australia and overseas.

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Frontiers Health and Medical Research	999,999	The Walter and Eliza Hall Institute of Medical Research	Australian Centre for E3 Therapeutics (ACE3T)	An exciting new protein degrader (PD) technology purposefully redirects the cell waste machinery, driven by E3 proteins, to destroy a specified protein, for the first time accessing previously 'undruggable' targets. The Australian Centre for E3 Therapeutics (ACE3T) will enable Australian researchers to access this emerging disruptive technology, generating Australia-based inventions & kick starting a new biotech sector. Application of PD technologies will have a broad impact on streamlining future drug discovery campaigns. With an initial focus on cancer and building on the strength of the Australian research sector, the ACE3T will develop new anti-cancer drugs with improved efficacy and fewer side effects, saving & improving many lives.
Frontiers Health and Medical Research	994,509	Snoretox Pty Ltd	Novel, Innovative Modified Tetanus Toxin Drugs for Weak Muscle Conditions	There is no pharmacotherapy for disorders of low muscle tone or muscular flaccidity, such as obstructive sleep apnoea, urinary/faecal incontinence, pelvic floor weakness, MS and MND. Tetanus neurotoxin (TeNT) is related to Botulinum neurotoxin (e.g. Botox, BoNT), but has the opposite effect of increasing muscle tone. Unlike BoNT, TeNT has not been used in medical applications due to human vaccinations and immunity, until now. Snoretox is a treatment made through modification of TeNT, bypassing the human immune response, making it a world-first drug able to enhance motor function and overcome muscle weakness in vaccinated humans and animals. This project will allow us to conduct the necessary steps to bring this exciting product to market.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Frontiers Health and Medical Research	799,788	University of New South Wales	EpiWatch – Artificial Intelligence Early-Warning System for Epidemics	If the catastrophic COVID-19 pandemic had been detected early in its genesis, before it had spread beyond Wuhan, it could have been stamped out entirely, and the pandemic prevented. Rapid epidemic detection is possible using algorithms and artificial intelligence to mine open source data, but has not been a focus of pandemic planning. The researchers will develop a fully automated, intelligent system for rapid epidemic detection using open source data, building on a semi-automated prototype, Epiwatch. It will use AI, natural language processing, automated translation, report classification and prioritisation, risk analysis, geospatial information systems and a searchable user interface (Web and Apps). This will be a game changer in health security.
Frontiers Health and Medical Research	896,606	University of Western Australia	Disruptive Technologies for Precision Medicine in Coronary Artery Disease	Coronary artery disease (CAD) is the single leading cause of death in Australia and the world. It is believed that two-thirds of heart attacks originate from plaques with less than 50% blockage of arteries in patients without symptoms. Coronary computed tomography angiography (CCTA) has emerged as a robust technique for CAD assessment. However, its true potential is yet to be realised. Many of the CCTA image analysis steps and clinical decisions are ideally suited for artificial intelligence (AI) methods. In this study, the researchers will work across disciplines to develop, test, and deploy an AI-based risk prediction tool from CCTA scans, and personalise the management of patients with CAD across the full spectrum of the care continuum.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Frontiers Health and Medical Research	997,562	University of Sydney	New Frontiers in Personalised Prevention of Coronary Artery Disease	One Australian suffers a heart attack every 10 minutes. Until now, clinicians have been limited to modifiable risk factors, such as cholesterol and blood pressure levels, to predict heart attacks and guide prevention. But, up to 27% of patients with life-threatening attacks have no standard modifiable risk factors, and a proportion progress rapidly to recurrent events despite optimal management. Clearly there is more at play. The researchers are a cross-disciplinary team of clinicians, researchers, and healthcare and industry leaders with a track record of translating innovation who are galvanized to: 1) identify urgently needed biomarkers of early plaque; 2) establish evidence-based clinical pathways; 3) discover game-changing new drug treatments.
Frontiers Health and Medical Research	927,741	The University of Queensland	Earlier Diagnosis and Personalised Treatments for Endometriosis (EndoAIMM)	Endometriosis is poorly understood and affects 11% of women at an estimated cost to the Australia health system of $9.7 billion each year. Women experience years of delay from onset of symptoms to diagnosis. Pharmaceutical management achieves variable success. Diagnosis requires surgery, and surgery does not cure the disease which often reoccurs. To disrupt this cycle, EndoAIMM will address the diagnostic and treatment challenges. New clinical tools for early diagnosis, as alternatives to diagnostic surgery, and personalised treatments will be developed by combining artificial intelligence, imaging, genetics and genomics. Commercialisation opportunities include software and diagnostics, new molecular tests, and targeted treatments.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	1,450,377	Monash University	Benchmarking for healthy stores in remote Aboriginal and Torres Strait Islander communities	How food is promoted, priced and made available in food retail has considerable impact on consumer behaviour and subsequently population health. In partnership with government and Aboriginal health services, the remote retail sector and policy-makers, the researchers will codesign and test the feasibility and effectiveness of an innovative benchmarking approach to support healthy food stores in remote Aboriginal and Torres Strait Islander communities and identify the pathway to set benchmarking into policy.
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	1,451,738	University of Queensland	School Readiness child outcomes of early neuro-protection/ early neuro-rehabilitation for infants at high risk of Cerebral Palsy- in the first 2,000 days	Cerebral Palsy (CP) is a life-long complex condition that affects movement and learning due to early brain injury. Children with CP are significantly delayed on their School Readiness (in domains of cognition, health, motor, physical activity, communication) than their healthy peers. Our extended follow-up of early interventions at age of 4 years will determine if new treatments can prevent the brain injury and repair those with CP using neuro-rehabilitation leading to better academic outcomes.
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	1,451,735	University of South Australia	A multi-site guideline implementation randomised controlled trial to improve physical activity and screen time in Out of School Hours Care	This study aims to lift the standards of physical activity and screen time offerings in Out of School Hours Care services throughout Australia, by implementing and evaluating newly developed Australian OSHC-sector guidelines for physical activity and screen time. The guidelines will be evaluated in a rigorous trial in OSHC services in SA, NSW and WA, prior to national release.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	1,146,489	Monash University	The protective effect of maternal immunisation on obstetric outcomes: characterising the underlying mechanisms and impact on newborn immune function	Pre-term birth is a serious complication of pregnancy contributing to long term disability in children. Despite advances in maternity care there has been little reduction in the rate of pre-term birth in the last 20 years. Along with protecting against influenza or pertussis infection, vaccination in pregnancy has shown promise in protecting women and babies from preterm birth and may positively alter the immune system of the baby. This project aims to understand how vaccines may do this.
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	712,780	University of Newcastle	Effectiveness and cost effectiveness of a time-efficient school-based physical activity intervention for adolescents living with disability	Adolescents with disability are less active than their typically developing peers. They also have more co-occurring physical and mental health conditions. Brief but intense exercise is a potent and potentially affordable prevention strategy. Our aim is to test the effectiveness and cost effectiveness of this approach in adolescents with disability. This project has the potential to change school practice by providing a vulnerable group with a new opportunity to be physically active at school.
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	1,267,826	Murdoch Childrens Research Institute	Infant2Child: Optimising nutrition in early life to reduce childhood dental caries	Dental caries (tooth decay) is the commonest disease worldwide and affects 40% of Australian pre-school children. By repurposing an already successful early life dietary and feeding intervention to address the biggest cause of early childhood caries – high sugar intake, and understand how sugar influences oral bacteria to cause caries, this study will deliver urgently needed improvements in childhood oral health, with benefits throughout the life course.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	1,124,558	University of Melbourne	HipHealth: an exercise and weight loss telehealth program to improve outcomes for Australians living with hip osteoarthritis	Hip osteoarthritis is a common problem leading to chronic pain and disability and high rates of joint replacement surgery. This project aims to improve the health and well-being of Australians with hip osteoarthritis by implementing and evaluating an education, exercise and weight loss program (HipHealth) delivered remotely by physiotherapists and dietitians. The program will be firstly tested in the private health insurance setting with view to future scale-up in this and other settings.
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	1,284,106	La Trobe University	Exploring the impact of midwife-led group antenatal care on caesarean section rates and infant health: a multi-site randomised controlled trial	Midwife-led group antenatal care and education is where women have pregnancy check-ups, and childbirth and parenting education in groups of about ten women at the same stage of pregnancy, instead of individual check-ups and separate childbirth education. The researchers don't know if it is effective or if it causes harm, so will test if the midwife-led group care (compared to having individual appointments) improves outcomes for mothers and babies such as fewer caesarean births and more healthy babies.
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	659,449	University of Queensland	Mothers and their Children's Healthcare Experience Study (MatCHES)	This study collects new data on the experience of preventive healthcare by mothers and children, from before conception, through pregnancy and early childhood. This will generate the new knowledge needed to address issues with the effectiveness and delivery of current maternal and child preventive care. In collaboration with doctors, nurses, and the community, the study will make detailed recommendations to improve preventive healthcare, including for disadvantaged women and children.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Maternal Health and the First 2000 Days; Exercise and Nutrition; Early Childhood	1,450,943	Monash University	Optimising the delivery of antenatal interventions in public healthcare: Improving equity, access and engagement for better maternal and neonatal health outcomes	Increasing proportion of young women are commencing pregnancy overweight or obese. Research demonstrates that lifestyle interventions improve health during pregnancy and are cost effective, yet scale up into routine pregnancy care remains limited. Here the researchers address this critical gap, supported by stakeholder and community engagement, by developing and enhancing digital technology to increase accessibility, usability and engagement across two Australian healthcare settings.
Efficient Use of Existing Medicines	751,885	La Trobe University	Repurposing valproate for the treatment of colorectal cancer	Colorectal cancer is a major cause of cancer related deaths for which there is an urgent need to develop new treatments. The drug valproate has been used to treat epilepsy and mood disorders for over 50 years. The researchers have found that valproate can profoundly increase the anti-tumour activity of a class of drugs known as EGFR inhibitors in laboratory models of colon cancer. This project will now test the activity of this drug combination in a phase two clinical trial in patients with advanced colon cancer.
Efficient Use of Existing Medicines	599,596	University of Melbourne	Repurposing BCL-2 inhibitors for immune manipulation to improve outcomes in allogeneic stem cell transplantation	Allogeneic (donor) stem cell transplantation is a curative therapy for blood cancers. Not everyone can safely have a transplant as the toxicity of the pre-transplant chemotherapy is too toxic. The researchers have discovered in mouse models that by using the existing drug venetoclax the intensity of the preparative chemotherapy can be reduced. This makes the transplant safer yet as effective. This project will undertake this same approach in a clinical trial of patients undergoing transplantation.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Efficient Use of Existing Medicines	2,126,776	University of Sydney	MOTIVATE C: The Methodical evaluation and Optimisation of Targeted IncentiVes for Accessing Treatment of Early stage hepatitis C	Hepatitis C treatment is now well tolerated and highly effective, yet uptake in Australia remains low. Australia is trying to eliminate hepatitis C, which means interventions are required to increase treatment uptake of those infected with the virus. Financial incentives offer a simple, yet potentially effective, solution. This study will evaluate the effect of random allocation of financial incentives to improve treatment uptake in patients with hepatitis C.
Efficient Use of Existing Medicines	834,374	University of New South Wales	A Prospective Randomised Controlled Trial of Adults with Perianal Fistulising Crohn's Disease and Optimised Therapeutic Infliximab Levels: PROACTIVE Trial	The study aims to optimise treatment in adults suffering with Crohn's perianal fistulae. The study will compare individualised to standard dosing of current best care medication, infliximab. Individualised dosing will use routinely collected blood drug levels to guide the dose of infliximab given, with the aim to achieve higher blood drug level targets. This new approach is expected to enhance fistula healing, reduce symptom burden, and improve costs; but these benefits have yet to be assessed.
Efficient Use of Existing Medicines	302,942	The University of Queensland	A novel use of sterile water for injection to relieve pain in labour	Medical pain relief options for labour have changed little in 50 years. While epidurals are effective other options such as opioids or (laughing) gas are often ineffective and all come with unwanted side effects. This placebo-controlled trial will test the use of injections of sterile water to relieve contraction pain in labour; proven by our team as safe and effective for back pain in labour. If successful the trial will provide a simple and safe choice for labour pain relief.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Efficient Use of Existing Medicines	4,899,580	University of New South Wales	A Phase III randomised placebo-controlled trial of mirtazapine as a pharmacotherapy for methamphetamine (“Ice”) dependence	Crystalline methamphetamine (“ice”) is a growing concern in Australia. There are no approved medications that can be used to treat dependence on this drug. This clinical trial will examine whether mirtazapine, a newly identified treatment agent for methamphetamine use, can be used safely and effectively in routine clinical care to manage methamphetamine dependence in Australia.
Efficient Use of Existing Medicines	2,720,943	University of Sydney	Cost-Utility Comparison of Down-Titration Strategies for Safer and More Efficient Use of Biologics in Adults with Rheumatoid Arthritis and Psoriatic Arthritis	Rheumatoid arthritis and psoriatic arthritis can cause severe pain, joint destruction, disability and early death. Biologic drugs can improve these arthritis health outcomes but may also have serious side effects, are very costly and are not cures. Drug-free remission is the next best outcome. This trial aims to identify the optimum dosing strategies for safer and more efficient biologic drug use to help more people with rheumatoid and psoriatic arthritis achieve a drug-free remission.
Efficient Use of Existing Medicines	2,023,376	Melanoma Institute Australia	NADINA Phase 3 trial comparing response driven neo-adjuvant combination of ipilimumab + nivolumab versus adjuvant nivolumab	Standard care for melanoma spread to lymph nodes is surgery followed by one year of drug to prevent recurrence. A drug used in many cancers, immunotherapy, cost Australia $688 million in 2020. This study will test a safe and cost-effective way to prevent recurrence with just 6 weeks of immunotherapy before surgery. If the tumour is destroyed, major surgery and more drug therapy can be avoided. A shorter course of drug therapy will reduce healthcare costs by nearly 50%.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
Researcher Exchange and Development in Industry	330,000	MTPConnect	Fellows	One REDI Fellowship will support a 12 month project with Telix Pharmaceuticals, with a focus on Good Manufacturing Practices (GMP) and biological manufacturing as well as developing commercial skills in clinical trials. A second REDI Fellowship will support a 12 month project with Brandon Capital with a focus on life science investment, including assessing, triaging and financing projects and Brandon Capital's portfolio of life science investments.

National Health and Medical Research Council, Grant Opportunity Outcomes

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
NHMRC National Network for Aboriginal and Torres Strait Islander Health Researchers	10,000,000	Menzies School of Health Research	National First Nations Research Network	The National First Nations Research Network will mark a transformation in First Peoples livelihoods and Health Equity. Delivered and led by Indigenous Peoples for Indigenous Peoples, guided by self-determination, this Network will nurture culturally safe environments, connect expertise, catalyse research methods, training and development. The Network will create career pathways to achieve national capability and generational growth, for sustained health and wellbeing of our communities.

Grant Opportunity	Funding amount ($)	Administering Institution	Application Title	Summary
NHMRC–NIHR Collaborative Research Grant scheme	823,722	The University of Adelaide	Steroid-Reducing Options for ReLapsING PMR (STERLING-PMR): a pragmatic, randomised trial to compare the clinical and cost-effectiveness of adding immunosuppression to steroid-tapering treatment for patients with relapsing PMR, versus steroid-tapering	Polymyalgia rheumatica (PMR) is a common inflammatory disease of older people, treated with prednisolone (steroid tablet). About 50% will relapse and often suffer from steroid side effects (eg diabetes, bone fracture). This study will determine whether an extra treatment can reduce prednisolone use in people with relapsing PMR; and improve quality of life. The study will include participants in UK and Australia and provide a unique opportunity for further research in this under-researched area.
NHMRC–NIHR Collaborative Research Grant scheme	1,025,882	University of Sydney	The Meniscal Transplant surgery or Optimised Rehabilitation full randomised trial (MeTeOR2)	It can be hard to decide what treatment to use for people with pain and disability who have had the meniscus cartilage removed from the knee. Some surgeons try to improve pain and function by replacing the lost meniscus with a transplant from a donor who has died. The alternatives include exercises, physiotherapy, and bracing. This study will help us understand if the results for people who have the transplant are better or worse than for exercise and physiotherapy.
Silicosis Research	994,642	Monash University	Emerging techniques for earlier diagnosis and assessment of severity and progression of artificial stone silicosis	Stonemasons who have worked with engineered stone have been shown to develop a rapidly progressive and potentially fatal form of silicosis. This research will use data from affected workers from Victoria, Western Australia and Queensland. The research will comprise a suite of projects to investigate many uncertainties related to radiological screening methods, and investigating new methods to assess disease severity and identify indicators of progression to inform future practice.